

DEPARTMENT OF OVERSEAS TRADE.

# Economic and Financial Conditions

IN

# GERMANY

To June, 1928.

REPORT

By J. W. F. THELWALL, M.C.,

Commercial Counsellor, Berlin.

*With Chapters contributed*

By C. J. KAVANAGH,

Commercial Secretary, Berlin.



LONDON :

PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE.

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:  
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh;  
York Street, Manchester; 1, St. Andrew's Crescent, Cardiff;  
15, Donegall Square West, Belfast;  
or through any Bookseller.

1928.

*Price 3s. 6d. net*

## DEPARTMENT OF OVERSEAS TRADE.

### COMMERCIAL REPRESENTATION ABROAD.

To foster British overseas trade, the Department has developed and controls the following Services of Commercial Intelligence Officers :—

#### 1. IN THE EMPIRE.

##### *The Trade Commissioner and Imperial Trade Correspondent Services.*

At the present time there are 13 Trade Commissioners' offices. These are situated, four in Canada (Montreal, Toronto, Vancouver, Winnipeg), two in South Africa (Johannesburg, Capetown); two in Australia (Melbourne, Sydney); two in India (Calcutta and Bombay—to cover also Ceylon); and one each in New Zealand (Wellington), British East Africa (Nairobi) and British West Indies (Trinidad).

The Trade Commissioners in the Dominions have the assistance of Imperial Trade Correspondents at a number of important centres.

In various parts of the Empire in which at present there are no commissioners, there are correspondents with whom the Department deals direct.

#### 2. IN FOREIGN COUNTRIES.

##### *(a) The Commercial Diplomatic Service attached to the British Diplomatic Missions.*

This service consists of between thirty and forty posts in all, and the officers of the service are stationed in all the more important foreign markets of the world. The members of the Commercial Diplomatic Service are styled "Commercial Counsellors" in the highest grade, and "Commercial Secretaries" in the two lower grades. They are members of the staff of the British Embassy or Legation in which they serve.

The Commercial Diplomatic Officer has general supervision over the commercial work of the consular officers in his area, and, with the co-operation of these two services, a complete network of Government commercial representatives is thrown over foreign countries.

The Department is represented in Germany by Mr. J. W. F. Thelwall, Commercial Counsellor, and Mr. C. J. Kavanagh, Commercial Secretary, H.M. Embassy, Berlin.

##### *(b) The British Consular Service.*

Particular attention has been given to the commercial side of consular work since the re-organisation of the service. In certain countries where no Commercial Diplomatic Officer is stationed the senior Consular Officer undertakes duties of a similar character.

Members of British firms are urged to call upon the Department's representative abroad when they visit an overseas country. It is also important that they should make a point of their representatives abroad keeping in close touch with the Department's officers.

#### NOTE.

*It should be understood that the views expressed in annual reports are the views of the officers themselves, and are not necessarily in all respects the views of the Department.*

## TABLE OF CONTENTS.

I.—INTRODUCTION :—	PAGE
General ... ..	5
Foreign Borrowing ... ..	7
Money Market ... ..	8
Stock Exchange ... ..	9
Banks ... ..	9
Combines and Cartels ... ..	10
State Aid ... ..	11
Foreign Trade ... ..	12
Anglo-German Trade ... ..	12
Russo-German Trade ... ..	13
Agriculture ... ..	13
Labour ... ..	13
Summary ... ..	14
II.—PUBLIC FINANCE :—	
Budget, 1927-28 ... ..	15
Supplementary Budget, 1927-28 ... ..	16
Budget, 1928-29 ... ..	16
Revenue ... ..	18
National Debt ... ..	19
Currency ... ..	20
Alterations in Taxation, 1927 ... ..	20
"          "          1928 ... ..	21
III.—FOREIGN TRADE :—	
General ... ..	22
Trade by Countries ... ..	25
Anglo-German Trade ... ..	28
Russo-German Trade ... ..	36
Commercial Measures ... ..	43
Assistance for Export ... ..	43
Commercial Relations ... ..	44
IV.—INDUSTRIES :—	
Metallurgical and Engineering ... ..	46
Shipbuilding ... ..	104
Potash ... ..	109
Textile ... ..	113
Motor Vehicles ... ..	143
Ceramic ... ..	147
V.—AGRICULTURE :—	
General Statistics ... ..	155
Harvest Results and Supply ... ..	156
Flour ... ..	159
Potatoes ... ..	160
Sugar ... ..	160
Livestock ... ..	161
Land Settlement ... ..	163
Reclamation and Improvement of Land ... ..	164
Seed... ..	164
Use of Fertilisers ... ..	165
Mechanical Equipment ... ..	165
Labour ... ..	167
Agricultural Training ... ..	168
Economic and Financial Position ... ..	168

## VI.—FUEL AND POWER SUPPLY :—

PAGE

Coal	...	...	...	...	...	...	...	174
Coke	...	...	...	...	...	...	...	176
Labour	...	...	...	...	...	...	...	186
Lignite	...	...	...	...	...	...	...	189
Electricity	...	...	...	...	...	...	...	190

## VII.—TRANSPORT AND COMMUNICATIONS :—

Shipping	...	...	...	...	...	...	...	198
Inland Waterways	...	...	...	...	...	...	...	206
Railways	...	...	...	...	...	...	...	209
Aviation	...	...	...	...	...	...	...	215
Posts and Telegraphs	...	...	...	...	...	...	...	218
Radio	...	...	...	...	...	...	...	221

## VIII.—LABOUR :—

Wages	...	...	...	...	...	...	...	221
Social Allowances	...	...	...	...	...	...	...	225
Working Hours	...	...	...	...	...	...	...	225
Unemployment	...	...	...	...	...	...	...	228
Other Social Insurances	...	...	...	...	...	...	...	231
Strikes and Lock-outs	...	...	...	...	...	...	...	234

## APPENDICES :—

I.—Trade with Foreign Countries, 1926-27	...	...	...	...	...	...	...	236
II.—Imports by Categories and Countries of Origin	...	...	...	...	...	...	...	239
III.— „ from Chief Sources of Supply, 1927	...	...	...	...	...	...	...	241
IV.—Balance Sheets of Leading Shipping Companies...	...	...	...	...	...	...	...	244
V.—Exports of Coal from Germany	...	...	...	...	...	...	...	248
VI.—Coal Production 1927 and 1928	...	...	...	...	...	...	...	249
VII.—Agricultural Production, 1924-27	...	...	...	...	...	...	...	250

-----

**REPORT**  
ON  
**ECONOMIC CONDITIONS IN GERMANY,**

*Dated June, 1928.*

---

**I. INTRODUCTION.**

**General.**—The boom which, as pointed out in last year's report, began on the German home market during the second half of 1926, continued unabated into the first quarter of 1928. Striking evidence of the intense activity which prevailed throughout the country is furnished by all sections of industry; the output of coal and lignite was greater than in any previous year and, expressed in terms of coal, exceeded that of 1913 (within Germany's present frontiers) by 27,000,000 tons. Exports of coal, including reparation deliveries, amounted to 26,800,000 tons and the rest was consumed at home, only about 1,500,000 tons remaining in the shape of stocks at the end of the year. Germany's own consumption of mineral fuel was higher by 3·6 per cent. than in 1913.

The production of pig iron, steel and rolling material considerably exceeded that of any year since the war and was greater than that of 1913 (present frontiers) by 20 per cent., 31 per cent. and 15 per cent. respectively. This activity naturally benefited the engineering industry, as large sums were expended by the big iron and steel concerns for extensions and renewals. Similarly the orders placed by the shipbuilding yards must have provided much work in the way of machinery and equipment. During 1927 the number of vessels completed in German yards was 741, of 325,281 g.r.t., as against 444 vessels of 297,761 g.r.t. in 1926; there were also nearly 200,000 tons more under construction.

All branches of the textile industry were fully employed until October, 1927, but although there was a slight falling off then, the situation remained good up to the end of the year.

Transport reflected the exceptional activity in industry. The cargo traffic in German seaports was even greater than in 1926, although it had not the stimulus which the labour troubles in Great Britain gave it in that year; on the inland waterways there was also an increase, but it was less pronounced; on the railways, however, goods traffic was appreciably heavier than in 1926.

There can be no doubt that the financial results were also good, though in some cases not as good as the owners wished. It is very difficult to form any idea how the German coal industry fared, because there are so few "pure" coal mines, and it is impossible to tell from the returns of the "mixed" concerns what share coal had in contributing towards the profits. While coal in Germany is not protected by a duty, it is very materially assisted by imports being subject to licence and by the strong hold which

the Rhenish-Westphalian Syndicate has on the market and the pressure which it can exercise upon dealers. On the other hand, the German industry suffered from the keen competition of British coal abroad and in certain limited areas in Germany. In most cases the determining factor as to the profitability of German coal is the rational exploitation of its by-products. Financially the German coal industry has also been seriously hampered by its inability to increase prices without the permission of the Minister for Economic Affairs; in spite of repeated applications his consent was withheld until May, 1928.

As regards iron and steel there can be no doubt that the results were satisfactory, though in this industry, as in nearly all others, there is a great lack of publicity, a lack which even the demands of shareholders have not succeeded in remedying. The index of the year's working is to be found in the large amounts written off, placed to reserve and in other ways put back into the business, rather than in dividend declarations. The fact that all important basic products, with the exception of medium and thin plates, are syndicated enables the industry to fix remunerative prices as far as the protected inland market is concerned. The same process has begun with finished products and has already led to greater stability in prices. The German steel industry has reached a degree of security through the thorough organisation of its basic operations, which enables it to turn its attention towards the better utilisation of its coal interests in the production of nitrate, the distillation of coal and the long distance transmission of gas.

In shipping the ten leading companies showed net profits amounting to Mks.31,000,000 in 1927, as against Mks.17,000,000 in 1926.

Speaking generally, it is obvious that the very full employment which German industry as a whole enjoyed throughout the year must have reduced overhead charges very considerably in proportion to turnover and must consequently have had a beneficial effect on financial results. This is borne out by the dividend payments of the 404 companies whose shares are quoted on the Stock Exchange and whose financial year ended between the 30th September and 31st December, 1927:—

	1926		1927		Increase.
	Total dividends distributed.				
	Mks.	Mks.	Mks.	Mks.	%
329 industrial companies ... ..	295,000,000	395,000,000			34
27 transport companies ... ..	28,800,000	44,200,000			54
48 banks ... ..	77,000,000	81,000,000			5

In regard to the banks it must be remembered that they had an excellent year in 1926 owing to the brilliant stock exchange situation.

The extreme activity in German industry was initiated and maintained by a combination of foreign borrowing and the energy, amounting to restlessness, which is a national characteristic. In industry it manifests itself in the perpetual scrapping and renewal of plant, in extensions, in mergers, in the closing of one factory and the regrouping of others, in short, in continual re-arrangement and ceaseless striving after improvement. On the other hand, the uses to which the States, municipalities and districts put their revenues, including considerable sums borrowed abroad, have given rise to criticism. It is alleged that the erection of buildings and works of doubtful utility has been undertaken on a large scale, and some towns seem to be rivalling each other in creating magnificent, but unnecessary and unprofitable, enterprises. In considering this question full allowance should be made for the difficulties with which public authorities in Germany are faced, particularly in the matter of housing and of unemployment.

**Foreign Borrowing.**—The estimates of the total number of German loans placed abroad vary, but there seems general agreement that the amount was less in 1927 than in the year before. The figures of the Statistical Office are Mks.1,575,370,000 for 1926 and Mks.1,383,860,000 for last year; taking an average of several sources the respective totals arrived at are Mks.1,596,690,000 and Mks.1,446,798,500.

During the first four months of 1928 foreign borrowings are estimated at Mks.468,980,000, which is at about the same rate as in 1927, but in May there was a tremendous rise, the figure for that month alone being Mks.430,900,000. The total of foreign loans for the first five months of 1928 is thus brought up to Mks.876,500,000 and exceeds that of 1927 for the same period by about Mks.730,000,000 and that of January to May, 1926, by Mks.245,000,000. This accumulation during May was no doubt due to the decision of the Advisory Committee in that month again to authorise the issue of municipal and certain other loans.

The foreign loan market was limited on more than one occasion with the object of curbing the desire of municipalities and States for borrowing abroad. This was attempted in the first instance by the Minister of Finance who, during the period 4th December, 1926, to 2nd June, 1927, refused to continue to grant the exemption from German income tax of interest on approved foreign loans. After this privilege was restored there was such a plethora of borrowing during the five months June to October, 1927, as at last to cause the Advisory Committee to refuse to sanction any State or municipal loans until the total demands and needs had

been thoroughly examined. This did not, of course, interfere with industrial or other private borrowing, and was therefore not so stringent a measure as the first. It was not till May, 1928, that the Committee arrived at a decision. It was then agreed that the Committee should recommend a joint loan of about \$17,500,000 for various German towns and in addition separate loans for Berlin and Frankfort-on-Maine. The joint loan will be issued by the Union of German Savings Banks and Clearing Houses. A similar loan will be taken up in the same way in the autumn and a few further loans for the larger German towns will then be authorised; the amounts have not yet been fixed.

Needless to say means were found to circumvent the temporary inhibition of loans by the Advisory Committee, the most usual, apart from the borrowing of short termed money, being to place bonds with a German bank and to leave it to the bank to re-sell them abroad. In order to prevent this, at any rate in Prussia, the Ministers of Finance and of the Interior of this State published a decree ordering municipalities and districts who make inland bond issues to include a clause in the bond to the effect that the latter may *only* be sold by the issuing house with the consent of the original borrower. A safeguard had already existed since the end of 1926 with regard to other types of municipal loans in that towns had to enter into a contract with the issuer that he would only place the loan on the inland market.

**Money Market.**—There was a complete reversal of the 1926 conditions on the German money market in 1927; in the former year they were easy and in the latter difficult. The amount of internal loans issued in 1927 was, on the average of two different computations, Mks.965,275,000, the bulk of which was taken up during the first two months of the year. By that time the market was exhausted, chiefly owing to the inopportune placing by the Reich of a Mks.500,000,000 loan in February. The rate of this loan—5 per cent.—also had an unsettling effect on the discount market by more or less compelling the Reichsbank to keep its rate at the same figure long after the disproportion between the supply of and the demand for capital indicated the need of an increase. This was not made till June 11th, when the bank rate was raised to 6 per cent., followed by 7 per cent. on October 4th. The tightening of the money market was naturally reflected in the other rates of interest; thus monthly money cost  $9\frac{1}{2}$  per cent. in December, 1927, as against  $7\frac{1}{2}$  per cent. a year before, commercial bills with the endorsement of a bank were subject to a rate of at least  $7\frac{1}{2}$  per cent. at the end of 1927 as against  $5\frac{1}{2}$  per cent. at the beginning. The average of the four rates which are regularly quoted on the Berlin Stock Exchange was 5·64 per cent. for 1926 and 6·29 per cent. for 1927. The credits given by the Reichsbank,



the four private note-issuing banks and by the Rentenbank to industry, trade and agriculture were on an average Mks.400,000,000 higher in 1927 than in 1926, but if the closing date in each year is taken the increase is Mks.1,020,000,000.

After a rest during the last four months of 1927, when no issues at all were made, the inland market showed signs of returning strength in 1928. This promptly resulted in a rush of borrowers and by the middle of May there were again indications of a glut; as a matter of fact weakness would have manifested itself earlier if there had not been a good deal of foreign buying. The inland issues during this period were:—

	Mks.
January ... ..	272,600,000
February ... ..	234,200,000
March ... ..	99,000,000
April ... ..	180,700,000

That the unaided German money market should be lacking in robustness is not to be wondered at when it is remembered that a little over four years ago the country was denuded of nearly the whole of its working capital and, although recovery since then has been phenomenal, the formation of new capital has not been able to keep pace with the demand. It is estimated that the capital created during 1926 was about Mks.7,500,000,000 and during 1927 about Mks.9,000,000,000, but, allowing for the change in values, the latter sum is still some Mks.2,500,000,000 below the figure of the last years before the war, and now ten years' leeway has to be made good in addition.

**The Stock Exchange.**—The Stock Exchange boom, which was in full swing at the beginning of 1927, was brought to an abrupt termination by the banks on the 13th May, 1927, when they announced a radical reduction in cotango money. The repercussions of this shock lasted nearly until the end of the year, the lowest point in quotations being reached on November 25th. Since then public confidence had gradually returned and by the 12th May, 1928, substantial recovery had been effected. The share index of the "Frankfurter Zeitung" was 177 on the 12th May, 1927, 136 on the following day, 121 on the 25th November, 1927, and 146 on the 12th May, 1928.

**The Banks.**—The banks, after the flourishing stock exchange business had been destroyed, found an adequate substitute in the financing of the intense industrial activity of 1927. As mentioned above, interest rates were high and the demand for capital urgent, so that the banks were in a position to achieve nearly as good results as in 1926, particularly as they were able to obtain comparatively cheap money through their foreign connections and to re-lend it to industry at the much better German rate. The sum

totals of the balance sheets of the seven leading Berlin banks have on an average increased by 23·7 per cent., their turnover by 36 per cent. compared with 1926 and, characterising the situation, their advances against goods rose from Mks.510,000,000 to Mks.876,000,000. In these circumstances they were not only able to maintain the substantial dividends distributed in 1926, but also to add considerably to their reserves. It is interesting to note that the sum of the creditors of these seven banks went up from Mks.6,528,000,000 to Mks.8,128,000,000, and that of this increase no less than Mks.1,250,000,000 were due to deposits from abroad; it is estimated that at the end of 1927 some 35 per cent of their total creditors were foreign.

It may here be mentioned that the deposits in German savings banks continue their slow, but steady, advance. At the end of 1927 they amounted to Mks.5,925,000,000, an increase of Mks.1,635,000,000 during the year; they are now, however, only at the level of 1894. One of the leading workers' banks, Bank der Arbeiter, Angestellten und Beamten A.G., has increased its current and deposit accounts from Mks.36,100,000 to Mks.79,100,000 during the year. The expansion of this bank has been remarkable, as the following comparative figures of the value of the accounts of its clients show :—

					Mks.
1923	...	...	...	...	200,000
1924	...	...	...	...	9,400,000
1925	...	...	...	...	21,200,000
1926	...	...	...	...	36,100,000
1927	...	...	...	...	79,100,000

This movement may well serve as an indication of the growth of the saving power of the working classes, due to the progress of stability in finance and industry and to the gradual rise of wages to an economic level.

**Combines and Cartels.**—During 1927 there were no sensational combines like those of the steel and chemical industries in earlier years, but the movement continued to such a degree among the lesser concerns that the year may be regarded as marking a further great advance in concentration. There were three or four smaller fusions in the chemical industry and a merger among the Lower Silesian coal mines. It was, however, in the finishing industries that the tendency showed itself in particular strength, in spite of the peculiar difficulties which they present to combination; thus progress in concentration was noticeable in the brewing, porcelain, shipbuilding, rolling stock and watchmaking industries. In some cases a novel form was adopted in that firms amalgamated only a portion of their activities. The Oberkoks Company and the Ruetgerswerke, for instance, brought together a large number of roofing felt factories into one company, the

Ostwerke and the Rueckforth A.G. combined their yeast interests. Siemens and the A.E.G. united certain of their specialised works with a railway signal factory, &c.

The cartel movement in Germany was at a standstill during the period of review and such changes as occurred were mostly in the nature of expansion and organisation of existing cartels. Internationally, however, there was some development; the German and French chemical combines arrived at an agreement concerning uniform methods of production and sale. In the artificial silk industry three quarters of the world output is subject to arrangements between Courtaulds, the Vereinigte Glanzstoff Fabriken, the Snia Viscosa, the Comptoir des Textiles Artificiels and some other groups. An international linoleum cartel in which Great Britain participates indirectly, was formed between the following countries: Germany, France, Italy, Holland, Switzerland, Sweden and Estonia.

As far as internal cartels are concerned, they are as a rule of too loose a structure to convey all the benefits of concentration. Many of them cannot compel the elimination of their weaker members and must accordingly fix prices unduly high in order to cover the costs of inefficient works.

**State Aid.**—During the last few years there were periods when the public departments of the Reich and States disposed of considerable sums of ready money and appeared as lenders on the money market. In this way industrial and other concerns were able to obtain public funds either directly or through the State banks. This practice was put an end to partly by the protests of the President of the Reichsbank, who resented this short-circuiting of his institute, and partly by the fact that the financial position of the Reich and States no longer permitted the employment of funds in this manner. During the past year the more regular procedure of budgeting for outlays of this kind has been adopted, but it is very difficult to obtain a clear picture of their extent. A year ago a list was published which showed the following position:—

	Mks.
Credits for agriculture, wine growing, land improvement, etc. ... ..	142,000,000
Credits to commercial and industrial undertakings ...	49,000,000
Credit to inland and ocean shipping ... ..	49,600,000
Credit for aviation ... ..	5,200,000
Towards reducing unemployment, productive unemployment relief, etc. ... ..	136,700,000
Credits for house building and land colonisation ...	171,500,000
For occupied territory ... ..	47,900,000
Miscellaneous, including advances for war damages ...	92,800,000
	694,700,000

Of this total the last item and a few other smaller ones have probably disappeared, but Mks.100,000,000 must be added for productive unemployment relief, Mks.100,000,000 for the building of small dwellings, Mks.60,000,000 for land colonisation and possibly Mks.70,000,000 in special credits for the railways, frontier provinces, &c. If the sums set aside for agriculture in the current budget are added, the Reich will very soon have an amount of Mks.1,000,000,000 outstanding in credits of various kinds. While the form in which these credits have been given and the conditions upon which they are based vary widely, they all have the one feature in common that they are subject to a very much lower rate of interest than that ruling in the open market.

**Foreign Trade.\***—As will be seen in the relevant section of this report, the feature of Germany's foreign trade during the past year was a formidable excess of imports over exports, even greater than that of 1925 by some Mks.580,000,000 and in strong contrast to 1926 when the whole excess of imports only amounted to Mks.797,000,000. This result is explained partly by the continued heavy borrowing abroad which is bound to show itself in the exchange of goods in the long run, and partly by the very good home market which not only required a plentiful supply of raw materials, but also absorbed German production, thus leaving little to export. It must be remembered that his inland market is of much greater importance to the German manufacturer than foreign markets, not only because it is easiest of access, the largest, and protected, but above all because, owing to this protection, he can obtain much better prices there than in other countries where he has to meet competition on equal terms. As long as things are going well at home there is no incentive to the German industrialist to look for business elsewhere. This fact is strikingly illustrated by a comparison of the figures during 1927 with those for the first quarter of 1928; they demonstrate quite clearly that as soon as the situation began to get even a little quieter in Germany exports immediately increased. Germany's export is, therefore, very largely governed by conditions within the country and its size probably depends more on the manufacturer's inclination to export than on his ability to do so, for although he naturally suffers from the tariff barriers and the lessened purchasing power which are prevalent throughout the world, he nevertheless still shows an extraordinary capacity for penetrating foreign markets when he sets his mind to it.

**Anglo-German Trade.**—Anglo-German trade presents the same picture as last year of increasing German exports to Great Britain and declining British exports to Germany. The bulk of our exports to Germany consists, as for many years past, of

---

\* During the first six months of 1928, German exports were nearly Mks.800 million higher than during the same period of 1927.

textiles, and protection is too high and competition too severe for us to be likely to succeed in establishing a really large market in other articles, at any rate not to an extent that would appreciably affect the balance of trade between the two countries. However, the German market is one which is well worth watching; as wealth increases there will be a better demand for luxury articles of high quality such as Great Britain specialises in; wages, and with them prices, are steadily going up in Germany, so that chances of successful competition should occur with increasing frequency; particular attention should be paid to the possibility of opening up new business by granting advantageous credit terms, after proper investigation and under suitable safeguards; the difference between interest rates in Great Britain and Germany is still so great that opportunities under this head ought certainly to offer themselves. The advisability of keeping stocks in Germany to ensure prompt delivery should also be considered.

**Russo-German Trade.**—A note on Russo-German trade has been included this year because the commercial relations between the two countries are of particular interest. They represent a test as to whether a monopolistic Government system can establish a regular exchange of goods with privately owned, capitalistic industry. The answer would appear to be in the negative, though individual transactions may be carried through smoothly and with considerable profit.

**Agriculture.**—A section dealing with German agriculture is embodied in this year's report. The vast financial, as well as economic, importance of this branch of the country's productive capacity is often not realised. The yields in cereals, potatoes, milk, livestock, &c., represent enormous values; the milk production, for instance, was estimated at Mks.2,961,882,000 in the 1926-27 season, and the animals slaughtered at Mks.4,530,706,000. At present agriculture is suffering from extreme financial depression, owing chiefly to the necessity of borrowing money at such exorbitant rates after inflation that even now it cannot earn enough to meet its commitments. The situation is aggravated by the fact that the prices at which the farmer can sell his produce have not risen nearly as much as those which he has to pay for his clothing, implements, building materials, &c. Thus the index for agricultural produce was 133·5 in April, 1928, and for finished industrial articles 157·6. A programme was incorporated by the Government in the current budget with a view to consolidating agricultural indebtedness, to facilitating and improving production and sales and generally to placing the whole of agriculture on a sound basis and giving it a fresh start.

**Labour.**—The most striking feature of the labour situation during the period under review was the increases in wages and salaries. These occurred in the spring and autumn of 1927 and

again in the spring of 1928. They affected every branch of industrial and commercial life and were accompanied by the usual strikes and lockouts; these assumed serious dimensions only in a few cases, but, on the other hand, they were so widespread that they probably in part account for the deterioration of the general situation early in 1928. The system of official arbitration and compulsory awards which exists in Germany, again cut short disputes which might otherwise have led to prolonged struggles. Up to the present the workers have practically always obtained increases under this system, even though they may have been very small ones, and this has not mattered much because German wages have been exceptionally low, but the real test of its practicability will come when wages have reached the limit which is economically bearable by the employer or when a reduction of wages has to be enforced or if one party or the other refuses to accept an award which has been declared binding by the Minister.

Other events of interest were the re-arrangement of working hours in the iron and steel industries which was strenuously opposed by the owners, and the introduction of unemployment insurance in July, 1927. Under this Act every German unemployed who has fulfilled the necessary conditions, has a right to relief and need no longer prove destitution, as under the former system.

**Summary.** —By the end of the first quarter of 1928 the activity on the German home market showed a distinct falling off. The textile industry and others manufacturing goods for mass consumption felt this first and to the greatest degree, but it gradually spread also to some of the more basic industries, such as the machine industry. The daily average of pig iron production, perhaps the most important index of general conditions, declined by 8 per cent. in April compared with March. The output of coke, for which later figures are available, shows that the same tendency continued, the daily production in the Ruhr having fallen from over 85,000 tons at the end of March to 73,000 tons in the middle of May. The sales of cement in March and April were less by 40,000 tons than in the same months of 1927.

To a certain degree the smaller inland demand was replaced by export, but in any case German industry has now grown sufficiently strong to resist a temporary setback without serious disturbance, the more so in the present instance, as it has long been realised that a change was bound to come and dispositions were made accordingly. There is no reason to anticipate a real check to Germany's general progress nor to regard the reaction as more than the slowing down of a pace which was too hot to last. Her eagerness to recover from and to repair the ravages of inflation is understandable, and it is not surprising that it causes her to

advance too rapidly and to undertake more than she can conveniently manage. The rationalisation of industry and agriculture requires an immense capital outlay and in a country which is short of capital, even for ordinary purposes, it would have been better to spread the process over a longer period. In this way the voracious demand for money would have been kept within bounds and economic advancement would have suffered from fewer vicissitudes, though it would have been more gradual. It is, for instance, not in the interest of Germany whose credit is very good, that she should have to pay higher rates in New York than any other country, simply on account of her insistent applications for loans.

A matter which gives cause for concern is the trend of prices in Germany. If means are not found to check their upward movement, difficulties will certainly occur. At present the vicious circle in which wage increases and price increases follow each other with deadly regularity remains unbroken and no effective steps for bringing about stability appear to have been thought of. That wages which, in terms of gold, had sunk almost to vanishing point in 1923 would, after stabilisation, gradually have to be brought up to a standard commensurate with the conditions in a modern, highly industrialised country was incontestable, but not so that prices, which had adjusted themselves much more rapidly, should also rise after each wage increase. There can be no doubt that the rise in the prices of coal, iron and other commodities in 1928 was a contributory cause in breaking up the flourishing home market of 1927.

The cartels are not entirely blameless in the maintenance of unduly high prices in Germany. With the exception of the few that abuse their power, this is due, however, not to the fact that they are combines, but that they are not close enough combinations and so cannot control production as well as prices. Cartels have, therefore, often to give undue consideration to their inefficient members whose prices are naturally too high and thus put up the level for the whole branch of industry concerned.

Germany has fulfilled her reparation obligations punctually and smoothly during the period under review.

## II. PUBLIC FINANCE.

**Budget 1927-28.**—The budget for the financial year ending March 31st, 1928, was passed by the Reichstag on April 6th, 1927 (see last year's annual report, page 13). The actual result of the budget year 1927-28, including supplements, was a surplus of Mks.338,200,000 on the ordinary budget and a deficit of Mks.723,600,000 on the extraordinary budget. The latter sum is, however, reduced by an amount of Mks.258,300,000 to be expended only during the current financial year, as well as by Mks.61,900,000

taken from liquid funds of the treasury. The budget for 1927-28 thus is left with an actual deficit of Mks.65,300,000, made up as follows :—

	Mks.
Gross deficit of the extraordinary budget ... ..	723,600,000
Expenditure to be made up during 1928-29 ... ..	258,300,000
	<hr/>
Sum taken from liquid funds of the Treasury ... ..	465,300,000
	<hr/>
Surplus of the ordinary budget ... ..	61,900,000
	<hr/>
	403,400,000
	<hr/>
	338,200,000
	<hr/>
	65,200,000
	<hr/>

**Supplementary Budget 1927-28.**—A supplementary budget for 1927-28 contained in the law of March 31st, 1928, provided for additional ordinary expenditure amounting to Mks.703,500,000 (£35,175,000). It was covered by increased revenue from taxation and customs duties and by savings under the head of expenditure on unemployment. The following are the main items of this supplementary budget :—

	Mks.
Increase of pay and pensions under recent legislation	172,000,000
Compensation to owners of liquidated property ... ..	160,000,000
Additional transfers to the States, etc., under the	
Financial Settlement ... ..	126,004,400
Assistance to small rentiers, pensioners, etc. ... ..	25,000,000
Service of the Public Debt ... ..	40,147,320
Economic assistance to East Prussia ... ..	60,000,000

**Budget 1928-29.**—The budget for 1928-29 was passed by the Reichstag on March 30th, 1928. It provides for a total expenditure of Mks.9,528,571,371 (£476,428,569) on the ordinary budget and of Mks.142,595,410 (£7,129,771) on the extraordinary budget. The considerable reduction of the latter item compared with previous years is noteworthy as its existence has called forth much criticism in the past and its total abolition is desired in many quarters. The budget law further provides that disbursements under the extraordinary budget may be made only as far as funds are actually available. In addition the Minister of Finance has provisionally stopped such expenditure as from March 1st, 1928, in order to carry out a detailed control and strict examination as to its absolute necessity.

The current budget is balanced by means of increased revenue from taxation and lower estimates of expenditure on unemployment. It remains to be seen, however, whether the Minister of Finance was right to base his estimates on a continuance of the excellent industrial conditions which prevailed during 1927. The following are the most important items in the 1928-29 budget :—



ORDINARY BUDGET.

RECEIPTS.					EXPENDITURE.				
Mks.					Mks.				
Income tax	...	...	...	2,900,000,000	Reparation payments	...	...	...	1,227,500,000
Corporation tax	...	...	...	550,000,000	Internal war expenditure	...	...	...	214,127,000
Property tax	...	...	...	520,000,000	Payments to Federal States	...	...	...	3,217,817,000
Inheritance tax	...	...	...	100,000,000	Social insurance	...	...	...	300,794,000
Real property tax	...	...	...	40,000,000	Non-recurrent expenditure on social insurance	...	...	...	149,820,000
Turnover tax	...	...	...	1,050,000,000	Other measures of social welfare	...	...	...	69,305,500
Tax on capital transactions	...	...	...	195,000,000	Non-recurrent expenditure on labour exchanges and unemployment	...	...	...	100,000,000
Motor tax	...	...	...	160,000,000	Cost of the Army	...	...	...	451,871,480
Insurance tax	...	...	...	50,000,000	Non-recurrent expenditure on the Army	...	...	...	40,685,100
Betting and lottery tax	...	...	...	80,000,000	Cost of the Navy	...	...	...	136,714,620
Tax on Bills of Exchange	...	...	...	50,000,000	Non-recurrent expenditure on the Navy	...	...	...	75,314,000
Transport tax	...	...	...	340,000,000	War and old Army pensions (including administration)	...	...	...	1,780,397,000
Non-recurrent direct taxes	...	...	...	25,000,000	Public debt...	...	...	...	484,936,290
					Non-recurrent expenditure of Ministry of Agriculture	...	...	...	68,412,500
Customs	...	...	...	1,200,000	Expenditure on Finance Offices	...	...	...	462,403,300
Tobacco tax	...	...	...	780,000	"    Foreign Office	...	...	...	63,732,900
Sugar tax	...	...	...	140,000	"    inland waterways	...	...	...	80,717,760
Beer tax	...	...	...	370,000	Other expenditure	...	...	...	604,022,921
Spirit monopoly	...	...	...	270,000					
Minor indirect taxes	...	...	...	42,000					
				2,802,000,000					
Receipts of the Mint	...	...	...	179,250,000					
From surplus of financial year 1927/28	...	...	...	127,000,000					
Posts and Telegraphs	...	...	...	100,000,000					
Other receipts	...	...	...	260,321,371					
Total of receipts	...	...	...	9,528,571,371	Total of expenditure	...	...	...	9,528,571,371

EXTRAORDINARY BUDGET.

RECEIPTS.					EXPENDITURE.				
Loan to be repaid by the Deutsche Reichsbahn Gesellschaft	...	...	...	80,000,000	Dwellings and settlement...	...	...	...	65,000,000
From surplus of financial year 1927/28	...	...	...	35,000,000	Labour exchanges and unemployment insurance	...	...	...	25,000,000
Other receipts	...	...	...	31,295,410	Other expenditure	...	...	...	52,595,410
Total	...	...	...	146,295,410	Total	...	...	...	142,595,410

The Minister of Finance pointed out in his budget speech that he had succeeded in reducing the net expenditure for the cost of administration from Mks.2,500,000,000 in 1926 to Mks.1,700,000,000 in 1928.

**Revenue.**—As will be seen from the following table the revenue from taxation, customs and other duties during the financial year 1927-28 was Mks.8,490,335,352 (£424,516,768), thus exceeding the estimate by Mks.30,000,000 :—

A.—TAXES.		April, 1926, to March, 1927. Mks.	April, 1927, to March, 1928. Mks.
<i>(a)</i> Recurrent Taxes :—			
Income tax—			
<i>(a)</i> deducted from wages... ..	...	1,094,717,981	1,348,039,300
<i>(b)</i> " " unearned increment	...	94,566,600	134,823,631
<i>(c)</i> other ... ..	...	1,064,047,894	1,301,602,670
Corporation tax ... ..	...	381,960,174	477,945,961
Tax on wealth ... ..	...	359,332,152	441,899,984
Succession duty ... ..	...	34,602,291	71,865,917
Turnover tax ... ..	...	875,500,150	877,693,041
Real estate purchase tax ... ..	...	28,053,693	37,890,848
Tax on capital transactions—			
<i>(a)</i> Company tax ... ..	...	58,288,548	62,006,689
<i>(b)</i> Tax on securities ... ..	...	23,496,447	20,790,732
<i>(c)</i> Tax on stock exchange transactions	...	82,866,618	65,734,640
<i>(d)</i> Directors' tax ... ..	...	755,852	133,332
Motor vehicle tax ... ..	...	105,138,004	156,216,318
Tax on insurance ... ..	...	45,966,524	52,850,300
Betting and lottery taxes—			
<i>(a)</i> Totalisator tax ... ..	...	15,091,567	15,854,718
<i>(b)</i> Other betting tax ... ..	...	15,321,498	17,755,624
<i>(c)</i> Lottery tax ... ..	...	35,794,096	42,784,365
Tax on Bills of Exchange ... ..	...	36,398,645	48,146,647
Tax on transport			
<i>(a)</i> of passengers ... ..	...	168,305,182	177,591,986
<i>(b)</i> of goods ... ..	...	143,665,922	171,594,470
Total <i>(a)</i> ... ..	...	4,663,910,279	5,523,226,184
<i>(b)</i> Non-recurrent taxes ... ..	...	48,071,456	26,569,341
Total A. ... ..	...	4,711,981,735	5,549,795,525
B.—CUSTOMS AND EXCISE DUTIES.			
<i>(a)</i> Controlled (for reparation purposes)—			
Customs ... ..	...	940,369,739	1,250,823,680
Tobacco tax ... ..	...	712,374,946	793,906,157
Sugar tax ... ..	...	284,699,621	224,456,856
Beer tax ... ..	...	240,760,855	360,221,391
From spirit monopoly ... ..	...	227,227,285	261,027,544
Total <i>(a)</i> ... ..	...	2,405,432,450	2,890,435,633

	April, 1926, to March, 1927. Mks.	April, 1927, to March, 1928. Mks.
(b) Others—		
Acetic acid tax ... ..	2,171,421	2,000,262
Tax on wine ... ..	17,876,943	813,660
Tax on sparkling wine ... ..	6,175,343	15,771,515
Salt tax ... ..	1,393,317	8,810
Tax on matches ... ..	13,681,986	12,722,920
Tax on illuminants ... ..	9,265,726	12,650,559
Tax on playing cards ... ..	2,108,840	2,432,116
Statistical fee ... ..	2,930,629	3,254,005
Tax on saccharine ... ..	462,358	442,157
<b>Total (b)</b> ... ..	<b>56,066,567</b>	<b>50,080,386</b>
<b>Total B.</b> ... ..	<b>2,461,499,018</b>	<b>2,940,516,019</b>
<b>C.—OTHER DUES.</b>		
Bread levy ... ..	230,150	23,807
<b>Total</b> ... ..	<b>7,173,710,904</b>	<b>8,490,335,352</b>

**National Debt.**—The following table shows Germany's national debt on March 31st, 1927 and 1928:—

	March 31st, 1927 1,000 Mks.	March 31st, 1928 1,000 Mks.
<b>I. Gold Mark debts:—</b>		
1. Reich loan of 1927 (6% interest to 1934)...	470,000	500,000
2. Loan liquidation debt:—		
(a) with drawing rights ... ..	4,547,800	4,547,800
(b) without drawing rights ... ..	700,000	700,000
3. "K" bonds ... ..	600	600
4. Rentenbank loan ... ..	810,100	782,600
5. Treasury certificates of 1923, repayable 1935 (Gold loan) ... ..	18,800	18,800
6% Treasury certificates of the Reich of 1923, repayable in 1932 ... ..	1,300	1,300
6. Reichsbank loan ... ..	208,400	199,400
<b>Total of Gold Mark debts</b> ... ..	<b>6,757,000</b>	<b>6,750,500</b>
<b>II. Debts in foreign currencies:—</b>		
7. German foreign loan of 1924—		
\$ 96,300,000 ... ..	} 903,500	} 901,700
£ 20,600,000 ... ..		
Swiss francs 14,200,000 ... ..		
Swedish kroner 23,900,000 ... ..		
Lire 94,100,000 ... ..		
<b>Total of I and II</b> ... ..	<b>7,660,500</b>	<b>7,652,200</b>

The 5 per cent. internal loan of Mks.500,000,000 issued by the Reich in February, 1927 (see last year's annual report, page 16), was placed at an inopportune moment and at a rate which hampered the Reichsbank and unsettled the discount market. The Government, therefore, in August, 1927, endeavoured to remedy matters by raising the interest on the loan to 6 per cent. for seven years.

In February, 1928, a small amount of treasury bills were placed on the market for the first time since stabilisation; until the end of April bills for a total of about Mks.50,000,000 had been issued.

### Currency :—

#### *Circulation of Currency.*

(Reichsbank notes, notes of the issuing banks, Rentenbank notes and coinage.)

			Mks.
December 31st, 1926	...	...	5,830,000,000
" " " 1927	...	...	6,300,000,000
March 31st, 1928	...	...	6,222,200,000

The amount of Reichsbank notes contained in these totals was :—

			Mks.
December 31st, 1926	...	...	3,735,526,000
" " " 1927	...	...	4,564,047,000
March 31st, 1928	...	...	4,513,155,000

The following figures show the gold cover of the Reichsbank for its own notes :—

			Mks.	Per cent. of cover.
December 31st, 1926	...	...	1,831,383,000	49·0
" " " 1927	...	...	1,864,643,000	40·9
March 31st, 1928	...	...	1,930,756,000	42·8

### Alterations in Taxation, 1927.

*Tax on Property.*—The increase of this tax mentioned in last year's annual report, on page 17, did not apply to agricultural and trading capital.

*Sugar Tax.*—This tax was reduced from Mks.21·0 to Mks.10·50 per 100kg. as from August 1st, 1927.

*Industrial Charges Tax.*—For this charge, which forms part of the Reparation Payment Plan, individual concerns had to pay in the past Reparations year (1st September, 1926, to 31st August, 1927) interest and amortization amounting to 7·1 per thousand of their working capital, as against a rate of 3·5 per thousand for the preceding year.

*Company Tax.*—Certain reductions of the taxes on fusions were introduced in 1926 (see Annual Report for 1925-26, page 27) for a limited period; this period has been extended until September 30th, 1928.

*Turnover Tax.*—By an Act of March, 17th, 1928, this tax was remitted as from January 1st, 1927, on a large number of transactions connected with loading and unloading in sea ports, such as (a) the transport of goods of all kinds from one sea-going vessel to another, or to another boat, or a quay or a warehouse; (b) the loading and unloading of sea-going ships, including stowing and bunkering and work connected with loading and unloading, such as sorting, marking and repairing of packing material, weight-control, etc.; (c) warehousing of imported bulk goods, if the goods are warehoused immediately upon import; (d) warehousing of goods intended for export.

## Alterations in Taxation, 1928.

*Income Tax.*—By an Act of December 22nd, 1927, the income tax deducted at source was reduced as from January 1st, 1928. This reduction is effected by decreasing the amount hitherto deducted by 15 per cent., but in no case by more than Mks.2 per month, 50 Pfennigs a week, or 10 Pfennigs a day. If the amount of tax payable is Mks.1 or less for a month, or 25 Pfennigs for a week, it is not collected.

*Tax on Motor Vehicles.*—A new system of taxing motor cars and motor cycles was introduced as from April 1st, 1928; it is based on stroke-volume. The tariff is as follows: it includes a charge for road upkeep of 20 per cent. in 1928 and of 15 per cent. in 1929:—

<i>Motor Bicycles.</i>				1928	1929
Stroke-volume in cubic centimetres				Mks.	Mks.
Up to 200 ccm. free of tax.					
From	200	to	300	29	28
"	300	"	400	39	37
"	400	"	500	48	46
"	500	"	600	58	56
"	600	"	700	68	65
"	700	"	800	77	74
"	800	"	900	87	83
"	900	"	1,000	96	92
For every further 100				9·60	9·20
<i>Motor Cars.</i>					
From	400	to	500	72	69
"	500	"	600	87	83
"	600	"	700	101	97
"	700	"	800	116	111
"	800	"	900	130	125
"	900	"	1,000	144	138
"	1,000	"	1,100	159	152
"	1,101	"	1,200	173	166
"	1,200	"	1,300	188	180
"	1,300	"	1,400	202	194
"	1,400	"	1,500	216	207
"	1,500	"	1,600	231	221
"	1,600	"	1,700	245	235
"	1,700	"	1,800	260	249
"	1,800	"	1,900	274	263
"	1,900	"	2,000	288	276
"	2,000	"	2,100	303	290
"	2,100	"	2,200	317	304
"	2,200	"	2,300	332	318
"	2,300	"	2,400	346	332
"	2,400	"	2,500	360	345
"	2,500	"	2,600	375	359
"	2,600	"	2,700	389	373
"	2,700	"	2,800	404	387
"	2,800	"	2,900	418	401
"	2,900	"	3,000	432	414
"	3,000	"	3,100	447	428
"	3,100	"	3,200	461	442
"	3,200	"	3,300	476	456
"	3,300	"	3,400	490	470
"	3,400	"	3,500	504	483
"	3,500	"	3,600	519	497

Stroke-volume in cubic centimetres		1928	1929
From 3,600 to 3,700	... ..	Mks. 533	Mks. 511
.. 3,700 .. 3,800	... ..	548	525
.. 3,800 .. 3,900	... ..	562	539
.. 3,900 .. 4,000	... ..	576	552
For every further 100	... ..	14.40	13.80

The tax on motor lorries and motor omnibuses was hitherto Mks.30 for each 200kg. up to a total of 2,000kg. and for each 200 kg. over that weight Mks.20 ; for electrically or steam driven lorries and tractors without loading space the rates were Mks.15 per 200kg. up to a total of 2,000kg. and for each 200kg. over that weight Mks.10. These taxes have now been altered in so far as the lower rates for all the above mentioned vehicles weighing over 2,000kg. have been abolished so that uniform rates of Mks.30 and Mks.15 are now in operation. These rates are, however, increased by 10 per cent. for vehicles which are not equipped with pneumatic tyres on all wheels. As in the case of motor cars, 20 per cent. will be added during 1928 for road upkeep and 15 per cent. during 1929. All road and bridge tolls were abolished as from July 1st, 1927.

### III. FOREIGN TRADE.

**General.**—Excluding gold and silver bullion and specie, and reparation deliveries, Germany's foreign trade during 1927 amounted to :—

Imports	... ..	Mks.14,143,161,000
Exports	... ..	Mks.10,218,710,000
Excess of imports over exports	...	Mks.3,924,451,000 (£196,222,550)

These figures reveal a striking change since the previous year. In 1926 there was an alleged excess of imports amounting at the most to about £10,000,000, though many experts considered that more accurate statistics would have shown a preponderance of exports. In this connection it may be pointed out that the German foreign trade figures are subject to continual revision, so that the official figures for 1926 as published in the middle of 1927 differ considerably from those given in the December issue of the statistical abstract ; thus the excess of imports was put at about £6,000,000 at the earlier date and at over £10,000,000 at the later.

It is not difficult to account for the difference between the two years. The first half of 1926 was a period of industrial depression when the replenishment of stocks was *neither needed nor possible*, and in the second half the labour troubles in the United Kingdom stimulated Germany's exports by forcing many customers all over the world to place orders in Germany which would otherwise have gone to Great Britain. In 1927, on the other hand, the internal boom which commenced during the second half of 1926 developed and persisted throughout the whole year, so that it became necessary not only to fill up depleted stocks of raw materials, but also to provide for a big current demand. Further, the inevitable effect of the heavy foreign borrowings of 1926 and 1927 began to make itself felt by forcing up imports. If these factors are taken into

consideration and if it is remembered that in addition exports were hampered by customs barriers and many weak or unsafe markets, it is not surprising that the so-called adverse balance is somewhat formidable. What Germany's normal post-war requirements in imports are it is impossible to say, as the large foreign loans obscure this, like so many other departments of her economy. That the 1927 imports were abnormal is shown by a comparison with the average for 1909-13, which amounted to Mks.9,726,000,000, while on the basis of pre-war values the figure for 1927 is Mks.11,655,200,000. It should be possible to keep imports somewhere near the earlier average, while exports certainly can be forced up, particularly if the internal market becomes quieter and less ready to absorb the industrial output. Thus at least a balance between imports and exports, if not a surplus of exports, should be capable of achievement. It must, however, not be forgotten that ever since 1870 Germany's imports have exceeded her exports, the total excess during the period 1900-13 being Mks.18,848,000,000.

Foreign long termed loans during 1926 and 1927 amounted to Mks.2,959,230,000 and in addition there was much short borrowing, the total at times being as high as Mks.3,600,000,000. As actual reparation payments involving the transfer of foreign currency during the same period only absorbed Mks.1,099,141,800, it will readily be seen that there was an ample margin to finance exaggerated imports. With a decline in foreign borrowing and increasing reparation payments, Germany's imports should become substantially less. Reference may again be made to the fact that Germany's imports cannot go below a certain indispensable minimum, owing to her lack of a number of essential foodstuffs and raw materials which represent an annual net sum of between Mks.5,000,000,000 and Mks.6,000,000,000, after allowing for the exports in the same categories of goods.

The following table shows Germany's foreign trade in 1927 and 1926 and furnishes a comparison with the five years before the war:—

(Million Mks.)

	1927		1926		1913	Average 1909- 1913
	On the present values.	basis of pre-war values.	On the present values.	basis of pre-war values.		
Imports ... ..	14,143	11,655	10,001	7,965	10,770	9,726
Exports ... ..	10,218	7,650	9,783	7,372	10,097	8,246
Excess of imports over exports ...	3,925	4,005	218	593	673	1,480

Germany's exports have of recent years shown a progressive development. In 1926, which was a specially favoured year owing

to the diminution in British competition over a long period, they increased by over Mks.1,000,000,000, but even in 1927, when the requirements of the home market were large, a further advance of Mks.435,000,000 over 1926 occurred. German exports in 1927 represented three quarters of those of 1913 and four-fifths of the average during the period 1911-13; the proportion of finished articles to total exports has also improved from two-thirds before the war to three quarters in 1927. In 1913 Germany's foreign trade formed 13·3 per cent. of the world's commerce and in 1927 it had recovered so far as to reach 10·8 per cent.

In January, 1928, the tendency of German foreign trade as manifested throughout 1927 continued in an even more marked degree. The result was as follows:—

	Imports. Mks.	Exports. Mks.
Living animals ... ..	14,400,000	800,000
Foodstuffs and beverages ... ..	452,300,000	37,300,000
Raw materials and semi-manufactures ... ..	672,600,000	191,900,000
Finished goods ... ..	230,600,000	632,100,000
	<u>1,369,900,000</u>	<u>*862,100,000</u>

The excess of imports, amounting to Mks.507,800,000, is the heaviest since January, 1925, when the corresponding figure was Mks.570,000,000. The import of foodstuffs was higher by Mks.83,000,000 than in December, 1927, due largely to the clearance and settlement at the customs depots, which always takes place in the first month of the year. The import of raw materials increased by Mks.11,000,000 and of finished articles by Mks.18,000,000. Exports showed a decline of Mks.91,000,000, which is also in part accounted for by seasonal influences; the drop in finished goods alone amounted to Mks.78,000,000. (See also reference in introduction.)

The following figures show the movement of gold and silver bullion and specie during the last two years:—

	Imports. Mks.	Exports. Mks.
1926 ... ..	615,246,000	36,201,000
1927 ... ..	238,271,000	21,866,000

The following table gives reparation deliveries in kind during the last three years:—

	1927	1926	1925
	Mks.	Mks.	Mks.
Living animals ... ..	18,090,000	13,722,000	6,454,000
Foodstuffs and beverages ... ..	21,974,000	27,428,000	2,925,000
Raw materials and semi-manufactures ... ..	368,535,000	400,887,000	383,887,000
Finished goods ... ..	169,833,000	188,770,000	127,157,000
	<u>578,432,000</u>	<u>630,807,000</u>	<u>520,423,000</u>

\* The excess of imports over exports during the first six months of 1928 was Mks.1,664,633,000.



Fuel deliveries form by far the most important item, as the following figures prove:—

	1927	1926	1925
	Mks.	Mks.	Mks.
Coal ... ..	190,291,000	194,666,000	214,706,000
Coke ... ..	72,778,000	98,532,000	108,768,000
Lignite briquettes ... ..	7,167,000	11,580,000	7,586,000
	270,236,000	304,778,000	331,060,000

The usual tables giving the detailed figures of Germany's foreign trade by countries in recent years, and the origin and destinations of her chief imports and exports are contained in Appendices I, II and III.

**Trade by Countries.**—The following table shows the countries from which Germany chiefly imports. It will be noticed that Great Britain occupies third place, as before the war, and that Russia, which then was only second to the United States of America, has now fallen to tenth place:—

	1913	1925	1926	1927
		(Million Mks.)		
United States ... ..	1,711	2,196	1,603	2,073
Argentine ... ..	495	628	611	1,071
United Kingdom* ... ..	876	944	576	938
France (1) ... ..	583	570	369	779
Netherlands ... ..	333	742	547	697
Czechoslovakia† ... ..	—	533	387	559
British India ... ..	542	644	437	526
Belgium-Luxembourg ... ..	344	415	343	530
Italy ... ..	318	496	388	525
Russia (2) ... ..	1,424	205	302	433
Dutch-Indies ... ..	228	366	312	407
Sweden ... ..	224	269	234	379
Poland† ... ..	—	428	283	345
Denmark ... ..	192	326	294	345
Germany's total imports ... ..	10,770	12,362	10,001	14,381

(1) 1913 without Alsace, 1925-1927 including Alsace without Saar.

(2) 1913, including Asiatic Russia.

\*Excluding Irish Free State for 1925, 1926 and 1927.

†Not separate countries in 1913.

Of greater interest are the figures which indicate important changes in the sources of some of Germany's essential foodstuffs and raw materials. The imports of wheat from Canada have more than doubled, from Australia they have nearly trebled and from the Argentine they have also increased substantially; on the other hand, they have dropped considerably from the United States of America, to less than a third from Russia and to a little over a ninth from Roumania; the total imports remain approximately the same as in 1913. The imports of barley show a big decline of 1,238,000 tons. This is more than accounted for by Russia, which only supplied 161,000 tons in 1927 as against 2,765,000 tons in 1913; it will be observed that all the other countries concerned

increased their export of barley to Germany very largely. The reverse has occurred with maize, the import of which rose by 1,186,000 tons, even Russia increasing its contribution slightly.

(In 1,000 tons).

Imported from	Wheat.		Barley.			Maize.			
	1913	1926	1927	1913	1926	1927	1913	1926	1927
Canada ...	320	661	763	5	173	372	—	—	3
Argentine	447	304	715	13	120	240	562	412	1,586
U.S.A. ...	1,005	760	690	188	348	510	172	32	38
Australia	88	190	239	—	6	7	—	—	—
Russia (1)	519	140	156	2,765	573	161	91	36	52
Roumania	95	15	11	83	325	488	68	126	333
Total imports	2,546	2,172	2,612	3,238	1,740	2,000	919	704	2,105

(1) 1913, including Asiatic Russia.

Among the raw materials the most noteworthy changes are the decline in the imports of wool from Australia as compared with 1913, the decline of cotton imports from British India and Egypt, the fall in the imports of oil, fruits and seeds from the United States and from Egypt, and their increase from the Dutch East Indies and China and, finally, the great rise in rubber imports.

(100 tons).

Imported from	Wool and animal hair.			Cotton.			Oil fruits and seeds.			Rubber, gutta-percha and balata.		
	1913	1926	1927	1913	1926	1927	1913	1926	1927	1913	1926	1927
	U.S.A. ...	49	14	28	4,101	2,981	4,640	138	79	22	4	23
Argentina ...	503	389	459	—	19	4	4,311	2,743	3,600	—	—	—
British India ...	4	4	4	675	295	380	3,218	2,638	2,829	49	59	135
Dutch East Indies ...	—	—	—	20	12	4	829	1,627	1,630	20	107	165
China ...	5	3	5	51	33	78	1,955	4,198	6,017	—	—	—
South Africa ...	265	219	338	—	—	—	—	22	9	—	—	—
Egypt ...	—	—	—	426	136	243	2,079	253	314	—	—	—
Australia... ..	779	565	662	—	—	—	—	—	5	—	—	—
Total Imports ...	2,452	1,753	2,295	5,835	3,783	5,907	17,474	16,878	19,570	290	293	515

Appendix I, giving Germany's exports to her chief customers, shows that Great Britain continues to be Germany's best market. Germany's exports to Holland and Sweden have increased considerably since 1913, while in every instance they are larger in 1927 than in 1925, the most striking cases being France and Belgium with whom commercial treaties were concluded.

**Anglo-German Trade.**—The totals of Anglo-German trade during the last three years, compared with 1913, are as follows :—

	Imports into Germany from U.K.	Percentage of total German imports.	Exports to U.K. from Germany.	Percentage of total German exports.
	Mks.		Mks.	
1913 ...	1,083,194,000	9·7	1,451,137,000	14·2
1925 ...	1,055,594,000	8·1	936,701,000	10·6
1926 ...	874,848,000	8·2	1,169,219,000	11·9
1927 ...	990,495,000	6·9	1,178,984,000	10·9

NOTE.—The figures for the years 1925, 1926 and 1927 relate to Great Britain and Northern Ireland only.

The excess in Germany's favour is accordingly Mks.188,489,000 (£9,424,450), and she has been able to improve her exports even beyond the 1926 figure when, owing to the labour troubles in Great Britain, conditions were particularly favourable to her.

Continuing the analysis (which was commenced in last year's report) of those articles exchanged between the two countries which reached at least Mks.10,000,000 in one or more of the years under comparison, the following results are arrived at for imports into Germany from the United Kingdom. The table has been expanded so as to include quantities, thus making it possible to arrive at a true comparison not only as to the financial balance, but also as to the volume of trade done.

## IMPORTS INTO GERMANY FROM THE UNITED KINGDOM.\*

Commodities.	1913		1925		1926		1927	
	Values in 1,000 Mks.)	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.	Values in 1,000 Mks.	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.
Fish and fish products ... ..	42,033	152,971	44,021	142,697	42,073	139,860	45,592	130,104
Vegetable oils and fats ... ..	9,139	15,578	8,765	8,774	5,569	6,556	8,360	9,779
Wool and other animal hair ... ..	41,367	16,568	79,323	15,551	56,865	13,241	70,086	18,462
Fur skins, (raw) ... ..	10,420	512	49,828	1,186	30,609	958	50,337	1,751
Other hides and skins ... ..	20,699	5,732	23,913	3,716	16,664	3,111	27,200	4,689
Oil cake, bran and similar fodder ...	20,513	176,015	5,806	30,729	6,834	43,583	8,014	49,693
Coal ... ..	179,586	9,209,543	69,446	3,432,588	27,685	1,427,066	63,856	3,267,783
Copper, raw, alloys and scrap ... ..	4,956	3,945	15,064	14,045	9,647	9,570	13,408	13,085
Tin, raw, alloys and scrap ... ..	6,872	1,697	6,755	1,271	7,945	1,342	13,306	2,323
Various raw materials and semi- manufactured goods ... ..	17,667	67,906	20,098	53,682	18,179	55,647	49,817	95,659
Yarn of wool and other animal hair	84,769	19,515	90,650	10,829	55,035	7,336	92,814	14,787
Cotton yarn ... ..	92,523	21,871	210,263	23,897	117,690	13,867	176,605	24,268
Fabrics and other goods of wool and other animal hair, not sewn ... ..	23,235	2,414	16,100	660	13,148	562	31,763	1,394
Fabrics and other goods of cotton not sewn ... ..	39,146	6,015	89,276	12,394	34,641	4,886	47,077	6,203
Leather ... ..	7,970	952	11,605	1,687	4,968	454	8,469	922
Furs and fur goods ... ..	10,315	332	12,358	529	11,201	362	17,193	612
Various chemical and pharma- ceutical products ... ..	16,689	15,010	7,360	6,230	3,885	2,178	6,152	3,906
Iron sheets and wire ... ..	16,877	56,225	6,491	15,316	2,263	5,158	5,552	12,793
Textile machinery ... ..	13,689	19,525	20,526	12,313	12,119	8,362	23,534	14,630
Watercraft ... ..	21,702	Number 50	9,047	Number 31	936	Number 4	20,631	Number 23

\*Great Britain and Northern Ireland only, for 1925, 1926 and 1927.

The imports of wool are slightly higher than in 1913, but this is not a product which provides work in the United Kingdom beyond that concerned with its shipment. The same applies to the raw skins for fur, although of course it is satisfactory that their export to Germany has increased more than three times compared with 1913. Other increases are those of copper, the volume of which is also nearly three times greater than in 1913, though slightly less than in 1925. Tin appears for the first time in the tables, as the exports to Germany during 1927 were valued at Mks.13,306,000, while in the previous years under comparison they had never reached Mks.10,000,000. While the increase in value of British cotton yarn sent to Germany amounts to Mks.84,082,000 in 1927 as compared with 1913, the increase in bulk only amounts to about 2,400 metric tons. Furs and fur goods have also nearly doubled both in quantity and value since 1913. A remarkable increase compared not only with the two previous years, but also with 1913, is shown under the heading "various raw materials and semi-manufactured goods" which are over 27,000 tons larger in 1927 than in 1913, while the rise in value of this import is Mks.32,150,000. This heading is, however, composed of so many items that it is impossible to state what industry has benefited.

Against these increases a number of declines have to be set which show what serious losses Great Britain has suffered in the German market. First in the list is the decline in the quantity of fish and fish preparations imported into Germany from Great Britain during the last three years; this cannot be regarded without misgivings in view of its effect upon the British herring trade. The falling off of vegetable oils and fats is regrettable, but far greater is the decline in oil cake, bran and fodder, which amounts to no less than 126,300 tons and to nearly Mks.12,500,000 as compared with 1913. Another deplorable loss is that of coal, the imports of which have dropped to 3,270,000 tons as against 9,200,000 tons in 1913. The decrease in value is Mks.115,730,000. Woollen yarns have increased compared with 1925, and it might have been expected that in a busy year like 1927 the pre-war quantities would have been reached, but the import of these yarns fell short of that figure by about 4,700 tons. Woollen goods, too, are down by over 1,000 tons compared with 1913, although the value is greater by Mks.8,528,000. The decline in British exports to Germany in chemical and pharmaceutical products is very marked, amounting to over 11,000 tons and Mks.10,537,000. Almost as serious as the falling off in coal exports is that in iron sheets and wire, the British export of which to Germany in 1913 amounted to 56,225 tons, but in 1927 to only 12,793 tons, a loss of 43,432 tons and Mks.11,325,000.

In connection with the following table showing German exports to Great Britain it must be remembered, when comparisons with 1913 are made, that Germany has in the interval lost considerable tracts of agricultural land and large industrial areas, so that in some cases her exports are necessarily affected. A further point to bear in mind is that, as most of the articles to be dealt with are highly finished, the values play a greater part in many cases than the bulk, because such goods are much more affected by alterations in type or changes in fashion than raw materials.

## EXPORTS FROM GERMANY TO THE UNITED KINGDOM.\*

Commodities.	1913		1925		1926		1927	
	Values in 1,000 Mks.)	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.	Values in 1,000 Mks.	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.
Wheat ... ..	2,975	18,302	18,158	82,252	28,242	115,755	5,465	21,847
Oats ... ..	22,540	165,428	1,176	6,424	3,377	18,097	1,390	7,506
Fresh potatoes ... ..	7,453	125,610	10,429	131,536	484	6,406	55	618
Sugar ... ..	192,187	842,324	5,396	17,403	16,704	52,308	6,216	18,096
Margarine and similar edible fats ... ..	13,726	12,911	22	22	553	631	3,832	4,606
Vegetable oils and fats ... ..	25,326	29,080	2,013	2,246	3,760	4,276	7,290	8,732
Various foodstuffs and beverages ... ..	12,167	25,980	5,836	57,115	6,166	61,558	5,169	58,782
Pelts for fur ... ..	11,178	248	3,968	73	5,854	92	11,634	187
Wood pulp, cellulose, etc. ... ..	5,898	36,493	4,995	20,803	11,900	45,536	13,266	49,602
Coal ... ..	160	11,418	—	—	44,878	1,728,966	1,074	43,677
Zinc, raw, alloys, scrap ... ..	22,173	42,964	10,856	15,536	10,828	15,587	13,239	21,575
Various non-precious metals ... ..	10,183	1,551	722	425	1,114	416	455	194
Iron semi-manufactures, rough blooms ... ..	44,342	499,223	10,409	88,252	42,721	417,198	35,620	306,523
Various raw materials and semi- manufactures ... ..	20,338	83,842	13,971	32,051	14,179	28,670	23,602	33,241
Fabrics and other goods of silk and artificial silk, not sewn ... ..	50,450	1,974	62,039	1,783	50,635	1,438	67,107	2,054
Fabrics, and other goods of wool and other animal hair, not sewn ... ..	51,667	6,669	26,490	2,334	56,773	4,632	64,557	5,695
Fabrics and other goods of cotton, not sewn ... ..	96,507	14,352	59,916	3,784	60,035	5,561	70,597	6,647
Clothing and underclothing ... ..	19,244	1,964	14,168	410	16,624	483	25,666	742
Various textile goods ... ..	24,981	3,905	24,025	2,730	21,867	2,666	26,443	3,033
Leather ... ..	34,925	5,137	35,932	3,394	44,003	6,515	41,694	3,248



## EXPORTS FROM GERMANY TO THE UNITED KINGDOM\*—continued.

Commodities.	1913		1925		1926		1927	
	Values in 1,000 Mks.)	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.	Values in 1,000 Mks.	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.
Boots and shoes, saddlers' and other leather goods ... ..	24,500	2,563	16,516	1,099	15,910	1,063	17,371	1,206
Fur and fur goods ... ..	27,930	495	22,618	278	40,950	406	54,137	626
Furniture and other wood ware ...	10,806	14,496	11,019	9,972	11,659	9,726	12,649	9,682
Rubber goods ... ..	25,698	4,353	15,766	2,752	18,682	3,168	17,321	3,017
Goods of celluloid, galalith and similar substances (excluding films) ... ..	6,304	1,111	17,959	2,070	14,970	1,876	17,939	2,366
Paper and paper articles ... ..	45,540	87,788	57,754	90,010	66,280	109,158	60,868	95,980
Colours, varnishes and lacquers ...	44,868	47,515	13,444	13,157	20,356	16,684	24,746	21,594
Various chemical and pharma- ceutical products ... ..	50,099	72,309	30,536	67,940	32,372	77,807	36,378	92,120
Pottery and porcelain ... ..	9,877	12,020	13,310	12,185	16,613	16,638	13,784	14,894
Glass and glassware ... ..	28,194	49,929	26,106	34,882	30,026	44,388	31,638	47,338
Iron tubes and rollers ... ..	10,742	40,809	7,050	22,546	9,653	31,516	10,727	34,142
Iron bars, sections and girders ...	29,895	243,180	10,640	68,723	24,782	167,787	27,493	163,018
Iron sheets and wire ... ..	34,655	245,702	27,364	176,939	32,213	225,204	34,046	228,270
Boilers, iron parts and accessories of machinery ... ..	12,626	26,104	7,425	9,939	9,382	13,699	12,722	18,508
Various iron goods ... ..	41,059	74,151	52,720	60,844	51,402	57,070	53,903	70,175
Copper ware ... ..	22,919	8,518	16,009	5,406	23,213	10,608	18,993	7,159
Various goods of non-precious metals ... ..	23,155	15,808	11,836	3,185	13,481	5,293	16,683	5,301
Machine tools ... ..	6,415	5,987	6,265	3,441	7,478	5,460	10,363	6,034
Various machines, excluding elec- trical ... ..	15,638	12,549	14,068	6,301	15,275	5,845	21,020	9,244

EXPORTS FROM GERMANY TO THE UNITED KINGDOM\*—*continued.*

Commodities.	1913		1925		1926		1927	
	Values in 1,000 Mks. )	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.	Values in 1,000 Mks.	Quan- tities Metric tons.	Values in 1,000 Mks.	Quan- tities Metric Tons.
Electro-technical products ...	20,769	4,232 Number	26,664	7,788 Number	24,286	7,995 Number	28,048	8,975 Number
Watercraft ... ..	9	14	620	15	16,778	10	107	2
Musical instruments and phono- graphs ... ..	23,069	Metric tons 8,512	24,958	Metric tons 5,379	7,979	Metric tons 1,632	8,549	Metric tons 1,790
Watches and clocks ... ..	7,593	2,255	20,561	3,673	7,855	1,349	11,483	2,104
Toys ... ..	25,676	14,809	37,809	15,930	32,736	13,375	34,695	15,051
Various finished goods ... ..	33,420	19,180	18,386	8,425	18,143	9,399	23,577	12,044

The articles selected represent on an average more than 80 per cent. of the trade between the two countries.

\* Great Britain and Northern Ireland in 1925, 1926 and 1927.

Among the first four items in the foregoing table the practical cessation of the exports of sugar to Great Britain may be noted; they are no doubt due in part to the creation of a subsidised sugar industry in Great Britain and to the loss by Germany of large beet growing areas. Although margarine, vegetable oils and fats are far below the 1913 figure, they show a strongly increasing tendency during the last three years. The increase of foodstuffs and beverages is remarkable, being more than double the 1913 figure. Wood pulp and cellulose have also gone up, though not in the same proportion. There has been a big falling off in zinc and other non-precious metals, due no doubt to territorial changes and to the opening up of new sources of supply. Germany has been able to retain the larger share of the abnormal exports of iron semi-manufactures, which she was able to effect during 1926. Raw materials and semi-manufactures are considerably less than before the war, but here also the comparison should rather be confined to the post-war period, during which the development has been very satisfactory, particularly as regards values. The same applies to unsewn silk, cotton and woollen goods of all kinds.

The remainder of the list deals with the more highly finished articles, and it would be tedious to relate in detail the record of their success since 1925. Suffice it to say that they all show satisfactory, and sometimes excellent, increases, with certain exceptions. Leather shows a very small decrease of 150 tons; furniture and wood ware, a very small decrease of 300 tons. There is a big falling off in musical instruments, but it must be remembered that before the duty was re-imposed in July, 1925, large quantities of German goods were rushed into the country; further, the after-effects of the labour troubles of 1926 still made themselves felt in Great Britain in 1927, particularly among those classes who normally buy the cheaper German goods. Watches and clocks are also down, but are well on the road to recovery and have nearly reached the 1913 level; no doubt, as in the case of musical instruments, the 1925 exports were excessive on account of the impending duty. Toys are slightly less, but better than in 1913.

The position of Anglo-German trade at the end of 1927 can only be described as disappointing from the British point of view. Germany not only has an actual cash advantage of nearly £9,500,000 on the exchange of goods, but the infinitely greater one that the articles she sells to Great Britain provide a maximum amount of employment for German workers, while British exports to Germany are almost entirely raw materials or transit goods; the largest British export—textiles—reaches Germany in a less-than-half-finished state.

There is no insurmountable reason why the British merchant should not venture on the German market, provided that he can, in spite of the duties, offer his goods at a price

approximately the same as that of his German competitor. This should be possible in many cases because the German takes advantage of protection to sell expensively on the home market. Among the risks which have to be encountered is that of Government action in the shape of a direct increase in duty or of an alteration in customs treatment, which has the same effect. Against such measures the British exporter is often powerless, and they may have the effect of excluding him from the German market altogether. Ordinary commercial risks can, on the other hand, with reasonable care, be very much reduced. Needless to say, in Germany, as elsewhere, greater caution must be exercised than before the war and enquiries should be more searching, but there are adequate facilities for making such enquiries and plenty of good commercial lawyers who can be relied upon to draw up sound contracts. It should be noted that the German lawyer unites in his person the functions of a British solicitor and barrister and often those of a notary as well, so that procedure and the method of calculating fees differ correspondingly. It would also be advantageous if, in suitable cases, stocks of sufficient size were maintained in Germany to ensure prompt delivery; irretrievable harm has been done by British firms canvassing for and accepting business which they were then only able to carry out after long delay. In entrusting such stocks to agents or when supplying goods on credit it is, of course, particularly necessary to be satisfied as to the reliability and financial standing of the firms or persons concerned; heavy losses have at times been incurred owing to the temporary possessor of such goods pledging them to his German creditors, very often banks, before paying for them; these creditors thus obtained a prior lien on them, so that, when bankruptcy occurred, the British seller obtained neither payment nor even the return of his goods. Another matter which requires careful investigation in each instance is whether sales from stocks of imported goods are subject to turnover tax or not. Unfortunately the legislation on this point is still obscure, and the practice of the financial authorities in different parts of Germany varies.

**Russo-German Trade.**—The commercial relations between Germany and Russia are of particular interest, partly because Germany is Russia's chief link with the remainder of Europe and partly because their intercourse is an interesting experiment as to whether a monopolistic state economy can work with an ordinary capitalistic system.

The trade between the two countries during the last three years has been as follows:—

			1925	1926	1927
			Mks.	Mks.	Mks.
Imports from Russia	...	...	251,989,000	365,830,000	476,235,000
Exports to Russia	...	...	251,115,000	265,563,000	329,564,000
			(Metric Tons)		
Imports from Russia	...	...	853,781	1,569,649	1,526,046
Exports to Russia	...	...	182,664	415,129	279,668

As will be seen, the trade is still within modest limits. Though German imports from and exports to Russia have steadily increased in value, there is a big drop in the weight of German exports in 1927 compared with 1926. It will also be noticed that throughout the balance is against Germany. The following table shows the chief types of goods exchanged between the two countries:—

CHIEF IMPORTS INTO GERMANY FROM RUSSIA.

	1925		1926		1927	
	Tons.	Mks.	Tons.	Mks.	Tons.	Mks.
Wheat ... ..	19,066	4,972,000	140,173	36,584,000	155,589	39,095,000
Rye ... ..	15,656	2,703,000	47,751	9,181,000	121,955	25,477,000
Barley ... ..	144,504	23,363,000	574,636	91,982,000	161,453	29,382,000
Butter ... ..	7,158	25,487,000	5,433	15,973,000	6,542	19,878,000
Eggs ... ..	17,336	33,923,000	14,714	24,499,000	33,415	48,674,000
Fur skins (raw) ... ..	278	11,885,000	345	19,425,000	776	54,219,000
Feathers and bristles ... ..	421	5,631,000	724	6,261,000	1,129	10,831,000
Oilcake, bran and similar fodder ... ..	48,109	9,154,000	97,526	17,126,000	92,161	14,789,000
Timber ... ..	158,127	13,592,000	95,333	7,944,000	198,083	14,858,000
Mineral oils ... ..	95,854	21,081,000	128,909	22,195,000	158,044	25,437,000
Manganese ore ... ..	62,992	5,472,000	92,946	7,426,000	210,682	13,715,000
Various raw materials and semi-manufactured goods	2,899	1,873,000	3,908	3,208,000	5,794	51,617,000
Furs and fur goods ... ..	94	2,561,000	39	2,560,000	308	10,689,000

Unfortunately it is impossible to comment on the largest item in the 1927 column and the one which has grown most in value, because its components are disguised under the collective title of "Various raw materials and semi-manufactured goods." The next largest is raw fur skins, and presumably the increase is due both in this case and in that of furs and fur goods to the transfer of the auctions to Leipzig from London after the rupture of relations with the British Government. Probably the same applies to mineral oils, though the rise is also due to larger consumption in Germany. The big import of manganese ore in 1927 is no doubt the outcome of the contract between the Government of the U.S.S.R. and the firm of Rawack & Gruenfeld.

CHIEF EXPORTS FROM GERMANY TO RUSSIA.

	1925		1926		1927	
	Tons.	Mks.	Tons.	Mks.	Tons.	Mks.
Wool and other animal hair ... ..	1,326	10,760,000	840	7,777,000	1,412	11,930,000
Dyes, colours, varnishes and lacquers ... ..	3,459	32,820,000	3,065	28,202,000	1,383	10,423,000
Various chemical and pharmaceutical products ... ..	8,830	22,222,000	12,885	17,402,000	9,299	20,333,000
Iron tubes and rollers ... ..	678	392,000	12,535	4,601,000	27,768	11,256,000
Boilers, iron parts and accessories of machinery ... ..	1,922	3,925,000	4,468	9,230,000	12,253	20,670,000
Various iron goods ... ..	18,291	22,703,000	31,150	29,174,000	25,554	20,714,000
Machine tools ... ..	1,826	4,225,000	6,639	13,565,000	19,050	38,242,000
Various machines, excluding electrical ... ..	4,728	18,968,000	8,509	20,492,000	26,202	50,185,000
Electrical machines, including parts ... ..	292	746,000	1,981	3,931,000	6,397	14,804,000
Electro-technical products ... ..	1,917	11,539,000	1,740	9,762,000	3,045	16,008,000



The foregoing list hardly needs any comment ; it shows that two branches of German industry have done an increasing business with Russia, but that the total has in each case always remained moderate.

Of the business relations between the two countries it may be said that the Russians have always met their obligations punctually, and indeed this is not to be wondered at, as this commercial indebtedness was also a State indebtedness and any default would have been a virtual declaration of bankruptcy by the Government. Such a contingency must, of course, be scrupulously avoided by a country which, like the U.S.S.R., habitually asks for credit extending not only over months, but years, for ordinary commercial transactions. In every other respect the Germans appear to be dissatisfied, not only because they are continually being played off against competing countries, but also because of the thousand and one small obstacles which are placed in the way of the private trader and make business difficult and irritating. Matters came to a head in the autumn of 1927, and it was decided to make another effort to arrive at a *modus vivendi*.

In the matter of concessions there have been four important failures :—

*Deutsch-Russische Saalbau A. G.* obtained a concession in 1923 running till 1954. The conditions had to be revised in 1927. In 1926 the capital had been reduced in the proportion of 4 : 1 and then increased by Mks.600,000, making a total of Mks.850,000. It is announced that Mks.730,000 of this capital had been lost by March, 1928.

*The Krupp Concession.* After running for only four years and proving unprofitable this has had to be completely revised and an attempt is now being made to run it under new conditions.

*The Mologa Holzindustrie A. G.* After a short life this concession broke down entirely with the loss to the Germans of 75 per cent. of their investment.

*Deutsch-Russische Agrar A. G.* This company held a concession of about 25,000 desjatins in Southern Russia since 1923, but had to liquidate towards the end of 1927. An arrangement was made with the German creditors, but it is not stated on what basis.

A few concessions of an industrial nature appear to be still running ; they were granted during 1926 :—

Stock & Co., Elberfeld, manufacture of fancy goods and office furniture, for 18 years.

H. Landmann & Sohne, Fuerth, treatment of hops for 10 years.

Bloch & Ginsburg, Berlin, manufacture of buttons and other galalith articles for 15 years.

Thyssen G. m. b. H., sinking of shafts in the Donetz area.

German High Sea Fishing Union, Bremen, fishing off the North coast of the U.S.S.R. for 2 years.

Franken & Lang G. m. b. H., Berlin, an advertising concession for 3½ years.

The contract between the Lufthansa A.G. Berlin and the Derulft for the organisation of the air traffic between the U.S.S.R. and Germany was renewed for five years.

Further, five agreements were concluded with the following firms for technical assistance :—

Motorenfabrik Deutz A. G., seven years.

A. E. G., five years.

A. Borsig G. m. b. H., six years.

Union of German Machine tool factories, contract with Orgmeta for the erection in the U.S.S.R. of metal working factories.

I. G. Farbenindustrie, three years.

During 1928 various additional contracts for different kinds of work were concluded :—

The Siemens Bau Union entered into an agreement to submit plans, suggestions and tenders for the construction and partial equipment of works for utilizing the water power of the Dnieper.

The Vereinigte Stahlwerke, Otto Wolff and Mannesmann concluded a contract for the delivery of about 50,000 tons of pipes for the Baku-Batum oil pipe lines.

Siemens & Halske, Berlin, and Brown, Boveri & Co., Mannheim, secured the contract for the electrification of certain Moscow suburban railway lines and for the supply of material in connection therewith.

The Iron and Bronze Works Koeber in Harburg concluded a contract with the Russian mill building and oil and fat syndicates for technical assistance in the equipment of factories for extracting and refining vegetable and animal fats.

The Siemens Schuckert Werke concluded a contract for the erection of a 100,000 volt transmission line round Moscow.

The Vereinigte Karborundum & Elektrit Werke, Dresden, have entered into an agreement with the emery factory Iljitsch at Leningrad by which they undertake to give technical assistance to the Russian firm in the manufacture of synthetic polishing materials and to work out plans for a factory with an annual production of 1,000 tons of carborundum and 3,000 tons of corundum.

The Internationale Film A. G., Berlin (Ifa), together with the Russian State films (Sowkino) founded the Deutsch-Russische Film Allianz (Derussa) in Berlin for the purpose of jointly making and distributing films.

The last credit with a State guarantee granted by Germany to Russia was the Mks.300,000,000 credit dealt with in last year's report. The results of this credit were at first disappointing to Germany, partly because it did not produce the volume of orders from Russia that had been anticipated and partly because the Russians proved such hard bargainers that the financial benefit derived by the German firms was reduced to a minimum. Shortly before the period expired during which the credit remained available, however, the Russians made a special effort so that, taken as a whole, the transaction was not as unsatisfactory to the Germans as was feared at the beginning. There is, at any rate at present, no inclination to embark on a similar transaction and

firms must, therefore, arrange for their own financing in which, however, German banks are somewhat reluctant to assist them.

**Commercial Measures.—Customs.**—Apart from the customs alterations arising out of commercial treaties, the following among other changes in duty have been made since the issue of the last report :—

(1) As from the 15th January, 1928, a new customs treatment was introduced in respect of motor cars which left the duties unaltered, but provided that parts of the engine should be dutiable at the same rate as the whole and parts of the car at the same rate as the whole. The object of this law was to lessen the advantages of importing foreign cars in sections and assembling them in Germany.

(2) In March, 1928, the Reichstag decided to reduce the duty-free import quota of frozen meat from 102,000 tons to 50,000 tons per annum and the Government was authorised to increase this amount if a shortage in the supply of meat for the poorer classes should at any time make itself felt.

(3) At the same time it was decided to introduce the system of import certificates in connection with the export of pigs and pork that has already existed for many years in respect of the export of grain. The exporter of pigs, pork or of hams in air-tight receptacles, receives a certificate which he can tender in payment of duty when importing certain goods, chiefly cereals and pulse. The rates per 100 kg. exported are Mks. 16 for pigs, Mks. 21 for pork, and Mks. 27 for hams in air-tight receptacles. This means that if a pig weighing 200kg. is exported, the exporter will receive a certificate with which he can pay duty up to Mks. 32 when he imports any of the authorised articles. One of the objects of the application of this system to pigs and pork is said to be to enable the German product to compete with similar Danish imports into Great Britain.

*Assistance for Export.*—1. The various types of export credit schemes and other measures for assisting export were fully described in last year's report. It is stated that the so-called collective insurance which was introduced in 1926 has been particularly successful. Under it the exporter insures all his foreign customers and is indemnified for losses as they occur, instead of insuring each separate transaction.

2. Early in 1928 certain modifications were introduced into the Government export credit scheme (Scheme A) with a view to affording the insured greater facilities. The main points are :—

(a) The existence of a six months' moratorium in the country of the debtor or the prevention of payment of the insured amounts in consequence of Governmental decrees are accepted as risks.

(b) The insurance contract may be prolonged as follows, against payment of an additional premium : for credit transactions, up to 6 months after maturity and for cash transactions, up to 5½ months after despatch of the goods.

(c) Foreign branches of German firms may now be included in the insurance scheme as regards contracts concluded by such branches with foreign firms. In practice independent foreign firms which are wholly owned by a German firm are also included in the scheme, but the sales contract must be for German goods.

(d) An important difference has been made between cash against document transactions and credit transactions. In the latter the insured sum covers the whole credit, as hitherto. In the former the insured sum has been fixed in

principle at 30 per cent. of the amount of the credit, as it is presumed that at least 70 per cent. can be in general covered by the goods over which ownership can be retained by help of the documents. The premium is  $1\frac{1}{3}$  per cent. of the 30 per cent. of the credit amount covered by the policy. In certain cases application may be made for insurance above 30 per cent. of the total amount. For credit transactions the policy holder is still required to bear  $33\frac{1}{3}$  per cent. of the whole risk himself. For documents against payment transactions he is required to bear  $33\frac{1}{3}$  per cent. of the final loss within the insured amount of 30 per cent. of the total credit.

(e) The premium now amounts to  $1\frac{1}{3}$  per cent. for a period of  $4\frac{1}{2}$  months, as against 4 months hitherto.

(f) Goods must be despatched within six months of the conclusion of the insurance contract, but, should the financial position of the customer undergo a change for the worse during this period, the goods need not be despatched, in which case the insured may withdraw from the contract.

3. The Government has again been authorised in this year's budget to undertake guarantees up to a total of Mks.175,000,000 for the promotion of German export trade, but whether this amount will be distributed in the same way as last year is not yet settled.

4. A resolution has been adopted by all parties, except the Communists, requesting the Government to set aside the sum of Mks.1,500,000 with a view to reducing the interest which firms who have suffered through the liquidation of their property abroad and are attempting to re-establish themselves, have to pay on loans which they take up for this purpose. The object of this alleviation is also to promote German foreign trade, as such firms naturally introduce German goods in the countries in which they have their branches.

**Commercial Relations.**—*i. Treaties signed and ratified.*—Germany continued to conduct commercial negotiations on an extended scale during 1927, and an outline of the position is given below :—

*Great Britain* : There were no commercial negotiations, properly so called, between Britain and Germany during the year, but an air agreement between the two countries was signed on June 29th ; the deeds of ratification were exchanged in Berlin on December 1st, 1927.

On the 17th January an agreement was concluded between Great Britain and Germany for the abolition of double taxation of shipping concerns.

On the 20th March, 1928, an Anglo-German agreement was signed in London dealing with certain judicial and legal facilities, such as the service of judicial and non-judicial documents and the taking of evidence.

*France* : A definitive commercial treaty was concluded between the two countries on August 17th, 1927, and put into operation on the 6th September following. It is for all practical purposes a most favoured nation treaty though complete most favoured nation treatment will not be applied until December 15th, 1928.

It was provided in an exchange of notes that the agreements of the 5th August and 6th September, 1926, concerning the exchange of goods between Germany and the Saar should be extended and adapted to the new situation created by the conclusion of the treaty. This was done and a new Saar agreement signed in February, 1928.

*Italy* : A supplement to the German-Italian treaty of commerce was put into force on the 25th January, 1927.

*Jugo-Slavia* : Negotiations for a commercial treaty to replace the provisional agreement of 1922 were commenced at Berlin on the 8th June, 1927. The treaty was finished at the beginning of August, but not signed until the 6th October ; it was approved by the German law of December 13th, and the deeds of ratification were exchanged at Belgrade on December 17th and, after being put into force provisionally on December 20th, acquired final validity on the 6th January, 1928. The treaty is of the usual most favoured nation type and contains only a few customs items.

*Turkey* : A commercial treaty between Germany and Turkey and a treaty regulating residence were signed at Angora on the 12th January, 1927.

The commercial treaty is based on the principle of most favoured nation treatment and contains the usual clauses as to customs, import and export restrictions, transit traffic, fairs and exhibitions, shipping, taxation and commercial travellers.

The commercial treaty is concluded for a period of two years, subject to six months' notice ; afterwards it continues indefinitely subject to the same notice. The treaty regulating residence is for three years. The acts of ratification for both treaties were exchanged at Berlin on the 22nd June.

*Japan* : The commercial treaty between Germany and Japan was signed at Tokio on July 20th, 1927. It is of the usual most favoured nation type and in addition provides for reciprocal national treatment in respect of certain matters. In return for the withdrawal of the embargo on the import of German dyestuffs into Japan, the Germans reduced their duty on soya bean oil. The treaty was approved by the German law of the 5th November, 1927.

It is intended to negotiate further with regard to other customs duties and to embody the result in a supplementary treaty.

*Bolivia* : The commercial treaty of July 22nd, 1908, between Germany and Bolivia was renewed by the German law of June 30th, 1927, in pursuance of an agreement of the 12th March, 1924. This agreement was ratified on the 31st August, 1927.

*Panama* : On the 21st November, 1927, a commercial and shipping treaty between Germany and Panama was signed in Panama.

*Haiti* : By an exchange of notes, dated the 28th July, 1927, the two countries have agreed upon reciprocal most favoured nation treatment as from the 1st October, 1927.

*Greece* : On the 24th March, 1928, a commercial treaty between Germany and Greece was signed in Berlin. It has not yet been ratified.

## ii. Commercial Treaties Prolonged.—

*Mexico* : The notice of termination of the German-Mexican commercial treaty of the 5th December, 1882, expired on the 21st October, 1926. The treaty was then prolonged till April 21st, 1927, at the beginning of that month it was prolonged until the 31st December, 1927, and subsequently to the 31st December, 1928.

*Paraguay* : The commercial treaty of the 21st July, 1887, between Germany and Paraguay was denounced by the latter, the notice expiring on the 27th February, 1927. Pending negotiations for a new treaty, the old one was prolonged for a year to the 27th February, 1928, and subsequently until February 27th, 1929.

### iii. *Commercial Negotiations.*—

*Canada* : Conversations for the conclusion of a commercial treaty were held during the year, and the Germans submitted certain proposals, more particularly with reference to a reduction of the German duty on Canadian flour. Up to the present no agreement has been reached.

*Poland* : The negotiations which were continued from 1926, broke down in February, 1927, chiefly on the question of residence and expulsion. An attempt was made to deal with this matter separately, but it also failed. Nothing further happened till the middle of November, when the position was again discussed and the lines upon which the negotiations were to be resumed agreed upon.

Conversations for arriving at a provisional treaty were resumed in Warsaw in December. Certain difficulties arose in connection with the revaluation of the Polish customs duties, and a Polish decree governing residence by foreigners in territory adjoining the Polish frontier and, pending a settlement of the latter, the conversations were interrupted in March, 1928.

*Lithuania* : Discussions were commenced with a Lithuanian delegation in Berlin on the 19th July, 1927, for the purpose of revising and extending the commercial treaty of 1923. They were interrupted after a few meetings with a view to future resumption.

Commercial negotiations are also proceeding between Germany and Czechoslovakia and Germany and Egypt.

### iv. *Commercial Treaty Denounced.*—

*Persia* : On May 10th, 1927, Persia gave a year's notice of termination of the commercial treaty of the 11th June, 1873, with Germany.

## IV. INDUSTRIES.

### METALLURGICAL AND ENGINEERING INDUSTRIES.

*By C. J. Kavanagh.*

**General.**—In the previous annual report on the metallurgical industries the general conditions governing production were dealt with and an attempt was made to show how, under the conditions ruling in Germany, her industrial leaders, backed by the co-operation of the financial houses, had succeeded in laying down and following up a policy of expansion and consolidation of the industry throughout its various phases of production and distribution. The period of reconstruction has now reached a further stage of completion and the conditions of industrial activity, though still influenced by the repercussions of the financial situation, are nevertheless precise enough to indicate very real improvement.

During the last three years every effort has been made to develop the industry so far as its basic operations are concerned as a homogeneous whole and the steps taken to regulate production, to fix by agreement the scale upon which imports may take place, to grant favourable price facilities to the exporting finishers and to syndicate the various rolling mill products have all been primarily directed to securing as large a measure as possible of conscious control of the industry. Judged in this light there can

be no doubt that a great deal has been accomplished and that a definite stability of enterprise, which the industry as a whole considered essential to its welfare, has been brought about. From a broad administrative point of view, a system of order prevails in production and marketing against which very little criticism is levelled in the country as carrying with it any degree of exploitation. Though it would be idle to say that there are no antagonisms to the highly developed system of cartels which have been set up, such antagonism is primarily directed against the monopolisation of merchanting and is rarely, if at all, directed against the fundamental principles upon which the industry has set out to organise itself. Indeed, the price development in general has given little cause for anxiety and the large consuming interests in the country, embracing the important finishing and engineering trades, are all agreed that a well ordered producing industry conducted with foresight and exercising restraint of its powers is conducive to the even flow of trade.

Whilst, on the one hand, the control of output and sales has been expanded till it embraces in a very full measure the home sales organisations, individual manufacturers have, on the other, been able to survey in a comparatively calm atmosphere the possibilities of metallurgical development and to shape out a programme of manufacture by the thorough reorganisation of their component units. The phase of industrial rationalisation which followed upon the completion of the main administrative programme has been under way for a couple of years. It involved a searching test into the manufacturing processes throughout their entire range, the introduction of measures to achieve well balanced groups and to bring each unit of production to the maximum stage of efficiency. Vast sums of money have been expended in this endeavour, but it was only the energetic manner and the thoroughness with which the Germans pushed through their plans which enabled the industry to rehabilitate its financial credit from the condition to which it had been reduced by inflation.

It would be erroneous to suppose that the chief measures of reconstruction were limited to the well-known inflationary contribution. Since stabilisation, and notably in the last two years, very considerable investments have been made in plant and in the year under review the sums allocated, for example, to the coke oven and mining interests have been very substantial indeed. Though no actual figures of capital replenishment are available, except such meagre items as appear in a few balance sheets, the scale on which rebuilding has proceeded is well exemplified in the coke oven branch of the industry, where it is estimated that the additional capacity in coke production will account by the end of the year for an increase in the participation in the Coke Syndicate of some 10 million tons.

But a great deal has also been accomplished in other fields, and the figures of production for the year 1927 show that the industry was able to put into commission the extensive additions to plant which have been carried out in recent times. It is perhaps opportune, therefore, to examine briefly the results which have been achieved because, from a production point of view, the progress has been most remarkable. As a result of the concentrated efforts to build up the industry Germany has now practically equalised the very extensive losses in manufacturing capacity which she sustained in Lorraine, Luxembourg, the Saar and Silesia. Her iron and steel production within her own frontiers is now greater than in 1913 by over 20 per cent. in pig iron, by 31·5 per cent. in ingot steel and by nearly 15 per cent. in rolled material. The following table indicates the development of production in the last few years:—

Year.		Pig iron Production.	Ingot steel Production.	Rolling mill Production.
		1,000 tons.	1,000 tons.	1,000 tons.
1924	... ..	7,812	9,835	8,174
1925	... ..	10,177	12,195	10,246
1926	... ..	9,644	12,342	10,276
1927	... ..	13,103	16,305	12,872

Calculated on the basis of the most favourable month in 1927 steel production actually exceeded a rate of 17 million tons per annum. However satisfactory this might be, it is only one side of the picture, for it can safely be said that the general scheme of modernisation which has accompanied this growth has led to enormous improvements in the technique of production. The plant has everywhere been brought up to a very efficient pitch of perfection, not only in the iron and steel works themselves, but also in the transport and handling facilities which have been designed to cope with the large shipments of incoming ore. The manner in which the partnership of coal and steel has been directed and organised and the methodical way in which large industrial combinations have been operated has done much to secure for the industry a high standing of financial credit by which alone the vast measure of reconstruction has been made possible. The initial phase of Germany's steel reconstruction was wrought largely with the aid of foreign loans which were undoubtedly attracted by the security which attached to enterprise in the country. But this security was enhanced by the formation of large combinations with vast resources in raw materials, plant, technique and labour, and reorganised to make full use of every link in the chain of raw materials supply, production and distribution. The German ironmasters created a first-class business



proposition, partly under the shelter of the tariff-wall, but supplemented by every administrative effort of which they could avail themselves to introduce stability and confidence into their particular trade.

There is every indication, furthermore, that the market stability which has been achieved has given the industry a definite opportunity to look further afield and to examine with a practical eye the possibilities opened out by recent chemical progress. The industry has in a large way succeeded in reducing the every day anxieties which a less ordered state of industry would naturally entail, and has thereby acquired sufficient detachment to cast a wider view over the whole field of the coal and steel partnership and is actively supporting the efforts of the coke oven departments to stake out a claim in the future which chemical progress holds out in nitrate production and in the hydrogenation of coal. Simultaneously the possibilities of the long distance transmission of coke oven gas are being closely examined to provide an equipose to fluctuations in coal mining and to assure for the coke ovens a favourable place in future coal economics.

Just as in previous years the pure blast furnace works and the independent rolling mills were drawn into the ambit of the large combined steel works, so now a parallel may be observed where the large metallurgical groups with their extensive coal interests are actively participating to assure for their ancillary undertakings in coal and coke a place in chemical and gas development. The new industry of synthetic nitrates, by invading, on the one hand, the ammonia recovery process of the coke ovens and, on the other, by threatening the transference of its hydrogen basis from coke to brown coal, has led the coke oven proprietors to examine more carefully their own resources. And in the conviction that synthetic ammonia and domestic gas supply offer for them a promising field of enterprise they have, with characteristic vigour, applied themselves to these new problems.

In the reconstruction of the metallurgical coke ovens a regenerative compound oven has been adopted with its own producer plant to supply heat of low calorific value for coking by the utilisation of coke breeze and coke waste, thus releasing as required the coke oven gas for the hydrogen in nitrate production or making available a large supply for domestic or power gas. In the coal section of this report the formation of the new companies which have been entrusted to carry out experimental and practical work in these fields is dealt with and, though these developments are in their early stages, what is more important is that the commercial possibilities are being energetically probed and in each case supported by a combination of metallurgical and mining interests which can throw their experience and research into a common pool.

The Ruhr Chemie A.G., in which are participated amongst others the Vereinigte Stahlwerke, Krupp, the Hoesch steel works

and Gutehoffnungshuette, with a share capital of Mks.27 million, has recently taken up an international loan of \$4 million, and the nitrate plant is expected to be completed in the early part of 1929.

Thus, by whatever standards the industry is judged, it is clear that it has acquired a great deal of momentum and seems in a fair way to surmounting its obstacles. It has acquired vitality enough to look beyond pure pig iron and steel marketing and is engaged in welding its whole resources into a composite block with a view to extracting every advantage which the advance of chemical technology opens out. And it is noteworthy that these possibilities are being tackled by a combination of large interests who have again shown their readiness to pool their interests and resources in the furtherance of projects from which the whole industry is likely to benefit.

The leaders of the industry have shown an aptitude for dealing with their problems on broad lines, and have always been willing to join hands to secure that basic stability which they consider is essential to an even development of enterprise. Where the industry has control in the home market it has succeeded in introducing order out of the chaos threatened by inflation. It cannot be observed that the syndication of the industry has in any way curtailed efficiency; on the contrary, recent years have witnessed vast improvements in the technical efficiency and commercial management.

In respect of international agreements, the arrangements with Lorraine, Luxembourg and the Saar have reduced the question of imports to definite proportions and, though the ideals which it was hoped that the International Steel Cartel would realise, have not matured except in limited measure, no effort is lost in the attempt to expand the existing agreement into additional price arrangements.

From the point of view of providing employment for its labour it cannot be doubted that the capacity of the industry in this respect has advanced, if not proportionately, at least in some favourable relation to its largely increased output. The last census of employment taken in 1925 indicated that Germany showed a strong capacity of labour absorption and that as a reservoir for labour the industry had well maintained its position. Since 1925, however, the production of pig iron has increased from 7·8 to 13·1 million tons and of steel from 9·8 to 16·3 million tons. Although the present outputs of pig iron and ingot steel have been achieved with a greater economy of labour, there can be little doubt that the vigour with which the iron and steel industries have developed has been a very potent factor in finding occupation for the work-people in the industries whose well-being is most intimately tied up with iron and steel.

From a financial point of view the results, if judged solely by the dividends, have been modest. But it must not be forgotten that the replenishment of plant has been, generally speaking, of very liberal proportions and that a great deal of the profits, after payment of debenture interest, have been utilised to effect plant and machinery replacements on a scale which borders on the ideal. This has, however, always been a characteristic of German iron and steel development, well cultivated under the old family traditions of the Ruhr ironmasters and retained by the large mergers under the régime of men grown up under the old influence.

The measure of reconstruction which has been outlined in brief has necessitated hard application because the industry has been confronted with serious obstacles in the sphere of finance and the very heavy drain which the scale of central and social taxation has imposed. The building up of liquid reserves is still a problem with which the industry is faced and, though it has had the good fortune to benefit at an anxious period in its development from the British coal stoppage and later by the reactions of the large amount of foreign capital seeking investment in Germany, it has its problems in the export trade and is keenly looking forward to a more remunerative level of prices, especially since the increase in costs resulting from the introduction of the eight hour day and the increased wage awards which have been made in recent months.

**Pig Iron.**—The pig iron production in Germany attained in 1927 its maximum post-war output with a figure of 13·1 million tons, and the following table, taken from "Stahl and Eisen," is interesting as indicating recent development:—

Year.	Blast furnace concerns.					
	No. of works.	Blast furnaces.		Total weeks worked	Average output for each furnace and working week.	Persons insured with industrial associations.
		No. existing at end of year.	In commission.			
1913 (1)	70	216	204	9,687	1,127	27,078
1924 ...	55	193	138	4,733	1,655	24,371
1925 ...	56	200	141	5,408	1,866	23,266
1926 ...	51	183	127	4,456	2,162	20,560

(1) Within present German frontiers and excluding Saar Territory.

The tendency towards the reduction of the number of furnaces in blast is shown by the table, and it is of interest to observe that the average output per furnace per week has very nearly doubled since 1913. This is very largely attributable to the scale upon which furnaces have been rebuilt and to the installation of giant units in the works of the Vereinigte Stahlwerke. In January, 1928, with only 116 furnaces in blast, Germany produced 1·18 million tons of pig iron.

Of the ore feed about 30 per cent. was provided from home sources and the remainder imported from Sweden, France, Spain and Luxembourg. In 1927 the importation of ore attained a peak figure of 17 million tons.

The production of pig iron by districts and qualities was as follows :—

PRODUCTION OF PIG IRON IN GERMANY  
(In Metric tons).

	Hematite.	Foundry.	Direct castings.	Bessemer iron.	Basic iron.	Ferro alloys, etc.	Forge and others.	Total.	
								1927	1926
Rhineland-Westphalia	766,247	638,580	} 43,948	} 3,012	7,042,717	1,901,704	} 23,648	10,352,457	7,763,236
Sieg, Lahn, Dill districts, upper Hesse ...	19,808	221,457			—	486,092		774,824	535,672
Silesia ... ..	108,412	} 317,848			960,192	336,964	311,037	231,801	
North, East and Central Germany ...	231,899				1,347,549	874,899			
South Germany ...	—	316,661	237,911						
Total: Jan.-Dec., 1927	1,017,954	1,286,297	43,948	3,012	8,002,909	2,724,760	23,648	13,102,528	—
„ Jan.-Dec., 1926	579,211	1,072,516	41,459	5,970	6,052,859	1,876,843	14,661	—	9,643,519

**Steel.**—As in pig iron, steel output attained its maximum in 1927 with 16·3 million tons. The internal demand throughout the year was very brisk and the industry was in a position to take advantage of the large increases in capacity which have been made in recent years. Production was heaviest in the basic open hearth furnaces with 8·7 million tons, followed by basic Bessemer with 6·9 million tons. The very great increase in production from the 1926 level of 12·3 million tons was a noteworthy feature of the industry, especially as exports declined for iron and steel goods of all kinds from 5·34 to 4·53 million tons.

The output in 1927 of raw steel by districts and qualities and also of the rolling mill products is given in the following table :—

PRODUCTION OF STEEL IN GERMANY.  
(In metric tons).

	Ignots.						Castings.			Total.	
	Basic Bessemer.	Acid Bessemer.	Basic O. H.	Acid O. H.	Crucible and electric.	Other.	Basic.	Acid.	Crucible and electric.	1927	1926
Rhineland- Westphalia Sieg, Lahn, Dill district and Upper Hesse...	6,111,315	} 354	6,357,951	179,531	136,425	} 43,611	116,348	69,815	5,027	12,977,486	9,879,524
Silesia ... ..	—		380,589	—	} 18,403		3,972	—	—	412,452	285,164
North, East, and Central Germany	—		569,088	—			} 5,619	6,521	6,310	} 10,651	585,221
Saxony ... ..	} 792,341		816,321	} 5,619	34,958			14,181	1,374,978		1,033,544
South Germany and Bavaro- Rh. Palatinate			505,098		18,659			8,880	626,132		469,315
			86,356	—	—		5,073	1,933	—	329,061	232,998
Total: 1927 ... of which estim- ated ... ..	6,903,656	354	8,715,403	185,150	154,828	43,611	185,531	101,119	15,678	16,305,330	—
Total: 1926 of which estimated	5,452,223	133	6,484,467	116,126	69,503	25,457	121,043	63,080	9,604	—	12,341,636
	—	—	90,000	—	360	—	900	1,200	—	—	92,460

## PRODUCTION OF ROLLING MILLS IN 1927 COMPARED WITH 1926.

	1927 tons.	1926 tons.
Semi products ... ..	921,620	1,252,449
Permanent way material ... ..	1,751,968	1,587,853
Sections (over 80 mm. high) and universal plate ...	1,270,325	873,261
Bar iron and small sections ... ..	3,412,696	2,500,521
Hoop iron ... ..	522,182	337,423
Wire rod ... ..	1,149,219	1,049,660
Thick plate (4·76 mm. and over) ... ..	1,169,593	759,402
Middle plate (from 3 to under 4·76 mm.) ...	234,633	174,485
Thin plate (from over 1 to under 3 mm.) ...	382,458	282,696
Thin plate (from over 0·32 to under 1 mm.) ...	443,064	281,599
Thin plate (up to 0·32 mm.) ... ..	66,439	54,451
Tin plate ... ..	128,357	100,394
Tubes ... ..	787,439	660,801
Rolling stock material ... ..	223,564	124,493
Forgings ... ..	295,701	182,984
Other finished products ... ..	107,515	53,610
Total ... ..	12,866,773	10,276,082
Of which estimated ... ..	76,200	71,900

**Price Development.**—After a long period of unchanged prices, the wages and working hours awards in the iron, steel and coal industries, which are reported upon fully in the section on labour, induced the syndicates in January, 1928, to determine upon some increases. The Ministry of Economics considered that various syndicates in their price fixation were endangering the common interests, and it ordained under the cartel law that decisions in respect to prices, &c., could not enter into operation until after copies of all price increases, &c., were deposited with the Ministry. The industry supported their decisions on the fact that prices since 1925 had practically remained stationary but that in the meantime wages had considerably increased and working time shortened. A comparative statement of price development is as follows:—

(In R. Mks. per ton).

	1913	1925	1926	1927
Billets ... ..	101·25	120	116	112·50
Sheet Billets ... ..	103·75	125	122	117·50
Girders ... ..	113·75	131	131	131
Bar iron ... ..	108·50	133	134	134
Thick plates ... ..	120·10	145	149	148·20



The net result was that prices were increased in May, 1928, by the following amounts, to which the Ministry of Economics has not yet objected:—

					Mks. per ton.	
Increase on	Semi-products	...	...	...	...	4
"	Sections	...	...	...	...	4
"	Girders	...	...	...	...	4
"	Hoop iron	...	...	...	...	6
"	Thick plate	...	...	...	...	7
"	Medium plate...	...	...	...	...	5
"	Wire rod	...	...	...	...	7
"	Tubes	...	...	...	...	$\frac{1}{2}$ to 1%

The industry has repeatedly pointed out that it was primarily due to the measures of rationalisation that it had been able to carry the extra costs resulting from wage increases without previously increasing prices but that the low scale of export prices, and in consequence the height of the bounty to exporting finishers, provided it with a very severe burden.

**Foreign Trade.**—A comparative table of foreign trade for iron and steel in 1927 and 1926 is given on p. 58, and the foreign trade balance since 1925 for all kinds of iron and steel products has been as follows:—

					Imports	Exports.	Export surplus.
					(1,000 metric tons).		
1925	...	...	...	...	1,448	3,548	2,100
1926	...	...	...	...	1,261	5,348	4,087
1927	...	...	...	...	2,897	4,531	1,634

The diminution of exports in 1927 from the high level of 1926 is to be ascribed to the unattractive level of continental export prices, on the one hand, and, on the other, to the strong receptivity of the home market under the stimulation of foreign loans. The large increase in imports is principally due to the Saar agreement entering into full vigour and the contingent imports from Lorraine and Luxembourg rising in proportion to the German home production.

STATISTICS OF FOREIGN TRADE IN IRON ORES, IRON AND STEEL GOODS.  
(In metric tons.)

	Imports.		Exports.	
	1927	1926	1927	1926
Iron ores (237e) ... ..	17,408,883	9,553,442	167,307	170,195
Manganese Ores (237h) ... ..	373,183	199,126	573	1,931
Slags, calcined pyrites (237r) ... ..	799,224	600,948	271,726	214,888
Pyrites and sulphurous ores (237l) ... ..	951,745	791,161	35,562	10,819
Pit coal and anthracite (238a) ... ..	5,333,911	2,866,615	26,878,047	28,854,064
Brown coal (238b) ... ..	2,559,659	2,014,762	26,597	78,519
Coke (238d) ... ..	145,635	50,669	8,793,601	6,460,075
Pit coal briquettes (238e) ... ..	4,262	2,804	750,510	1,587,494
Brown coal briquettes (238f) ... ..	151,359	121,619	1,643,341	1,606,929
Iron and iron ware (777a to 843b) ... ..	2,896,840	1,261,446	4,530,691	5,347,627
Including :—				
Pig iron (777a) ... ..	283,546	109,506	320,211	466,265
Ferro-aluminium, -chromium, -manganese, -nickel, silicon, and other ferro-alloys (777b) ... ..	3,222	1,254	38,732	46,502
Scrap (842 ; 843a, b) ... ..	645,679	206,936	208,085	447,208
Pipes and connections, cast, rough and machined (778a, b, 779a, b) ... ..	68,795	44,059	84,605	78,974
Rollers (780 A, A1, A2) ... ..	954	439	14,987	8,152
Machine parts, rough and machined of non-malleable cast-iron (782a ; 783a, b, c, d) ... ..	6,909	2,939	3,699	2,639
Other ironware, rough and machined of non-malleable cast-iron (780 B ; 781 ; 782b ; 783e, f, g, h) ... ..	7,916	4,653	120,726	102,084
Ingot, blooms, billets, slabs (784) ... ..	401,763	211,789	339,571	458,756
Girders, bars and hoops (785 A1, A2, B) ... ..	937,490	389,786	940,260	1,163,759

## STATISTICS OF FOREIGN TRADE (continued).

	Imports.		Exports.	
	1927	1926	1927	1926
Plates, rough, straightened, etc. (786a, b, c.) ... ..	95,826	32,993	471,405	529,557
Plates, smooth, varnished, polished, etc. (787) ... ..	246	166	671	446
Tinned plates (788a) ... ..	24,985	9,047	29,589	19,830
Galvanised sheets (788b) ... ..	2,145	3,412	22,963	18,887
Corrugated iron, chequered plates, etc. (789a and b) ... ..	4,637	2,176	10,499	13,304
Other plates (788c ; 790) ... ..	749	920	6,029	5,555
Wire, rolled or drawn, galvanised, etc. (791a, b ; 792a, b) ... ..	119,148	61,553	399,743	468,847
Spiral tubes, rolled or drawn ; pipe connections (793a, b) ... ..	134	150	4,876	4,098
Other tubes, rolled or drawn (794a, b ; 795a, b) ... ..	23,964	4,028	267,347	301,242
Rails, sleepers and fish plates (796) ... ..	201,365	141,686	366,498	441,883
Railway axles, wheels and tyres (797) ... ..	1,156	897	64,113	52,614
Malleable castings, forgings, etc., machine parts, rough and machined, of wrought iron (798a, b, c, d, e ; 799a, b, c, d, e, f) ... ..	26,409	11,684	215,691	172,534
Bridges and steel constructional parts (800a, b) ... ..	6,124	3,798	66,652	39,721
Steam boilers and parts, gasometers, cocks, valves, etc. (801a, b, c, d ; 802 ; 803 ; 804 ; 805) ... ..	2,086	1,231	66,598	59,474
Anchors, vices, anvils, crowbars, hammers, pulley block parts, winches, etc. (806a, b ; 807) ... ..	497	343	6,796	6,603
Agricultural tools (808a, b ; 809 ; 810 ; 816a, b) ... ..	1,203	486	41,068	47,875
Tools, knives, scissors, scales, etc. (811a, b ; 812 ; 813a, b, c, d, e ; 814a, b ; 815a, b, c ; 816c, d ; 817 ; 818 ; 819 ) ... ..	1,944	1,276	39,095	33,297
Fish bolts (820a) ... ..	11,258	8,367	12,483	15,552
Other railway material (821a, b) ... ..	1,107	110	6,659	5,908
Screws, rivets, screw nuts, horseshoes, etc. (820b, c ; 825e) ... ..	2,601	1,385	38,840	39,994
Railway carriage springs, other carriage springs (824a, b) ... ..	4,208	1,183	8,143	6,507
Wire rope, wire heddle (825a) ... ..	617	187	14,230	12,550
Other wire ware (825b, c, d ; 826b) ... ..	2,176	603	100,067	90,154

STATISTICS OF FOREIGN TRADE (continued).

	Imports.		Exports.	
	1927	1926	1927	1926
Wire tacks, also horseshoe and other nails (825f, g ; 826a ; 827) ...	962	85	49,159	55,696
House and kitchen utensils (828d, e, f) ... ..	194	155	31,138	29,405
Chains, etc. (829a, b) ... ..	284	176	8,912	8,822
All other iron ware (828a, b, c ; 830 ; 831 ; 832 ; 833 ; 834 ; 835 ; 836 ; 837 ; 838 ; 839 ; 840 ; 841) ... ..	3,804	1,860	108,389	90,664
Machines (892 to 906) ... ..	60,827	34,391	458,428	392,953

\*Note.—The numbers in brackets are German Customs Tariff numbers.

### Industrial Amalgamation.

The process of concentration in the heavy iron and steel industries practically reached its conclusion with the connection established between the western and eastern German industries by the participation of the Vereinigte Stahlwerke A.G. in the Mitteldeutsche Stahlwerke A.G., and the participation of this latter concern in the Vereinigte Oberschlesische Huettenerwerke A.G. The formation of these two undertakings was dealt with in the last annual report. Even during the short period of its existence this inter-connection is stated to have brought considerable advantages. The chief work which has been undertaken during the past year has been in the improvement and extension of the production apparatus within the concerns themselves and the vast amount of work which has been put in hand in this connection is evidenced in the report of the Vereinigte Stahlwerke A.G. for the business year 1926-27, of which certain details are given below, and in other company reports. The profit of Messrs. Fried. Krupp, amounting to Mks. 9 million, for example, is to be applied to the intensification of production, and the Kloeckner concern in 1926-27 applied a sum of Mks.17·5 million to the improvement and extension of plant.

(a) *Vereinigte Stahlwerke A.G.*—The process of rationalisation within the concern continued unabated, and in addition to the closing down of various collieries and antiquated coke oven plants the following were also put out of commission :—

(i) *Blast furnaces* at Bergeborbeck, Dortmunderfeld, Aplerbeck, Horst, Concordiahuette, Heinrichshuette (Au), Marienhuette (Eisenfeld), Eisener Huette (Eisern), Koeln-Muessen and Huesten.

(ii) *Open hearth steel works* at Stahl- und Walzwerk Duisburg ; Rothe Erde, Dortmund ; Huette Aplerbeck ; Tube works, Duesseldorf ; old plant of the Stahl- und Walzwerke Thyssen, Muelheim (Ruhr) ; van der Zypen, Koeln-Deutz ; Eisenindustrie zu Menden und Schwerte ; Stahl-werk Huesten.

(iii) *Rolling mills* at Stahl- und Walzwerke Duisburg ; Walzwerk Rothe Erde, Dortmund ; Huette Aplerbeck ; thick plate mills, Duesseldorf ; tube works at Eller, Flingern Hilden, and Bcnrath ; billet and wire rod mills at Schwerte and rolling mills at Soest and Lippstadt.

A considerable number of foundries and finishing concerns of various kinds were also put out of commission. The production of these plants was transferred to more modern units on which considerable sums were spent in improvements and extensions. In addition to participations in the Mitteldeutsche Stahlwerke A.G. and the Deutsche Edelmuehlen A.G., mentioned in the last annual report, the Vereinigte Stahlwerke obtained participations of 21·7 per cent. in the Aktiengesellschaft fuer Kohleverwertung, engaged in the distillation of coal and 51 per cent. in the Concordia Bergbau A.G., Oberhausen. Its merchanting organisations at

home and abroad were extended and, to ensure its supply of mining timber, several firms in this line were acquired and a new company formed under the name of Vereinigte Holzgesellschaft m.b.H., Essen.

On the formation of the Trust a programme spread over a period of five years was laid down for the conversion and improvement of plant. In view, however, of increasing competition on the world market and the new labour regulations affecting working time in Germany, the work of reconstruction has been speeded up and in the business year 1926-27 a sum of almost Mks. 100 million was expended on new constructions, some two-fifths of which were applied to collieries and coking plant. A large coking plant was built at Bruchstrasse, and a battery each at the Zollverein and Hoerder Verein collieries whereby the coke production capacity was increased by 910,000 tons per annum. The construction of coke oven batteries was begun at the Friedrich Thyssen 4/8, Alma Hans, Nordstein, Minister Stein and Erin collieries which will have a productive capacity of some  $3\frac{1}{2}$  million tons per annum. At the August Thyssen Huette, Hamborn, an eighth blast furnace has been completed and a new converter installed, and the capacity of this works will, in the middle of 1928, amount to 2,500,000 tons of ingot steel per annum. At the Ruhrort-Meiderich works a new converter was installed and the construction of a tilting open hearth furnace of 200 tons capacity put in hand. At the Bochumer Verein two tilting open hearth furnaces of 150 tons and 200 tons capacity respectively were completed and the tube works extended. At the Dortmunder Union a new basic converter was installed, a section and bar mill completed and at Dusseldorf the tube mills were extended.

In the year 1st October, 1926, to 30th September, 1927, the production was as follows:—

Coal.	Coke.	Pig iron.	Ingot steel.
tons.	tons.	tons.	tons.
26,081,321	8,204,878	6,350,649	6,837,644

Coal production amounted to 21·79 per cent. of the total production of the Ruhr mines and coke production to 27·55 per cent. of the total production of Ruhr cokeries. Owing to the putting into operation of new coke oven plant the participation in the Coke Syndicate was increased by 938,950 tons. The production of rolled steel amounted to 4,992,452 tons and the total sales of iron and steel products to 6,174,204 tons, of which 2,077,333 tons were exported. The total turnover amounted to Mks.1,417,334,583, of which inland sales accounted for Mks.927,840,605 and export sales for Mks.444,493,978.

The participation of the Vereinigte Stahlwerke in the various Associations was, at the end of September, 1927, as follows :—

Association.	Total annual participation	Annual participation of the Vereinigte Stahlwerke A. G.	Percentage of participation of Stahlwerke
Coal Syndicate ... ..	162,823,715	35,746,620	21·76
Pig Iron Association—			
(a) Sales participation ... ..	1,957,722	745,882	38·099
(b) Self-consumption participation ... ..	645,920	359,188	55·609
Ingot Steel Association ... ..	17,349,703	6,690,818	38·564
“ A ” Products Association ... ..	4,397,312	1,767,888	40·204
(a) Semi-products ... ..	908,762	426,294	46·909
(b) Railway material ... ..	2,282,641	1,082,322	47·415
(c) Shapes ... ..	1,205,909	259,272	21·500
Bar Iron Association ... ..	4,158,955	1,286,896	30·943
Hoop Iron Association ... ..	1,115,829	442,074	29·618
Thick Plate Association ... ..	1,682,578	622,306	36·985
Wire Rod Association ... ..	1,540,896	460,357	29·876
Wire Association ... ..	873,348	192,786	22·074
Tube Association ... ..	—	—	50·898

The total number of workers and staff increased from 172,767 at the beginning of the business year to 183,179 at the end, and the wages bill increased by 12·1 per cent. to Mks.491 million.

The share capital remained unchanged at Mks.800,000,000 and loans amount to a total of Mks.523,580,000, all of which have been obtained from America. Interest on loans amounted to Mks.29,207,000, social services to Mks.53,849,000 and taxation to Mks.61,345,000. Social services, according to the report of the company, are estimated to amount to an incidence of Mks.1·30 per ton of coal and to Mks.2·92 per ton of ingot steel, as against Mks.0·48 and Mks.1·41 respectively in 1913, and central and local taxation to a burden of Mks.0·88 per ton of coal and Mks.5·63 per ton of ingot steel, as against Mks.0·22 and Mks.1·19 in 1913. An amount of Mks.85,461,000 was written off for depreciation of plant, legal minimum reserves were increased by Mks.6,000,000 to Mks.80,000,000 and reserves for renewals of furnaces, mining claims, &c., were increased from Mks.98,644,000 to Mks.105,619,000. The balance sheet shows the following :—

	Credit.	Mks.
Mining and iron and steel plant after writing off	Mks.85,461,000	1,207,953,000
Participation and securities ... ..		295,159,000
Stocks ... ..		203,624,000
Debtors ... ..		245,385,000
Bank balance ... ..		86,844,000
Bills and cheques ... ..		8,146,000
Mortgages ... ..		485,000
Cash, etc. ... ..		1,379,000
Loans ... ..		24,000,000
Patents, etc. ... ..		1,000
		<u>2,072,976,000</u>

Debit.	Mks.
Share capital ...	800,000,000
Reserves ...	80,000,000
Loans ...	523,580,000
Service on loans and mortgage bonds ...	14,128,000
Other mortgage bonds ...	1,249,000
Social funds ...	6,269,000
Workers' Savings Banks ...	5,927,000
Long-dated obligations ...	165,382,000
Debts and short-dated obligations ...	143,075,000
Bank debts ...	35,326,000
Advances of customers ...	3,039,000
Outstanding wages, social contributions, etc.	23,794,000
Outstanding dividends and loan interest	1,053,000
Write off on plant ...	111,597,000
Reserves for renewal of furnaces, mining claims, etc.	105,619,000
Net profit ...	52,938,000
	<b>2,072,976,000</b>

The profit and loss account shows a gross profit of Mks.280,398,000 and after the deductions mentioned for loan service, social service, taxation and depreciation, a net profit of Mks.52,938,000 remains, of which Mks.4,611,470 were carried forward and the remainder applied to a dividend payment of 6 per cent.

The participations which were acquired during the year were as follows :—

	Mks.
Concordia Bergbau A. G., Oberhausen	10,200,000
Mitteldeutsche Stahlwerke A G., Berlin	37,564,800
Deutsche Edeldahlwerke A. G., Bochum	10,998,000
Vereinigte Holzgesellschaften m. b. H. Essen	14,080,000
Linke Hofmann Werke A .G., Berlin ...	11,684,100
A. G. fuer Kohleverwertung, Essen ...	5,342,700

By these acquirements the Vereinigte Stahlwerke have become the majority shareholders both of the Mitteldeutsche Stahlwerke A.G. and of the Linke Hofmann Werke A.G. It is also of interest that the company acquired the licence of the American Rolling Mill Co., Middletown, Ohio, for the production in Germany of "Armco" iron.

In the first quarter of the business year 1927-28, 1st October-31st December, 1927, the production of the Vereinigte Stahlwerke was—

Coal.	Coke.	Pig iron.	Ingot steel.
tons.	tons.	tons.	tons.
6,667,600	2,309,270	1,725,719	1,831,538



The turnover during this period amounted to Mks.361,669,789, of which Mks.259,963,987 were accounted for by inland sales and Mks.101,705,802 by export sales. The total number of workers and staff decreased from 183,179 to 182,235.

In the second quarter of the business year (January to March, 1928), the results were as follows:—

Coal.	Coke.	Pig iron.	Ingot steel.
tons. 6,897,000	tons. 2,321,001	tons. 1,703,105	tons. 1,842,187

The turnover amounted to Mks.360,424,808, of which Mks.114,934,629 were accounted for by exports. In view of the falling off in orders for pig iron and rolling mill products one blast furnace was damped down at the Dortmunder Union and one at the Hoerder Verein, while one or two Siemens Martin furnaces were put out of blast.

(b) *Mitteldeutsche Stahlwerke A.G.*—A good deal of work has been undertaken in the improvement and extension of plant, including the extension of the power works, briquette factory and foundry at Lauchhammer, the rolling mill plant at Riesa and the steel works at Groeditz and Brandenburg. For this purpose an amount of Mks.4,705,735 was applied during the business year 1926-27.

The share capital remained unchanged at Mks.50 million, the gross profit amounted to Mks.11,267,923. Taxes and social obligations accounted for Mks.3,994,272 and depreciation for Mks.3,551,791, leaving a net profit of Mks.3,721,859, of which Mks. 131,016 were carried forward and Mks.3,500,000 paid in a 7 per cent. dividend. Participations, the chief of which are in the Vereinigte Oberschlesische Huettenerwerke A.G. (Mks.7½ million) Stahlwerke Hennigsdorf A.G. (Mks.8 million), Schweitzer & Oppler A.G. (Mks.1 million), increased from Mks.15,099,132 to Mks.16,792,819. Loans are shown at Mks.25,000,000.

The production of lignite amounted to 1,302,049 tons and of ingot steel to 515,840 tons, while the turnover was some Mks.98,000,000. The total number of workers and staff increased from 9,165 at the beginning of the business year to 10,652 at the end of the year.

(c) *Wagon Industry.*—A fusion took place in the west German wagon industry in October, 1927, by the formation of the Vereinigte Westdeutsche Wagenfabriken, Cologne, with a capital

of Mks.11 million, for the purpose of the rationalisation of production and reduction of costs. The quota of the new company in the requirements of the German Railway Company amounts to 13.5 per cent. The following are the founder companies :—

- Van der Zypen and Charlier G. m. b. H., with 60 per cent. of the capital ;  
 A. G. Duesseldorfer Eisenbahndedarf vorm. Karl Weyer & Co. with  
 26 per cent. of the capital ;  
 Killing & Sohn, Hagen, with 14 per cent. of the capital.

**Syndicates and Price Cartels.**—In previous annual reports the development of syndicates or price conventions in the basic industries has been dealt with in detail. It has not yet been found able to reach an agreement in regard to medium and thin plate but, with this exception, all the most important basic products have been syndicated. During the year under review attention has been turned to the syndication of finished products, the most important of which are wire netting and locks, while in the sphere of international agreement the formation of the International Wire Rod Syndicate is deserving of note.

(a) *Ingot Steel Association.*—As certain changes have taken place in the participations, the quotas of the various concerns in January, 1928, are given in the table below :—

Participation in Ingot Steel Association.		January 1928 Tons.
Vereinigte Stahlwerke	...	6,690,818
Fried. Krupp A.G.	...	1,792,085
Gutehoffnungshuette	...	1,080,542
Eisen- & Stahlwerk Hoesch	...	897,647
Kloeckner Werke	...	893,203
Mitteldeutsche Stahlwerke	...	646,714
Ilseder Huette—Peiner Walzwerk	...	570,074
Oberschl. Eisenindustrie A. G.	}	412,000
Oberschl. Eisenbahn-Bedarfs A.G.		
Mannesmannroehrenwerke A.G.	...	404,879
Storch & Schoeneberg A. G. (Mannesmann)	...	106,000
Bergbau & Huetten A. G. " Friedrichshuette " (Thyssen)	...	84,000
Geisweider Eisenwerke (Thyssen-Kloeckner)	...	150,797
Roehlingsche Eisen- & Stahlwerke	...	495,000
Eisenwerk Gesellschaft Maximilianshuette (Roehling)	...	387,776
Rheinische Metallwaren und Maschinenfabrik	...	87,532
Saechsische Gusstahlwerke Doehlen	...	150,000
Eisenhuettenwerk Thale	...	104,357
Borsig Werk	...	185,900
Huettengesellschaft Rothe Erde (Arbed)	...	215,321
Burbacher Huette (Arbed)	...	503,000
Deutsche Edeldahlwerk	...	93,975
Press- & Walzwerk	...	88,200
Deutsche Stahl- & Walzwerke	...	120,000
Henschel & Sohn Abt. Heinrichshuette	...	218,308

(b) *Tube Association.*—The percentage participations in the Tube Association are as follows:—

Participations in Tube Association.	Percentage
Vereinigte Stahlwerke A. G. ... ..	50·898
Mannesmannroehrenwerke ... ..	17·040
Press- & Walzwerk A.G., Reisholz ... ..	6·407
Hahnsche Werke ... ..	6·109
Mitteldeutsche Stahlwerke A. G. ... ..	5·500
Neunkirchener Eisenwerke A. G. ... ..	3·631
Oberschlesische Eisenhuetten A. G. ... ..	3·170
Eschweiler Bergwerksverein ... ..	2·546
Rheinische Metallwaren und Maschinenfabrik A. G. ... ..	2·100
Kammerich Werke... ..	1·507
Hallesche Roehrenwerke ... ..	0·692
Maschinenfabrik und Eisengiesserei Saaler Tenningen ... ..	0·400
	100·000

(c) *Wire Associations.*—The syndication of wire products continued by the formation of a sales association for square mesh interlinked wire netting, and no fewer than 17 syndicates or price cartels have now been formed for the wire industry, namely:—

- (1) Walzdraht Verband G.m.b.H., Duesseldorf (Wire Rod Assoc.).
- (2) Drahtverband G.m.b.H., Duesseldorf (Wire Association).
- (3) Drahtseilverband G.m.b.H., Essen (Rope Wire Association).
- (4) Vereinigte Drahtwerke G.m.b.H., Duesseldorf (Sales office for hexagonal wire netting).
- (5) Seildraht Syndikat G.m.b.H. (Wire Rope Association).
- (6) Versatzdrahtverband, Essen.
- (7) Verband der Draht- & Metallkurzwarenfabriken, Luedenscheid (Assoc. of Wire and Hardware Factories).
- (8) Reichsverband der Fabriken von viereckigen Drahtgeflechten, Bochum (Assoc. of Square Mesh Wire Netting Manufacturers).
- (9) Nadelstahldraht-Vereinigung, Altona (Needle Steel Wire Association).
- (10) Konvention der Kratzendraht Fabrikanten Cologne (Carding Wire Convention).
- (11) Wirtschaftsbund der Drahtwebereien (Frankfurt a/Main). (Economic Assoc. of Wire Gauze Manufacturers).
- (12) Verein der Nadelfabrikanten, Aachen (Association of Needle Manufacturers).
- (13) Verein der Baunaegelfabriken, Stuttgart (Association of Building Nail Manufacturers).
- (14) Verein Sueddeutscher Gitter-, Sieb- und Drahtwaren-Fabrikanten, Munich (Association of South German Trellis, Sieve and Wire Goods Manufacturers).
- (15) Vereinigung der Draht- und Drahtstiftgrosshaendler Deutschlands, Berlin (Association of Wire and Wire Tack Wholesalers in Germany).
- (16) Vereinigung der Walzdrahtverbraucher und Drahtverfeinerer, Duesseldorf (Association of Wire Rod Consumers and Wire Refiners).
- (17) Verband der Drahtseilgrosshaendler, Berlin (Association of Wire Rope Merchants).

**Wire Rod Association.**—The Walzdraht Verband G.m.b.H., Dusseldorf, at present numbers 12 members, whose quotas are as follows :—

	Tons.
Vereinigte Stahlwerke A. G. ... ..	460,357
Gutehoffnungshuette } ... ..	375,693
Fried Krupp A. G. } ... ..	
Kloeckner ... ..	138,916
Felten & Guillaume } ... ..	130,428
Boecking & Co. } ... ..	
Hoesch ... ..	95,303
Rothe Erde ... ..	84,000
Gleiwitz ... ..	81,000
Roechling ... ..	73,869
Neunkirchen ... ..	55,000
Witten ... ..	46,330
	1,540,896

The quotas of members are classified into separate sales and participation quotas, the total of the former amounting to 666,628 tons and of the latter to 874,268 tons. The association does not embrace rolled products of more than 5 mm. diameter expanded wire rod and wire rod scrap. It sells mild steel wire rod direct to inland consumers, but special wire rod, such as soft flat wire rod, including puddled hard flat wire rod of more than 10 per cent. C content, mild spring steel, grooved wire rod, soft wire rod sections and hard wire rod sections with more than 10 per cent. C content, is sold direct by the works to inland consumers, although prices are fixed by the association. The Syndicate also has an export association for export sales of mild steel wire rod to which the following trading companies belong :—

Werkshandel der Vereinigten Stahlwerke, Hamm, for the Vereinigte Stahlwerke und Eisenwerk Neunkirchen ;  
 Artwek, Koeln, for Rothe Erde ;  
 Ferro-Stahl G.m.b.H., Essen for Gutehoffnungshuette ;  
 Dortmunder Eisenhandlung, Dortmund, for Hoesch ;  
 Kloeckner & Co., Duisburg, for Kloeckner ;  
 Gusstahlwerk Witten ;  
 Coutinho-Carona & Co., Hamburg, for the various Silesian works ;  
 Handelsabteilung der Roechlingschen Eisen- und Stahlwerke G.m.b.H., Voelklingen, for Roechling ;  
 Felten & Guillaume, Carlswerk, Cologne ;  
 Walzwerke vorm. F. Boecking & Co., Koeln-Muelheim.

**Association of Square Mesh Wire Netting Manufacturers.**—In December, 1927, the Reichsverband der Fabriken von viereckigen Drahtgeflechten, Bochum, was formed, representing a sales syndicate of eleven mixed works manufacturing interlinked square mesh wire netting. There are in Germany two classes of works producing wire netting, the eleven mixed works

and some 350 works engaged solely on net manufacture, which before the formation of the Wire Association controlled some two-thirds of production. Whereas the former manufacture their own requirements of galvanised iron wire, the latter are obliged to purchase from the Wire Association and are, therefore, placed in a disadvantageous position as concerns costs. In October, 1927, a conference was called by the Wire Association which agreed to the necessity of forming a sales association for wire netting, and decided upon various matters relating to the quotas, management, &c. The action of the eleven mixed works in forming a sales organisation came, therefore, as a surprise and called forth remonstrance on the part of the net works proper. The latter were informed of the conditions under which they might join the association, but these were formulated in such a way that the net works proper decided to remain outside. The only result of the formation of the sales association so far has been to increase the tension which already existed between these works and the mixed works. The total participations of the eleven mixed works amount to 11,650 tons.

**Sales Office for Hexagonal Wire Netting.**—A sales office for hexagonal wire netting was formed under the name "Vereinigte Drahtwerke G.m.b.H.," Dusseldorf, and embraces inland sales, though it is hoped later to extend the agreement to exports to Austria, Czechoslovakia and the United Kingdom.

(d) *Associations in the Lock Industry.*—The greatest activity has prevailed in the formation of associations in the lock industry and, except in one instance, mortise locks, cartels have now been formed for all products. The lack of organisation, the number of firms engaged in manufacture with their varying financial strength, methods and costs of production, had hitherto led to a great deal of undercutting on the world market. The Velbert industry, in which most of the lock production is concentrated, consists of several hundred concerns most of which in themselves account for only a fraction of production and innumerable types of locks are produced.

In October, 1927, the Adelberter Schlossfabrik Damm & Ludwig, Velbert, one of the largest lock factories, was acquired by Messrs. Yale & Towne, which had previously acquired interests in the Vereinigte Riegel und Schlossfabriken A.G., Velbert, and in the Bruncker Eisenwerk A.G. The works of Messrs. von Bruck were also acquired by the American Stanley Works, and there is no doubt that these acquirements have given considerable impetus to the formation of associations which have already had an effect in a better price level. It would appear fairly probable that the association movement will at no distant date be followed by amalgamation within the industry and the elimination of unprofitable concerns.

The following is a list of the associations in the lock industry :—

	Date of Formation.	Number of Members.
Association of Manufacturers of Building Locks (Case Mortise Locks) ...	1906	19
Association of Manufacturers of Door Checks and Springs ... ..	1.10.1926	4
Association of Manufacturers of Dutch Door Locks ... ..	1.2.1927	13
Association of Manufacturers of French Door Locks ... ..	1.3.1927	27
Association of Manufacturers of French Cellar Locks ... ..	1.6.1927	9
Association of Manufacturers of Argentine, Dutch Indies and Oriental Door Locks ... ..	1.4.1927	16
Association of Manufacturers of Window Fasteners ... ..	1.8.1927	7
Association of Manufacturers of Trunk Locks ... ..	December, 1927	12
Association of Manufacturers of Export Bolts ... ..	October, 1927	12
Association of Manufacturers of Cylinder Locks ... ..	1.1.1928	9
Association of Manufacturers of Furniture Locks ... ..	20.1.1928	(only small part of production embraced)
Padlock Association ... ..	1.9.1927	—
Hinges Association ... ..	1.12.1927	21
Lock Pin Association ... ..	20.12.1927	12
Box Lock Association ... ..	—	3

*Note.*—Since the time of writing American influence in the Velbert lock industry has been further extended. The firm of Boge und Kasten, hitherto considered the most dangerous competitor of Messrs. Yale & Towne, has been acquired by the American firm which, through this acquisition now controls 95 per cent. of the German production of door checks and springs and American control of cylinder lock production is stated to have been increased to between 60 per cent. and 70 per cent. A branch of Messrs. Damm und Ludewig (controlled by Messrs. Yale & Towne) has also been formed at Duesseldorf ostensibly for the manufacture of locks and kindred products, but is said to have as its chief object the gradual acquisition of the smaller lock factories in Velbert.

(e) *Bolts and Nuts.*—In May, 1927, the Association for Permanent Way Bolts was formed with validity to the end of 1930 with provision for extension for a further two years if no notice of termination is given six months before December, 1930.

In February, 1928, the Bolt and Nut Association was formed at Duesseldorf.

(f) *Wagon Industry.*—The formation of the Association of German Wagon Builders was mentioned in the last annual report. This association comprises some 30 firms and, by a contract concluded with the German Railway Company, its members are guaranteed to receive 90 per cent. of the orders placed by the Reichsbahn.

In October, 1927, the Wagon Building Iron Association, Berlin, was formed for the purpose of supplying the requirements of members of the Association of German Wagon Builders. It was at first contemplated making purchases direct from the Stahlwerksverband but, after negotiations with iron merchants, it was arranged that deliveries should be made through the large iron merchants under the leadership of the Thyssen Eisen- & Stahl A.G., Berlin, and the following firms united in forming the Wagon Building Iron Association, their participation in the deliveries being as stated below :—

	Per cent.
Vereinigte und Mitteldeutsche Stahlwerke and Spaeter ...	32
Gutehoffnungshuette ... ..	9·5
Fried. Krupp A. G. ... ..	11·5
Kloeckner ... ..	9·5
Hoesch ... ..	5
Roehling & Maximilian Huette ... ..	9·5
Deutscher Eisenhandel ... ..	7·5
" Artewek " (Rote Erde und Burbach) ... ..	3
Otto Wolff ... ..	6·75
Peine and other firms ... ..	5·75

These concerns supply members of the Association of German Wagon Builders with their requirements in bar, section and hoop iron, coupling material and silicon steel, which is invoiced to them at the official prices of the Stahlwerksverband. The association retains a certain percentage of the profit made on these orders and distributes the remainder monthly to its members according to their percentage participation quotas.

(g) *International Ingot Steel Association.*—A certain amount of disappointment is expressed in Germany in regard to the results achieved by the International Ingot Steel Association, and the criticism is levelled that it has contributed but little to the regulation of production or to a better export price level, while little or no progress has been made with the formation within the International Ingot Steel Association of price associations for the various products. During 1927 Germany produced some 16½ million tons of ingot steel which was largely absorbed by the home market, which was in a state of the greatest activity. The results of the half-year April-September show that while Germany exceeded her quota by over 1¾ million tons, France produced nearly 500,000 tons less than her quota. In order to make allowance for the large German inland consumption, the German quota was divided into an inland and export quota in the proportion of 72 per cent. to

28 per cent. The fine for exceeding the export quota was retained at \$4 per ton and for excess over the inland quota for the half-year April-September the fine was fixed at \$2 per ton, which was reduced for the quarter October-December to \$1 per ton. While there are no official figures of the incidence of these fines, the "Deutsche Bergwerkszeitung," in a calculation, which is dealt with in detail below, estimates that for Germany it amounted in the April-June quarter to a burden of Mks.1.39 per ton of production and in the July-September quarter to a burden of Mks.2.07 per ton of production in spite of the reductions in the fines mentioned above, whereas for France it amounted in those quarters to a bounty of Mks.2.81 and Mks.3.83 per ton of production respectively.

According to the "Deutsche Bergwerkszeitung" the production of the various participant countries for the half-year April-September was as follows:—

For Germany the excess production is based on a weighted average of excess export and import production fineable at a rate of \$4 per ton.

April-June, 1927 (in tons)

	Production.	Quota.	Excess fineable at four dollars per ton.	Deficit.
Germany ... ..	3,995,154	3,161,250	373,892	—
France ... ..	2,064,302	2,283,250	—	218,948
Belgium ... ..	921,980	846,250	75,730	
Luxembourg ... ..	619,426	607,750	11,676	
Saar ... ..	465,756	423,250	42,506	
	8,066,618	7,321,750	503,804	218,948
July-September.				
Germany ... ..	4,170,092	3,161,250	687,360	—
France ... ..	2,064,169	2,283,250	—	219,081
Belgium ... ..	929,700	846,250	83,450	
Luxembourg ... ..	631,823	607,750	24,073	
Saar ... ..	482,113	423,250	58,863	
	8,277,897	7,321,750	853,746	219,081
Total half year.				
Germany ... ..	8,165,246	6,322,500	1,061,252	—
France ... ..	4,128,471	4,566,500	—	438,029
Belgium ... ..	1,851,680	1,692,500	159,180	
Luxembourg ... ..	1,251,249	1,215,500	35,749	
Saar ... ..	947,869	846,500	101,369	
	16,344,515	14,643,500	1,357,550	438,029



The payments to the pool would then work out as follows:—

	Dollars.
Production of 16,344,515 tons at 1 dollar per ton ... ..	16,344 515
Excess production of 1,357,550 tons at 4 dollars per ton ... ..	59,430,20
	<hr/>
	21,774,715
Less under production of 438,029 tons at 2 dollars per ton ... ..	876,058
	<hr/>
Total ... ..	20,898,657

The liquidation of the pool would then work out as follows for the half-year April-September:

(In 1,000 dollars)

	Refunded.	Paid in.	Loss.	Gain.
Germany ... ..	9,023·2	12,410·3	3,387·1	—
France ... ..	6,516·4	4,128·5	—	2,387·9
Belgium ... ..	2,415·9	2,488·4	72·5	—
Luxembourg ... ..	1,734·8	1,394·2	—	340·6
Saar ... ..	1,208·3	1,353·3	145·0	—
	<hr/>	<hr/>	<hr/>	<hr/>
	20,898·6	21,774·7	3,604·6	2,728·5
Under production, France ... ..	876·1	—	—	876·1
	<hr/>	<hr/>	<hr/>	<hr/>
	21,774·7	21,774·7	3,604·6	3,604·6

On this basis the incidence per ton of production is calculated to be as follows:

	April-June.	July-September.
	Mks. per ton.	
Germany ... ..	+1·39	+2·07
France ... ..	-2·81	-3·83
Belgium ... ..	+0·50	-0·17
Luxembourg ... ..	-0·81	-1·37
Saar ... ..	+0·70	+0·58

The above calculation, it should be noted, takes into account the payment into the pool of \$1 per ton of production, though the agreement provides that recourse shall not be had to this guarantee if the fines for over-production paid into the pool are sufficient to cover the reimbursements for under-production. Actually the fines for over-production have been sufficient to meet the pool requirements and, although the above calculation would appear to be theoretically correct, the real incidence for the half-year April-September would seem to be in the neighbourhood of a burden of Mk.1 per ton for Germany and a subsidy of Mks.2·30 per ton for France.

Jugo Slavia joined the International Ingot Steel Association in June, 1927, but the negotiations with Poland have not yet led to her entry. It is reported that Poland has made the following demands: formulation of a special agreement without actual entry, complete freedom in her home market, the exclusion from

the Polish market of other members of the association and an import contingent into Germany stated to be 245,000 tons per annum. The International Ingot Steel Association has, it is reported, made the following counter proposals: complete freedom to Polish producers within the Polish market, the export quota to be fixed in a definite relationship to the Polish inland market and, in case of an increase in home consumption, a corresponding decrease in the export quota. As concerns the import contingent into Germany, there would appear to be some reluctance on the part of Germany to concede an amount of 245,000 tons which is based on the importations from Poland during 1922 to 1925, when the Geneva agreement was in operation, and it is doubtful whether she will agree to an import contingent much in excess of 10,000 to 20,000 tons per annum.

In March, 1928, Skoda Works and the Poldihuette, Prague, withdrew from the Central European Iron Cartel and indirectly, therefore, from the International Ingot Steel Association. When the Central European Iron Cartel (Austria, Hungary and Czechoslovakia) joined the International Ingot Steel Association in January, 1927, although the above two concerns work up the whole of their steel productions themselves, their production was included for the purpose of fixing the Czechoslovakian quota. The advantage of this inclusion was naturally enjoyed by the other Czechoslovakian steel producers, who guaranteed to bear the membership subscription of these two works. Latterly, however, the increased production of the Skoda and Poldi works had led to a production by Czechoslovakia in excess of her quota, and at the request of the other members of the Czechoslovakian industry these two undertakings withdrew from the cartel.

(h) *International Wire Rod Syndicate*.—An agreement was reached in June, 1927, between Germany, France, Belgium and Luxembourg for the output control and regulation of wire rod production, and on October 1st a definite syndicate was formed by these countries. The syndicate is of a provisional nature but, should agreement be arrived at in regard to the formation of an international syndicate for the wire refining industry, it will be prolonged to the 31st December, 1931. The quotas of the various participant countries have been fixed as follows:—

				Tons.	per cent,
Germany	...	...	...	1,000,000	57·2
France	..	...	...	400,000	23·0
Luxembourg	...	...	...	120,000	6·0
Belgium	...	...	...	260,000-280,000	14·0

It has been laid down that separate quotas shall be fixed for inland and export sales and that for every ton exported in excess of the export quota a fine of 5s. shall be paid to the central control office at Liège.

(i) *International Wire Association*.—This association was dissolved in October, 1927, owing to the excessive quota demands of one of its members.

**Franco-German Agreement concerning the Saar**.—After lengthy negotiations an agreement was reached in Paris on the 28th February, 1928, concerning the interchange of German and Saar products. This agreement, which considerably extends the former basis of the interchange of goods, entered into force on the 1st April, 1928, but as concerns the contingents had retro-active effect to the 1st January, 1928. Notice of termination can first be given on the 1st April, 1929, for the 30th June, 1929, and thereafter with three months' notice.

The agreement contains ten lists: lists A, A1, C1 and C2 for the export contingent of German products to the Saar, and lists B, B1, B2 and B3 for the export contingents of Saar products to Germany. Lists X and Y are provided in case of the termination of the International Ingot Steel Association.

(a) *Import of German Products into the Saar*.—List A, the more important items of which as concern iron and steel products are given below, contains certain annual contingents which may be imported into the Saar either at the minimum tariff or at the reduced minimum tariff.

EXTRACT FROM LIST A.

(Imports of German products into the Saar.)

Commodity.	Duty.	Annual Contingent Tons.
Cast iron of less than 6 per cent. Mn. content ... ..	Minimum tariff	6,000
Haematite ... ..	.. ..	11,500
Ferro-manganese (25-90 per cent. Mn.)	.. ..	1,000
Radiators ... ..	.. ..	200
Steam and hot water apparatus, etc. ...	.. ..	300
Railway buffers ... ..	.. ..	200

List A1 embraces the import into the Saar of those German products destined for the manufacture of goods which are subsequently to be exported. The chief iron product contained is an import contingent, free of duty, of 22,500 tons of haematite.

List C1 provides import contingents into the Saar of German machines and parts at the minimum tariff or at the reduced minimum tariff. This machinery must be for the replacement of existing German machinery or, where not destined for such a purpose, proof must be forthcoming that such machinery is necessary for the operation of works. An undertaking must be given that the machinery will be retained by the importer for a period of at least two years. The list is fairly extensive and embraces most of the types of machinery required by the Saar industries, and contains small contingents for railway turntables, boilers, wheel-sets and iron and steel cable.

List C2 is an extension of list C1, the import of the products enumerated being permissible by merchants. It contains import contingents at the minimum tariff or at the reduced minimum tariff for, among other things, water and gas meters, lawn mowers, printing machines, sewing machines, household electrical appliances, parts of cycles and motor cars.

(b) *Import of Saar Products into Germany.*—The products of the Saar iron producing industry which may be imported into Germany free of duty are contained in lists B1 and B2, the most important items of which are given below:—

EXTRACT FROM LIST B1.

(Imports of Saar products free of duty into Germany.)

	Annual Contingent Tons.
Semi-manufactured products, sections, thick plate, strip, wire and wire products, rolled and drawn tubes, railway track material ... ..	1,310,000
Screws and rivets ... ..	4,200

EXTRACT FROM LIST B2.

(Imports of Saar products free of duty into Germany.)

Pig iron ... ..	30,000
Tubes, more than 6 m/m wall ... ..	68,000
"    7 m/m wall and under ... ..	12,000
Non-malleable castings ... ..	9,000
Universal milled plate ... ..	153,500
Plates ... ..	
Malleable castings ... ..	
Constructional steel ... ..	
Railway screws, bolts, etc. ... ..	
Springs ... ..	
Other tubes ... ..	6,000

The products of the Saar transforming industry, previously embraced in list C3, are now contained in lists B and B3. This subdivision has been made in connection with the International Ingot Steel Association, the agreement providing in Article 13 that "so soon as the particular conditions"—namely, the existence of the International Ingot Steel Association—"on which Articles 4 and 5 are based (import contingents) cease to operate, either of the two contracting parties may give two months' notice of the termination of these articles. The termination will become effective at the end of the month in which the conditions mentioned have ceased to exist. The termination will cancel—

1. The concessions under lists B1 and B2.
2. The concessions under lists B3, C and C2, in so far as they are not contained in list X.
3. The concessions under list A which are contained in list Y."

In list X no iron products are contained. Should the International Ingot Steel Association be, therefore, terminated, lists B1, B2 and B3 would be cancelled, whilst list B would continue. List B contains the following among other products :—

EXTRACT FROM LIST B.

(Imports of Saar products free of duty into Germany.)

	Annual Contingent Tons.
Railway axles, railway wheel iron, railway wheels and sets ...	900
Boilers ... ..	1,500
Buoys, gasonimeters, reservoirs, casks for factories, breweries, etc.	4,000
Fittings ... ..	890
Wire tacks ... ..	200

EXTRACT FROM LIST B3.

(Imports of Saar products free of duty into Germany.)

	Annual Contingent Tons.
Non-malleable iron rolls ... ..	400
„ castings ... ..	5,000
Plates ... ..	100
Tin plates ... ..	50
Corrugated iron, chequered plate, etc. ... ..	140
Other plates ... ..	310
Wire ... ..	250
Tubes ... ..	600
Railway track, etc. ... ..	150
Malleable castings and malleable iron goods ... ..	13,000
Constructional steel ... ..	10,000
Railway screws, rivets, etc. ... ..	700
Motor car axles ... ..	345
Railway buffers and signal parts ... ..	3,000
Springs ... ..	1,900
Wire rope ... ..	300
Barbed wire, wire netting, etc. ... ..	2,000
Wire springs ... ..	30

Cast iron, haematite and ferro-manganese are contained in list Y, and with the termination of the International Ingot Steel Association these would be deleted from list A.

**Export Rebates to Finishers.**

(a) *Iron and Steel*.—The practice of granting rebates to finishers on their supplies of basic iron and steel products destined to be worked up and exported was dealt with in the annual report for 1925-26, and it need only be mentioned here that in 1925 an agreement was concluded between the iron working up industry (the so-called AVI) and the Ingot Steel Association, whereby finishers would be supplied by the latter with basic and semi-products at world market prices, the rebate, representing the difference between German home prices and world market prices,

being made in the form of a claim certificate entitling finishers to draw supplies free of payment to the amount of the certificate. The following table shows the rate of export bounty which has operated in various months of the past year :—

	May, 1927	Nov- ember, 1927	Janu- ary, 1928 (Mks. per ton).	Febru- ary, 1928	March, 1928
Ingots ... ..	12·5	23·0	24·0	24·0	19·0
Blooms ... ..	15·0	26·0	24·0	24·0	19·0
Billets ... ..	15·0	26·0	26·0	26·0	19·0
Sheet billets ... ..	15·0	26·0	27·0	27·0	19·0
Sections ... ..	23·0	35·0	35·0	25·0	33·5
Bar iron ... ..	25·0	—	36·0	36·0	28·0
Universal plate ... ..	17·0	—	18·0	18·0	16·0
Hoop iron ... ..	30·0	36·0	37·5	37·5	35·0
Wire rod ... ..	16·5	24·5	21·5	21·5	21·5
Railway permanent way material					
(a) light ... ..	27·0	36·0	40·0	40·0	40·0
(b) heavy ... ..	20·0	—	15·0	15·0	15·0
Tubes ... ..	60·0	—	100·0	100·0	80·0
Thick plate ... ..	19·0	24·0	24·0	24·0	20·0
Middle plate ... ..	12·5	25·0	20·0	20·0	20·0
Thin Plate over 1 m/m ... ..	15·0	25·0	25·0	30·0	30·0
„ „ under 1 m/m ... ..	15·0	25·0	25·0	35·0	35·0
Boiler plate ... ..	21·0	26·0	26·0	26·0	22·0
Annealed quality plate ... ..	25·0	35·0	45·0	45·0	45·0
Dynamo plate ... ..	40·0	40·0	45·0	45·0	45·0
Transformer plate ... ..	45·0	45·0	65·0	65·0	65·0

At the end of 1927 an agreement was concluded between the Association of Cold Rollers and the Hoop Iron Association by which cold rollers will receive certain price concessions from the latter if they guarantee to draw their supplies of warm rolled strip exclusively from the association.

(b) *Brass.*—At the beginning of 1928 an agreement was reached between the Economic Association of German Brass Foundries on the one side, and the Association of the German Metal Goods industry and the Central Association of the German Electro-technical Industry on the other, which in February was extended to all associations belonging to the AVI, concerning the payment of a bounty on the brass content of finished articles exported. The agreement provides that the bounty, which for January and February was fixed at Mks.6 per 100 kg., shall apply to brass rods, sheets, wire and strip supplied to finishers and worked up into finished articles which are exported direct. No bounty will, however, be paid on brass castings, tubes and pressed parts. The scheme differs in some respects from that of the iron and steel industry in that the bounty does not represent the difference between world market and German inland brass

prices, and further is not fixed in advance monthly but at the end of the month for the month in question. The rate of bounty will be fixed monthly by an export committee and will be based on the number of applications received. The bounty will be paid in cash from a fund fed by producers from a levy per ton of production, but it is stated that efforts will be made to maintain it as stable as possible. The agreement was provisionally valid until the end of June, 1928. It is not looked upon as entirely satisfactory by finishers who object, among other things, that the fixing of the bounty at the end of the month instead of at the beginning makes calculation of costs extremely difficult, and that the application of the bounty only to direct exports rules out the brass content of many products, such as machinery which, although finally exported, are not exported direct by members of the AVI, but are only supplied by them to manufacturers of such products.\*

### Labour.

**General.**—The general movement which set in towards the end of 1926 for increased wages continued in the year under review, and wage increases of from 10 per cent. to 15 per cent. have been made by arbitration awards in practically all branches. In several instances strikes and lock-outs were threatened as a result of workers' demands and employers' unwillingness to concede to them but, on the whole, the year passed with fewer interruptions than might have been expected, chiefly owing to the effectiveness of the arbitration system, and only in three cases did serious stoppages occur. In the Central German metal industry a strike of some 50,000 metal workers lasted from the 16th January, 1928, to the 24th February, 1928, in the Berlin metal industry a strike of some 5,000 toolmakers caused the closing down of the chief electro-technical works employing some 100,000 workers from the 27th February to the 13th March, 1928, and in the Saxon metal industry a lock-out took place of some 160,000-170,000 workers from the 26th April, 1928, to the 19th May, 1928. Serious trouble was in some quarters expected from the re-introduction on the 1st January, 1928, of the three-shift system in the steel works and rolling mills of the Ruhr heavy industry and, as a preparatory measure, employers issued a notice in December, 1927, that they might be compelled to close down all works if the Minister of Labour insisted upon the enforcement of the decree of the 16th July, 1927, and the Trades Unions upon their wage demands. The arbitration system, however, proved effective in averting trouble and employers, much against their will, were compelled to comply with the arbitration award. In the sphere of labour this is the most important measure which has been introduced since 1925, and in effect means the introduction of the three-shift system in the whole of the heavy industry.

\* NOTE.—Since the time of writing the bounty has been fixed at Mks.6 per 100 kg. for March, Mks.5 for April and Mks.4 for May, June and July.

### *Wage Awards and Working Time.*

(a) *Re-introduction of the three-shift system in steel works and rolling mills.*—By far the most far-reaching labour measure which was enforced was the re-introduction of the three-shift system in the Ruhr steel works and rolling mills. After the cessation of the Ruhr occupation the two-shift system was compulsorily put into force by the Ruhr employers who stated that this measure was necessary to get the works in operation again, but that so soon as the general economic position permitted they would revert to the three-shift system. The trades unions\* have since that time repeatedly agitated for a return to the three-shift system. In 1925 the Minister of Labour ordered the re-introduction of the eight-hour day in blast furnace works and coke ovens, and on the 14th April, 1927, an ordinance concerning working time was issued in which it was laid down that in certain works, to be specified by the Minister of Labour, where workers operate under conditions particularly dangerous to life or health or are exposed in an extraordinary degree to the effects of heat, poisonous matter, &c., a working day of eight hours might not be exceeded. On the 16th July, 1927, a further ordinance was issued in which these works were specified, including foundries, steel works, rolling mills, with the exception of cold rolling mills, hammer and press works, and it was laid down that the eight-hour day should be applied to these works as from the 1st January, 1928. On the 20th July, 1927, an arbitration award was made whereby as from the 8th August, 1927, working time in foundries was reduced from 59 hours to 57 hours per week, and in the transforming industry from 56 to 54 hours per week, and as from the 3rd October to 52 hours per week. As concerns wages, the last arbitration award on the 18th February, 1927, had fixed the minimum wage of skilled workers at 76 pfennigs per hour and of unskilled at 59 pfennigs per hour. On the 31st July, 1927, the trades unions gave notice of the termination of the working time agreement for the 1st January, 1928, and put forward the following demands:—

(a) General introduction of the eight-hour day in the iron producing and working up industries as from the 1st January, 1928.

(b) The strict execution of the ordinance of the 16th July, 1927, and a wage increase to correspond to loss of wages caused by the introduction of shorter working time;

(c) Wage increase to compensate for loss of earnings caused by the introduction of shorter working time as from the 8th August, 1927.

(d) Increase of wages for unskilled workers and apprentices.

(e) In addition a general wage increase of 10 pfennigs per hour.



The demands of the Deutscher Metallarbeiterverband were the most far-reaching, amounting to a wage increase for skilled workers in the producing industry to 26 pfennigs or 34·2 per cent., and in the finishing industry to 22·5 pfennigs or 29·6 per cent. The lowest demands were those of the Christliche Metallarbeiterverband, which amounted to a wage increase of 14 pfennigs per hour for skilled workers, or 18·42 per cent.

The employers protested to the Minister of Labour that it would be impossible to carry out all the measures necessary for the introduction of the three-shift system within a period of 5½ months. For this purpose extensive technical alterations and new constructions would be necessary and they therefore proposed to carry out these measures in three periods, in the first period the steel works, in the second period the rolling mills and in the third period the ancillary works. The execution of this programme would require a large amount of capital which would have to be raised by fresh share issues and loans, and it would be impossible within the period prescribed to carry out these financial measures.

Negotiations took place during November, 1927, at the Ministry of Labour, and it was decided that a committee consisting of an equal number of employers and workers should meet as soon as possible to examine the whole question. This committee met on the 29th November and 2nd December, but no agreement could be reached as the trade union representatives were unwilling to modify their demands while employers insisted that they could not possibly concede to them. The Vereinigte Stahlwerke calculated that the introduction of the three-shift system and compliance with the wage demands of the trades unions would represent an increase in the wage bill of 39 per cent. In these circumstances negotiations were broken off and employers, faced with the demands of the trades unions and uncertain what reply would be returned by the Minister of Labour to their request for an extension of time for the re-introduction of the three-shift system, in accordance with the ordinances of the 8th November, 1920, and 15th October, 1923, requiring notice of the closing down of concerns, announced their intention of closing down the whole of their works on the 1st January, 1928, explaining that they had been compelled to take such a step since the danger existed that compliance with the order of the Minister of Labour and with the wage demands of the unions would mean that the works could no longer be run economically. In the meantime wage negotiations were continued but without agreement being reached, and a reply was also received by the employers from the Minister of Labour which, in effect, insisted on the re-introduction of the three-shift system on the 1st January, 1928. Eventually on the 15th December, 1927, an award was made by the arbitrator appointed by the Ministry of Labour, the text of which is as follows :—

## A. IRON PRODUCING INDUSTRY.

1. *Basic Steel Works.* In these and in the mills fed exclusively or to a considerable part by them, in so far as they work up the basic products hot, the working hours will be, as from the 1st January, 1928, in accordance with the ordinance of the 16th June.

" In the basic steel works the first shift starts on Sundays at 7 p.m. In the case of the Siemens-Martin furnaces which go with the basic works, the first running off takes place at 7 p.m. For the mills dependent on these steel furnaces, working hours vary as to the hour of starting in accordance with the special prevailing working conditions. The time shall be fixed by agreement. The ordinary shift is reckoned from 10 p.m. to 6 a.m. Between 7 p.m and 10 p.m. in the works above mentioned, 75 per cent. instead of 50 per cent. per hour extra pay is granted. This agreement cannot be terminated before the 1st December, 1928. After that date notice may be given on the 1st of each month for the end of the month."

This agreement becomes also a tariff agreement between the employers association and the unions, as from the 1st January, 1928.

2. *The Hammer and Press Works* as well as the cold train mills, no matter whether they are fed from basic or Siemens-Martin works, shall work two shifts as from the 1st January, 1928. The shift consists of 8 working hours and intervals of 1 hour in all per man and shift. An interval is reckoned an interruption of work of at least 20 minutes. If it appears economically necessary, an hour overtime may be worked per shift on working days, but only in such a way that work on Sundays ceases at the latest at 6 a.m. and that the train connections are taken as much as possible into consideration. Extra payment of 25 per cent. per hour is to be allowed for overtime. During the intervals as many relief workers shall be put on as

(1) are necessary to make up at least one-eighth of the workers normally belonging to a shift; and

(2) will make up for those who are on sick leave (to be based on the average figures for 1926 and 1927).

3. *Siemens-Martin Electric and Crucible Steel Works* and the hot rolling mills fed by them, in so far as they are not reckoned to belong to the basic works owing to their being supplied by them simultaneously, shall work up to the 31st January, 1928, as hitherto, in so far as they comply with conditions laid down in the decree of the Reich Labour Minister of the 12th December, 1927.

As from the 1st February, 1928, the ordinance of the 16th July, 1927, comes into force in so far as no exceptions are granted. As long as an exception remains, the former Sunday regulation also remains valid; as soon as it is abolished, the same conditions are valid as in the basic works.

4. For the other producing industries, the working hours at present in force (with the exception of the so-called blast furnace regulation of January, 1925) which are based on the agreement of the parties of the 13th-14th December, 1923, and the latter awards, remain valid, except in so far as these working hours are not changed by the ordinance of the 16th July, 1927. The following are, however, exceptions:—

(i) For gas and blow works in connection with blast furnaces and Siemens-Martin works, the parties have agreed as follows:—

" In these works, for gas-workers and blowers and equivalent workers at the steam blower machines, where such are still in operation, *i.e.*, the so-called principal posts (for instance in the Friedrich-Alfred Huette 160 men) working hours are arranged as follows:—as from the 1st January, 1928, 57 hours (Sundays 5 hours), as from the 1st April, 1928, three shift system, Sundays 8 hours."

This agreement remains in force until the 1st December, 1928, and from that date notice of termination can be given on the first of each month for the end of the month.

(ii) In the agglomerating and sinter works the three eight hour shift shall be introduced as from the 1st January, 1928.

(iii) The workers in continuous furnace works which are not included in the blast furnace regulation of January, 1925, as well as those employed in complementary repair workshops weekly 60 hours, and also those workers working 60 hours a week in the gas cleansing and power stations will work as from June 1st, 1928, 57 hours a week (6 days).

## B. FINISHING INDUSTRY.

Here the agreement made on the 20th July, 1927 (52 hours), remains in force.

C. In connection with the definition of producing and finishing industries, the following agreement was made on the 14th December, 1927. The parties are to set a up mixed commission consisting of three members each to discuss the question. Each party is to work out a proposal on a comprehensive basis (examples, figures, results, etc.). Should the commission not be able to come to an agreement at the latest by the 15th February, 1928, or should one of the parties declare that negotiations have failed, then each party can apply for the continuation of the arbitration proceedings. Until these proceedings have been completed, the agreements made in the separate works remain in force until the end of the year ; until that time the parties in the other works shall be treated in accordance with the usual tariff. This applies in so far as the new legal arrangement made by the decree of July, 1927, does not clash with the agreement.

In so far as the Deutscher Metallarbeiterverband does not make use of its right of withdrawal, this agreement is valid between it and the Employers' Association as a tariff agreement.

D. With regard to overtime and extra work, the regulations of the 11th May and 23rd June are considered in force, taking, however, into account the alteration of working time mentioned above. The extra pay is increased with effect as from the 1st January, 1928, to 25 per cent.

E. This working time regulation is valid from the 1st January to the 1st December, 1928, and can from that date be terminated at a month's notice.

## E. FINAL DATE ON WHICH A DECISION AS TO ACCEPTANCE OR REJECTION OF THE AGREEMENT MUST BE GIVEN.

Final date for accepting or rejecting the agreement mutually and to the arbitrator is the 19th December, 1927, 6 p.m.

AWARD (WAGES). As from the 1st March, 1927, an 8 per cent. wage increase came into force between the parties ; the rent increases of April and October were thereby taken into account. General cost of living has since then increased by 5.2 points or 3 per cent. For the workers, in particular the time workers, a wage loss has resulted since August when working hours were shortened, although this is not expressed in the average earnings of the total workers, owing to the increase in production. However, a general wage increase to the extent which appears to be customary of late, is not possible.

Taking everything into consideration a 2 per cent. increase of the hourly wages appears to be justified. Herein and in the 2 per cent. increase which results from the doubling of the overtime pay, the wage adjustment for the past is included. For the further shortening of working hours as from the

1st January, 1928, wages are to be adjusted for the time workers in the proportion of fifty-fifty, and in regard to the piece and premium workers, in such a way that the workers bear 40 per cent. of the loss and the employers 60 per cent. The hourly wage for the 21 year old skilled worker is therefore fixed at 78 Pfennigs, and for the 21 year old unskilled worker at 60 Pfennigs per hour.

The piece wages and wages paid to apprentices must be settled according to the agreement of the 10th December, 1927, by the commission appointed for that purpose. The other regulations of the award of the 18th February, 1927, remain the same.

The method of calculating the wage adjustment will be determined by the piece commission mentioned above. For this the regulations of the agreement of the 10th December, 1927, are valid.

This award comes into force as from the 1st January, 1928, and cannot be terminated before the 1st October, 1928, from which date it can be ended by giving a month's notice.

FINAL DATE on which a decision as to acceptance or rejection must be given (mutually and to the arbitrator) 19th December, 1927, at 6 p.m.

This award was rejected by the employers and by two of the three trades unions. The former maintained that it was impossible to introduce the three-shift system in such branches as pipe casting and blast furnace foundries without a considerable falling off in production, and they protested emphatically against the general increases in wages, holding that the existing all-over average wage in the Vereinigte Stahlwerke of 90·8 pfennigs per hour was sufficient.

The Deutscher Metallarbeiterverband rejected both sections of the award while the Christlicher Metallarbeiterverband rejected the wage section. The award was subsequently declared binding by the Minister of Labour, and the notice in regard to the closing down of works was withdrawn by the employers. In January, 1928, the Minister of Labour decided to grant a postponement of the introduction of the three-shift system in 18 cases as a result of the reports on conditions received from the various local authorities. These postponements vary in duration from one to nine months, and only in seven cases were applications from rolling mills favourably considered.

(b) *Wage Awards.*—The following are some of the awards in the metal industry which have been made in the year under review :—

(1) **SOLINGEN INDUSTRY (CUTLERY).**—In 1927 an award was made whereby the following wage increases came into force :—

	Per cent.
Skilled, semi-skilled and unskilled workers	10
Female workers	15
Apprentices	12
Labourers	5

The following table shows the new minimum hourly rates as compared with those previously in force :—

	Old rate.	New rate.
	Pfennigs per hour.	
<i>Skilled workers I—</i>		
17 years of age ... ..	46	51
24 " " and above ... ..	84	89
<i>Skilled workers II</i> ... ..	37-36	41-73
Semi-skilled workers ... ..	34-62	37-68
Female workers ... ..	17-41	20-47

Notice of the termination of this agreement on the 31st March, 1928, has been given by the workers who demand the introduction of the eight-hour day and a 25 per cent. increase in wages.

(2) REMSCHEID INDUSTRY (TOOLS).—In October, 1927, wages were increased by 10 per cent. Normal hours 48 per week, but by agreement 52 hours may be worked. In excess of 48 hours per week overtime rate for the first three hours 15 per cent. extra and for any additional hours 25 per cent. extra. This agreement was valid to the 30th April, 1928, and on the 18th April, 1928, a further award was made whereby hourly wages were increased by a further 7 per cent. and piece-work rates by 4 per cent. where they are not less than 20 per cent. above the former hourly tariff wage, and by 3 per cent. where they are 21-30 per cent. above the hourly tariff wage.

(3) HAGEN-SCHWELM INDUSTRY (SMALL TOOLS AND LOCKS).—As from November 1st, 1927, minimum hourly wages were fixed as follows :—

	Pfennigs per hour.
Group I ... ..	75
" II ... ..	70
" III ... ..	65
" IV ... ..	62
" V ... ..	43
" VI ... ..	40

The piece-work bonus was increased from 12 per cent. to 15 per cent.

(4) ISERLOHN INDUSTRY (FURNITURE FITTINGS).—In November, 1927, wages were increased by 12½ per cent. and the minimum hourly wage fixed at 73 pfennigs per hour. The piece-work bonus was increased from 12 per cent. to 15 per cent.

(5) VELBERT-HEILIGENHAUS INDUSTRY (LOCKS).—In January, 1928, wages were increased by 10 per cent. and the minimum hourly wage for moulders in foundries fixed at 95 pfennigs, and for skilled workers in the lock industry at 84 pfennigs.

(6) CREFELD SIEMENS-MARTIN STEEL WORKS.—By an award made on the 29th December, 1927, the three shift system was introduced in the Siemens-Martin works as from the 1st January,

1928. The shift amounts to eight hours plus intervals amounting to one hour in all. The hourly wage was fixed at 77 pfennigs per hour, and for females at 70 per cent. of the wage for the corresponding class of male worker.

(7) WESTPHALIAN ROLLING MILLS AND WIRE INDUSTRY.—By an award made at Hamm on the 4th January, 1928, the day shift in the rolling mills of the Westfaelische Union and of the Westfaelische Drahtindustrie is to begin at 6 a.m. and end at 4 p.m., and the night shift to begin at 6 p.m. and end at 5 a.m. On Saturdays there is to be no night shift. The ten-hour shift includes an interval of one hour, in the day-shift 12 noon to 1 p.m., and in the night shift from 12 midnight to 1 a.m.

**Piece-work Earnings.**—In practically all branches of industry piece work is worked whenever possible, and earnings may be taken to be some 25 per cent. to 30 per cent. above the hourly wages. The Deutsche Bergwerkszeitung gives the average earnings in certain Ruhr steel works in October, 1927, as follows :—

	Per hour. Mks.	Per month. Mks.
Siemens-Martin Works—		
Smelter ... ..	1·17-1·58	289-390
Basic Steel Works—		
Converter ... ..	1·54-1·90	380-468
Ingot Rolling Mill—		
Roller ... ..	1·24-1·76	306-435
Furnace hand ... ..	1·20-1·55	296-383
Bar Rolling Mills—		
Roller ... ..	1·10-1·75	272-432
Heater ... ..	1·00-1·56	247-305
Thin Plate Rolling Mill—		
Roller ... ..	1·51-2·19	314-456
Wire Rod Rolling Mill—		
Roller ... ..	1·89-3·00	425-741

These earnings will naturally be increased by the award in the Ruhr iron and steel works mentioned above.

In the iron and steel wire industry the actual piece-work earnings in certain works in the Rhineland in February, 1928, were as follows :—

	Mks. per hour.
Foreman roller ... ..	1·80
1st furnace hand ... ..	1·30
1st roller... ..	1·20
2nd furnace hand ... ..	1·10
3rd furnace hand ... ..	1·00
2nd roller ... ..	1·10
Steel carrier ... ..	0·95
Remover ... ..	0·85
Wire binder ... ..	1·50

The following wage tariffs are fairly representative, but piece-work earnings may be taken to be 25 per cent. to 30 per cent. above the minimum hourly rates laid down.

### WAGE TARIFFS IN THE METAL INDUSTRY, COLOGNE DISTRICT.

#### I.—Sheet and Metal Goods Industry.

Minimum hourly wages valid from 14th April, 1927.

##### \*1. Workmen over 21 years of age—

						Pfennigs.
Group 1	...	...	...	...	...	79
.. 2	...	...	...	...	...	77
.. 3	...	...	...	...	...	68
.. 4	...	...	...	...	...	67
.. 5	...	...	...	...	...	66

##### 2. Skilled youths—

				Group 2.	Group 3.	Group 4.
				Pfgs.	Pfgs.	Pfgs.
Up to 18 years	...	...	...	41	39	37
18-19 years	...	...	...	54	51	47
19-20	..	...	...	60	56	53
20-21	..	...	...	69	62	58

##### 3. Assistant youths—

						Pfgs.
Up to 15 years	..	...	...	...	...	18
.. 16	..	...	...	...	...	24
.. 17	..	...	...	...	...	29
.. 18	..	...	...	...	...	33
.. 19	..	...	...	...	...	41
.. 20	..	...	...	...	...	48
.. 21	..	...	...	...	...	55

##### 4. Apprentices—

						Pfgs.
In 1st year	...	...	...	...	...	12
.. 2nd	..	...	...	...	...	16
.. 3rd	..	...	...	...	...	22
.. 4th	..	...	...	...	...	25

##### 5. Female workers—

						Pfgs.
Up to 15 years	...	...	...	...	...	19
.. 16	..	...	...	...	...	21
.. 17	..	...	...	...	...	23
.. 18	..	...	...	...	...	28
.. 19	..	...	...	...	...	36
.. 20	..	...	...	...	...	39
Over 20	..	...	...	...	...	43

#### EXTRA ALLOWANCES.

*Dependant Allowance.* The Dependant Allowance (Kopfzulage) is 2 pfennigs per hour, according to the special regulations.

\*Moulders on complicated work receive a minimum wage of 80 pfennigs per hour.

*Grinder Allowance.* The allowance for grinders is :—

	Pfcs. per hour.
Over 20 years of age ... ..	3
From 18-20 years of age ... ..	2
Up to 18 years of age ... ..	1

*Note.*—The minimum wages given above may be increased for wage workers to the average earnings of piece workers. In December, 1927, the average piece work earnings were as follows :—

Group	Mks. per hour
Group 1 ... ..	1.19
" 2 ... ..	1.13
" 3 ... ..	1.10
" 4 ... ..	0.89
" 5 ... ..	0.74

## II. Radiator Industry.

Minimum hourly wages—

	As from 4th August, 1927 (Mks. per hour)	As from 3rd November, 1927
1. Fitters in their 1st year ... ..	1.26	1.33
" " 2nd-4th year ... ..	1.33	1.41
" " 5th year ... ..	1.40	1.48
2. Fitters' mates—		
In their 1st year ... ..	1.05	1.11
" 2nd " ... ..	1.12	1.18
Unskilled mates ... ..	0.84	0.89
Allowance for outside work—		

	Per day of hourly wage. Per cent.
From 2-7 km. ... ..	150
" 7-12 km. ... ..	250
" 12-20 km. ... ..	350
Over 20 km. ... ..	450

## III.—Electrical Installation.

Minimum hourly wage.—

	As from 11th August, 1927 (Mks. per hour).	As from 29th September, 1927
1st year after apprenticeship ... ..	0.74	0.76
2nd " " ... ..	1.01	1.03
3rd " " ... ..	1.22	1.24
After 3rd year ... ..	1.35	1.38

## IV. Plumbers.

Minimum hourly wages—

	As from 27th May, 1927 (Mks. per hour).	As from 29th September, 1927
1st year after apprenticeship ... ..	0.73	0.75
2nd " " ... ..	1.06	1.08
3rd " " ... ..	1.19	1.22
After 3rd year ... ..	1.32	1.35





The normal working hours amount to 48 per week and can be increased with the consent of the workers' representatives by 5 hours per week. The minimum wage is that earned in a 48 hours week, the maximum wage that earned in a 53 hour week.

**Strikes.**—(a) *Central German Metal Industry.*—The strike in the Central German metal industry lasted from the 16th January, 1928, to the 24th February, 1928, and affected some 50,000 workers. At the beginning of the year the trades union put forward a demand for a wage increase of 15 pfennigs per hour in the existing wages of 75 pfennigs per hour for skilled workers, 69 pfennigs for semi-skilled workers and 62 pfennigs for unskilled workers. The arbitration proceedings which followed resulted in an award on the 12th January, 1928, which provided for a wage increase of 3 pfennigs per hour. This award was refused by the German Metal Workers' Union, and at their instigation on the 16th January the workers in several large undertakings ceased work. The employers applied for the arbitration award to be declared binding, but this application was refused by the Minister of Labour and they thereupon decided to lock out all workers who did not resume work. In the meantime the strike threatened to extend to further districts, particularly to the Berlin district, where some 400,000 workers are employed, owing to the Association of German Metal Industrialists giving notice of a total lock-out on the part of their members as a measure of support to the Central German industry. This lock-out was timed to take place on the 22nd February, but on the 18th February a new arbitration award was made which provided for an increase of 5 pfennigs per hour to 80 pfennigs per hour from the date of resumption of work until the 31st December, 1928. This award was rejected by both workers and employers, but was declared binding by the Minister of Labour and work was resumed on the 24th February and the notice of lock-out withdrawn by the Association of German Metal Industrialists. The second award caused intense dissatisfaction amongst employers, since it fixed wages at a higher rate than those awarded in the heavy industries of the Ruhr, where cost of living is higher. It is of interest to record that prior to the arbitration award the actual earnings, according to the employers, were as follows:—

					Pfgs. per hour.
Hourly Wages :	Skilled worker	...	...	...	91
	Semi-skilled worker	...	...	...	73-75
	Unskilled worker	...	...	...	64-65
Piece work :	Skilled worker	...	...	...	102-104
	Semi-skilled worker	...	...	...	96-98
	Unskilled worker	...	...	...	78-79

(b) *Berlin Toolmakers.*—The toolmakers in the Berlin metal industry, chiefly those employed in the electro-technical works,

decided to strike on February 4th, 1928, but in view of the lock-out threatened by the Association of German Metal Industrialists in connection with the dispute in the Central German metal industry, action was postponed. On the 27th February the tool-makers at Siemens, Mix & Genest, Lorenz, Bergmann and Deutsche Telephonwerke ceased work, and this action later extended to the A.E.G., the N.A.G. and Sudicatis Telephonwerke, causing the total stoppage of these works and affecting some 100,000 workers. The dispute centred around the fixation of minimum earnings for piece work, workers insisting that minimum rates should be fixed while employers maintained that, owing to the variety of work, this was impossible. The employers contended that the earnings of toolmakers averaged Mks.1.29 per hour, while earnings of Mks.1.45-1.50 were frequent. An arbitration award was made on the 7th March which was rejected, and on the 10th March a new arbitration award was made which was refused by the workers, but declared binding on the 12th March. Thereupon the strike was declared ended and work was resumed on the 13th and 14th March. The arbitration award provided for an examination of the piece-work earnings which, if insufficient, were to be increased. Should no agreement be reached a committee, composed of workers and employers, should fix the piece-work basis in the various concerns for the individual groups of toolmakers. A piece-work basis of Mks.1 per hour was fixed for toolmakers of Class I and for toolmakers over 21 years of age a minimum hourly wage of Mks.1.

(c) *Saxon Metal Industry*.—On the 8th February, 1928, the German Metal Workers' Association gave notice of the termination of the covering tariff for the Saxon metal industry embracing the districts of Dresden, Chemnitz, Zwickau and Bautzen, and demanded an increase of 25 per cent. in wages, the fixing of working time at 44½ hours per week, overtime to be conditional upon the consent of the workers' councils and better holiday conditions. Negotiations took place but proved unsuccessful, and an arbitration award was made which was not declared binding by the Minister of Labour.

In order to enforce their demands, on the 2nd April some 20,000 workers ceased work, whereupon employers declared a lock-out of the 160,000-170,000 workers employed by them to take effect from the 12th April. As a large number of the works were, however, under the obligation to give 14 days' notice to their workers, the lock-out was not carried fully into effect until the 26th April.

A further arbitration award was made on the 16th April which was rejected by both employers and workers, and on the 6th May a final award was made increasing the hourly wage of 76 pfennigs of skilled workers by 5-6 pfennigs. This award was declared binding and work was generally resumed on the 14th May.

## Engineering Industry.

During the whole of 1927 the German machine building industry was exceptionally well employed and, although in the first three months of 1928 activity somewhat decreased, more particularly in electro-technical and textile machines, the industry, as a whole, is still well employed. The chief factors which have contributed to a good year for the manufacturers of power equipment, process machinery and electrical apparatus and plant were the intense activity in the heavy trades, notably in the steel works, the process of replacement taking place under the so-called policy of industrial rationalisation and the continued development of electrification. The engineering trades have found great support in having at their back a strong and expanding iron and steel industry which not only has kept its entire plant in a high state of efficiency, but has allocated considerable expenditure to its coal mining and coke oven operations. In addition, the lignite mining industry, which also continues to expand and upon which are now based important additions to chemical expansion, such as artificial fertilisers and coal liquefaction and coal distillation, has also been a large user of machinery and apparatus and as such represents an important outlet for all types of engineering products. It will be seen from another section of the report that the basic industries of iron and steel have shown a most virile expansion in recent years and have practically made good the losses sustained in Lorraine, Luxembourg and the Saar, new chemical enterprises have been launched and set into operation with extreme rapidity, the coke oven equipment has to a large extent been renewed and electrical power generation and high voltage transmission has proceeded apace. This has all reacted greatly to the benefit of the engineering trades and, what is important, has provided them with a stimulus to keep abreast of the times, both in point of view of design and manufacturing practice.

The expanding home market which the German manufacturer enjoys is a very considerable factor in development. German progress and strength in the production of engineering products of every sort is most pronounced and the industry is active and progressive as a result of the general buoyancy of the industrial expansion and replacements which are taking place. Such basic industries as steel and chemicals have been in the position to allocate very considerable sums from profits to extensions and renewals of plant, and the energy with which new projects have been tackled on a large scale by German industrial leaders ensures to the engineering trades, which also contribute their quota of research and improvements, a vast field for enterprise.

The engineering trades have recently been in the throes of certain labour strife which is commented upon in another section of the report, but broadly speaking the industry continues to enjoy the advantages of comparatively low labour charges, though it is undoubtedly somewhat harassed by the high scale of central and local taxation and social burdens.

Prices on the home market have remained comparatively low and are some 37 per cent. above the pre-war level. In 1927 sales of machinery amounted to 2'6 million tons, and, although they were some 600,000 tons less than in 1913, they nevertheless represented a considerable advance over recent years. The greatest efforts have been made to enter foreign markets, in many cases at considerable sacrifice, and Germany now occupies second place to the United States among exporters of machinery. In 1927 exports were as follows :—

	Tons.	Value in 1,000 Mks.
Machinery ... ..	458,428	870,218
Electro-technical products (including cable) ...	121,838	398,716
Vehicles ... ..	128,742	184,503

while imports were :

Machinery ... ..	60,827	130,627
Electro-technical products ... ..	9,000	33,462
Vehicles ... ..	17,939	111,358

On machines alone there was, therefore, an export surplus of some Mks.740,000,000, and in electro-technical products (including cables) an export surplus of some Mks.365,000,000. The machine industry is, therefore, one of the most important industries in Germany as concerns the value of its export surplus.

*Electro-technical Industry.*—The electro-technical industry has been well employed during the whole of the past year and, in spite of a considerable increase in home sales called forth by the general industrial activity and in the increase in electrification, it was possible at the same time to obtain a larger share of export business than in the preceding year. The proportion of export sales to the total turnover increased, for example, in the case of the Allgemeine Elektrizitäts Gesellschaft to 36 per cent., as compared with 40 per cent. before the war, while the total turnover increased by 20-25 per cent. Although pre-war exports have not yet been attained it is evident that Germany is leaving nothing undone to recapture her former markets.

The following table gives a comparison of exports of the chief products in 1926 and 1927 :—

Description of product.	1926		1927	
	Tons.	Value in 1,000 Mks.	Tons.	Value in 1,000 Mks.
Lighting sets and starters for motor cars ... ..	140·1	1,657	503·4	5,710
Dynamos, electro-motors, transformers :—				
Up to 10 kg. ... ..	469·1	4,974	662·5	4,967
(b) 10 kg. to 25 kg. ... ..	393·4	2,223	595·5	2,591
(c) 25 kg. to 150 kg. ... ..	3,143·7	8,447	3,889·4	10,319
(d) 150 kg. to 500 kg. ... ..	2,752·4	7,038	3,537·1	9,130
(e) 500 kg. to 3,000 kg. ... ..	5,550·4	11,774	7,912·5	17,707
(f) over 3,000 kg. ... ..	8,660·5	13,575	8,620·6	15,070
Armatures and commutators	1,642·1	5,106	1,538·7	6,650
Metal filament lamps... ..	910·3	20,305	1,025·7	25,893
Telephone apparatus ... ..	—	29,633	—	21,825
Wireless apparatus ... ..	2,902·1	31,636	3,541·2	41,983
Electrical meters and measuring apparatus ... ..	2,833·3	30,619	2,821·0	32,936
Magneto ignition apparatus (excluding magnetos) and other ignition apparatus, electro-technical appliances for motor cars ... ..	1,097·7	12,119	1,352·5	16,874
Apparatus for electric lighting, power transmission, electrolysis, etc. ... ..	19,759·0	68,102	24,239·4	85,381
Galvanic elements, batteries, etc. ... ..	5,340·4	10,714	6,373·4	13,093
Cable, underground or marine	47,127·3	54,893	42,595·6	40,662

For smaller dynamos the best markets were Holland, Denmark, Sweden, Switzerland, Great Britain and Czechoslovakia in order of importance; for the larger, Russia was the chief market, followed by the Argentine and Holland, though exports were made to practically all countries. The chief markets for commutators were Russia, the Argentine and Austria, and for telephone apparatus Italy and Holland.

*Machine Tool Industry.*—The machine tool industry, which has made great strides in recent years, continued to make favourable progress and, in addition to its ascendancy in the home market, has succeeded in increasing its exports to a range of countries.

Exports of machine tools in 1927 amounted to over 77,000 tons of a value of almost £7 million, as against 73,000 tons in 1926 of a value of some £5½ million. In the following table the foreign trade figures are shown, together with the chief markets. The chief imports were from the United States, while Russia was the chief consumer :—

Description of product.	Import (Metric tons).	Value (1,000 Mks.)	Export (Metric tons).	Value (1,000 Mks.)	Destination of exports.	
					Country.	Metric tons.
Metal working machines ... ..	4,941·5	12,610	63,173·3	116,371	Russia ... ..	16,895·5
					United Kingdom ... ..	5,299·0
					Holland... ..	3,341·4
					Italy ... ..	3,192·5
					Switzerland ... ..	2,198·4
					United States ... ..	2,161·5
					Belgium ... ..	2,135·5
					France ... ..	2,084·9
					Poland ... ..	2,074·9
					Japan ... ..	2,022·4
					Czechoslovakia ... ..	1,928·3
					Jugo-Slavia ... ..	1,618·5
					Spain ... ..	1,593·4
					Roumania ... ..	1,511·9
					Argentina ... ..	1,535·8
Wood working machines ... ..	596·9	1,005	9,711·9	15,326	Austria ... ..	1,372·6
					Sweden ... ..	1,317·9
					Turkey ... ..	1,277·5
					Brazil ... ..	1,006·9
					Russia ... ..	1,065·0
					Poland ... ..	872·5
					Brazil ... ..	738·1
					Argentina ... ..	579·8
					Italy ... ..	484·7
					Austria ... ..	484·6
Czechoslovakia ... ..	443·3					
Holland... ..	406·8					
Jugo-Slavia ... ..	364·8					

Description of product.	Import (Metric tons).	Value (1,000 Mks.)	Export (Metric tons).	Value (1,000 Mks.)	Destination of exports.	
					Country.	Metric tons.
Wood working machines— <i>continued.</i>					Switzerland ... ..	340·3
					Latvia ... ..	330·3
					Roumania ... ..	322·3
					Hungary ... ..	308·5
Stone working machines ... ..	101·5	119	262·7	465	United Kingdom ...	290·7
Steam and hydraulic presses, rivetting machines, mechanical hammers, pneu- matic hammers	149·4	331	3,729·7	3,551	Russia ... ..	1,064·5
					Japan ... ..	544·6
					United Kingdom ...	440·0
					Switzerland ... ..	197·0
					Holland... ..	175·9
					Italy ... ..	126·3
Pneumatic tools ... ..	43·7	352	177·8	1,716	Russia ... ..	40·1
					Holland... ..	21·9
					Czechoslovakia ...	21·7
Total ... ..	5,833·0	14,417	77,055·4	137,429		



*Textile Machinery.*—The textile machine industry was fairly well employed during 1927, but a falling off in orders was noticeable in the first three months of 1928. Imports showed a considerable increase from 14,397 tons of a value of Mks.19,966,000 in 1926 to 24,958 tons of a value of Mks.36,861,000 in 1927. Exports, on the other hand, rose from 41,851 tons of a value of Mks.89,705,000 in 1926, to 45,070 tons of a value of Mks.97,868,000 in 1927. In 1927 there was, therefore, an export balance of some £3 million.

The largest item in imports was cotton spinning machinery of a weight of 7,025 tons and a value of Mks.9,610,000, of which the United Kingdom supplied the largest part (5,273 tons), followed by looms of a weight of 5,832 tons and a value of Mks.6,167,000, more or less equally divided between the United Kingdom and France (2,529 tons and 2,358 tons respectively). Of the machines for preparing silk for spinning the United Kingdom supplied 571 tons of a total of 776 tons, practically the whole of the preparatory process machines for cotton (3,265 tons of a total of 3,816 tons), and about one half of the preparatory process machines for flax, hemp and jute (944 tons of a total of 1,822 tons).

As concerns exports the chief items were knitting frames (Mks.31,366,000), dressing machines (Mks.17,370,000), embroidering and knitting machines (Mks.13,257,000) and looms (Mks.8,761,000). The foreign trade figures in the principal products are shown in the following table:—

Description of product.	Import (Metric tons).	Value (1,000 Mks.)	Export (Metric tons).	Value (1,000 Mks.)	Destination of exports.	
					Country.	Metric tons.
Crank embroidering and knitting machines (power driven)	206·9	1,420	1,910·8	13,257	Poland ... ..	210·4
					United Kingdom ... ..	188·1
					Czechoslovakia ... ..	169·1
					Austria ... ..	128·5
					France ... ..	119·3
					Belgium ... ..	108·4
Roumania ... ..	105·0					
Carding machines ... ..	316·7	412	648·8	1,427	Russia ... ..	50·3
					Canada ... ..	38·3
					United States ... ..	30·8
Preparatory process machines— (a) for silk ... ..	776·5	2,478	883·3	1,764	United Kingdom ... ..	394·0
					France ... ..	140·6
					Holland... ..	115·1
(b) for worsted yarns ... ..	1,016·4	1,842	945·0	1,719	Russia ... ..	371·8
(c) for carded yarns ... ..	228·9	325	1,553·5	2,209	Russia ... ..	282·4
					Czechoslovakia ... ..	219·4
					Japan ... ..	142·1
					Holland... ..	122·8
					France ... ..	114·0
(d) for cotton ... ..	3,816·1	4,828	2,383·5	3,646	Russia ... ..	1,138·8
					Italy ... ..	743·5
Cotton spinning machines ... ..	7,025·3	9,610	1,393·1	1,927	Italy ... ..	708·0
					Czechoslovakia ... ..	142·5
					Greece ... ..	126·0
					Russia ... ..	125·6

Description of product.	Import (Metric tons).	Value (1,000 Mks.)	Export (Metric tons).	Value (1,000 Mks.)	Destination of exports.	
					Country.	Metric tons.
Preparatory process machines for flax, hemp, jute, etc.	1,822·1	3,147	971·7	1,612	Russia ... ..	192·7
					Roumania ... ..	55·4
Machines for winding, reeling and spooling yarn and thread	1,381·4	2,839	2,115·4	4,363	France ... ..	240·6
					Czechoslovakia ... ..	234·7
					Italy ... ..	186·7
					Belgium ... ..	170·5
					Hungary ... ..	161·8
					United Kingdom ... ..	108·1
					Holland... ..	101·1
					Russia ... ..	100·1
Machines for preparing yarn for weaving	249·4	741	1,489·5	2,831	Roumania ... ..	150·4
					Czechoslovakia ... ..	136·4
					Brazil ... ..	127·5
					Hungary ... ..	112·0
					Holland... ..	109·3
Looms ... ..	5,832·3	6,167	7,795·1	8,761	Holland... ..	851·7
					United States ... ..	829·8
					Italy ... ..	737·4
					Belgium ... ..	494·6
					Sweden ... ..	487·3
					France ... ..	383·0
					Hungary ... ..	371·8
					Czechoslovakia ... ..	370·6
					Brazil ... ..	329·4
					Roumania ... ..	322·6
Austria ... ..	318·2					

Description of product.	Import (Metric tons).	Value (1,000 Mks.)	Export (Metric tons).	Value (1,000 Mks.)	Destination of exports.	
					Country.	Metric tons.
Curtain, lace and tulle-making machines ...	74·1	185	338·1	750	Austria ... ..	47·1
					France ... ..	25·7
Knitting frames ... ..	87·7	192	9,705·8	31,366	United States ... ..	5,065·7
					Spain ... ..	488·7
					Poland ... ..	478·1
					France ... ..	460·0
					Czechoslovakia ... ..	375·7
					Belgium ... ..	332·4
Embroidering machines ... ..	964·8	508	249·9	382	Japan ... ..	164·1
Dressing machines ... ..	726·0	1,299	9,653·1	17,370	Poland ... ..	961·3
					United States ... ..	846·6
					Italy ... ..	750·9
					Czechoslovakia ... ..	591·0
					Russia ... ..	584·5
					Holland... ..	538·3
					Belgium ... ..	457·7
					France ... ..	445·7
					Brazil ... ..	399·0
Washing and chemical cleaning machines ...	434·0	868	3,034·3	4,484	Holland... ..	1,026·9
					Norway ... ..	243·1
					Sweden ... ..	216·7
					Denmark ... ..	182·7
					Austria ... ..	174·2
<b>Total ... ..</b>	<b>24,958·6</b>	<b>36,861</b>	<b>45,070·9</b>	<b>97,868</b>		

*Agricultural Machines.*—In 1927 imports of agricultural machines amounted to 9,926 tons of a value of Mks.19,379,000, as against 5,346 tons of a value of Mks.9,519,000, the largest increase being in traction engines, ploughs, &c., which were drawn almost exclusively from America, and in mowing machines, the greater part of which came from Canada.

Exports, on the other hand, showed a decrease, from 44,876 tons in 1926 of a value of Mks.42,481,000, to 38,864 tons of a value of Mks.38,726,000, the chief decrease being in mowing machines and threshing machines. Exports of the former to Russia showed a considerable falling off, from 7,776 tons in 1926 to 992·5 tons in 1927, and of the latter from 3,994 tons in 1926 to 2,968 tons in 1927. Exports of sewing machines also decreased, being accounted for chiefly by a falling off in exports to Italy, Denmark and Russia.

IMPORTS AND EXPORTS OF AGRICULTURAL MACHINES.

Description of product.	Import (Metric tons).	Value (1,000 Mks.)	Export (Metric tons).	Value (1,000 Mks.)	Destination of exports.	
					Country.	Metric tons.
Traction engines, ploughs and other apparatus for working the soil, with driving machinery as an integral part	3,613·4	9,124	945·8	2,178	Roumania ... ..	171·9
					Hungary ... ..	13·55
Up to 2,500 kg. ... ..					Czechoslovakia ... ..	126·3
					Russia ... ..	70·5
Over 2,500 kg. ... ..	125·2	216	1,093·4	2,150	Russia ... ..	229·7
					Portugal ... ..	113·3
					Czechoslovakia ... ..	108·9
					Poland ... ..	97·6
Ploughs and other machines for working the soil, to be driven by mechanical motive power, without their motive machinery attached	835·4	1,049	2,322·7	2,108	Hungary ... ..	454·0
					Russia ... ..	334·9
					Poland ... ..	268·1
					Italy ... ..	190·2
					Roumania ... ..	187·6
Mowing machines ... ..	2,488·6	2,359	15,619·8	10,753	Italy ... ..	3,901·7
					Spain ... ..	1,667·1
					Poland ... ..	1,290·4
					Denmark ... ..	1,275·1
					Russia ... ..	992·5
					Holland... ..	937·9
					Sweden ... ..	748·7
					France ... ..	741·8
Cream separators ... ..	1,322·6	4,008	904·7	3,246	Poland ... ..	224·8
					Danzig ... ..	104·7
					Czechoslovakia ... ..	93·0

IMPORTS AND EXPORTS OF AGRICULTURAL MACHINES—*continued.*

Description of Product.	Import (Metric tons.)	Value (1,000 Mks.)	Export (Metric tons.)	Value (1,000 Mks.)	Destination of Exports.	
					Country.	Metric tons.
Threshing machines ... ..	404·7	419	6,034·6	6,224	Russia ... ..	2,968·6
					Holland... ..	616·8
					Poland ... ..	558·8
					Jugo-Slavia ... ..	230·3
					Italy ... ..	217·1
					Danzig ... ..	201·9
					Bulgaria ... ..	155·9
					France ... ..	140·9
Sowing machines, hay and straw presses, fodder cutting machines, butter making machines, lawn mowers and other agri- cultural instruments not elsewhere men- tioned	999·7	1,886	10,059·7	9,029	Italy ... ..	1,383·6
					Russia ... ..	1,333·2
					Poland ... ..	1,042·4
					Holland... ..	998·7
					Denmark ... ..	515·2
					France ... ..	506·7
					Switzerland ... ..	430·4
					Sweden ... ..	404·7
					Austria ... ..	375·8
Cleansing machines for grain, pulse, rice and oil fruits	137·2	318	1,883·6	3,038	India ... ..	215·9
					Poland ... ..	201·7
					Fr. India ... ..	136·0
					Dutch East Indies ... ..	133·6
					Holland... ..	123·0
Total ... ..	9,926·8	19,379	38,864·3	38,726		

**SHIPBUILDING.**

According to the statistics published by the Germanic Lloyd in 1927, 741 sea-going vessels and river craft, aggregating 325,281 gross registered tons, were completed, as against 444 vessels of 297,761 gross registered tons in 1926. A considerable increase took place in the production of river craft, the majority of which were motor vessels, the number in 1927 being 621, aggregating 64,176 gross registered tons, as compared with 367 of 38,480 gross registered tons in 1926. As regards sea-going vessels 120 were completed with a gross registered tonnage of 261,105, as against 77 vessels of 259,281 gross registered tons in 1926.

The development in the construction of sea-going vessels is shown in the following table :—



CONSTRUCTION OF SEA-GOING VESSELS.

Description of vessels.	1927		1926		1925		1913	
	Number of vessels.	Gross reg. tons.	Number of vessels.	Gross reg. tons.	Number of vessels.	Gross reg. tons.	Number of vessels.	Gross reg. tons.
Under construction* ... ..	168	611,142	122	463,582	117	266,386	1,011	1,296,812
Steamers ... ..	98	385,175	81	335,068	68	134,712	290	1,145,686
Motor vessels ... ..	58	221,020	29	122,181	38	127,606	89	42,149
Of which completed ... ..	98	217,821	56	146,921	71	130,193	656	423,907
Steamers ... ..	58	166,024	37	97,146	39	42,129	131	339,983
Motor vessels ... ..	29	47,770	13	46,091	25	87,366	67	18,324
Under construction* ... ..	60	174,954	30	168,380	51	278,730	205	49,065
Steamers ... ..	28	52,518	9	31,527	16	36,106	46	30,595
Motor vessels ... ..	32	122,436	20	136,513	35	242,624	45	3,693
Of which completed ... ..	22	43,284	21	112,360	30	150,744	170	34,848
Steamers ... ..	13	24,998	6	12,427	8	10,920	40	22,690
Motor vessels ... ..	9	18,286	14	99,593	22	139,824	38	3,260
Under construction* ... ..	228	786,096	152	631,962	168	545,116	1,216	1,345,877
Steamers ... ..	126	437,693	90	366,595	84	170,818	336	1,176,281
Motor vessels ... ..	90	343,456	49	258,694	73	370,230	134	45,842
Of which completed ... ..	120	261,115	77	259,281	100	280,937	826	458,855
Steamers ... ..	72	191,022	43	109,573	47	53,049	171	362,673
Motor vessels ... ..	38	66,056	27	145,684	47	227,190	105	21,584

1. For German Account.

2. For Foreign Account.

3. TOTAL.

\*Including orders.

The heading "under construction" includes all vessels built during 1927, together with all orders placed for new constructions up to the 31st December, 1927. If the number of vessels completed be subtracted, the number of vessels on order on the 1st January, 1928, was as follows, compared with the number of the 1st January, 1927:—

	1st January, 1928.		1st January, 1927.	
	Number.	Gross reg. tons.	Number.	Gross reg. tons.
For German account ...	70	393,321	66	316,661
Steamers ... ..	40	259,151	44	237,922
Motor vessels ... ..	29	173,250	16	75,890
For foreign account ... ..	38	131,670	9	56,020
Steamers ... ..	15	27,520	3	19,100
Motor vessels ... ..	23	104,150	6	36,920
Total ... ..	108	524,991	75	372,681
Steamers ... ..	54	246,671	46	157,022
Motor vessels ... ..	52	277,400	22	113,010

It is of interest to note that motor vessels predominate for foreign account and steamers for German account. The latter, however, includes two 46,000 ton vessels for the North German Lloyd. If these be omitted, of the vessels building for German account motor vessels also predominate. The total of foreign orders amounts to some 35 per cent. of the whole. The two Kiel yards were the most successful in obtaining foreign contracts, the Germania yard having no less than 33,000 tons building for foreign account, including nine motor yachts between 500 and over 3,000 tons. The Deutsche Werke, Kiel, have foreign orders for four vessels, aggregating 25,800 tons.

The total number of ships building in 1927 was as follows:—

	1927		1926	
	Number.	Gross reg. tons.	Number.	Gross reg. tons.
Under construction ... ..	1,308	889,625	702	699,369
Steamers ... ..	187	446,685	153	377,039
Motor vessels ... ..	326	369,657	189	272,074
Completed ... ..	741	325,281	444	297,761
Steamers ... ..	106	196,222	32	115,828
Motor vessels ... ..	183	77,824	121	152,080

As far as tonnage is concerned, therefore, the vessels actually completed do not materially exceed the 1926 figure. Although there are a large number of contracts in hand, the new orders

placed in 1928 are stated to have been comparatively few, and it is not anticipated that the figures in 1928 will approach those for 1927.

Under the Government credit scheme (page 77 of last annual report), whereby a sum of 18 million marks spread over a period of six years was allocated from the unemployment relief fund to shipping lines placing orders for new constructions with German yards, some 120 contracts were placed to a value of about 140 million marks, of which one half were each of a value of under Mks.100,000.

**Rationalisation.**—From the process of rationalisation four large undertakings have merged, namely :—

1. *Deutsche Schiff und Maschinenbau A.G., Berlin, known as "Deschimag."*—This concern which, as reported in the last annual report, was originally formed by the fusion of the A. G. Weser, Bremen, the Johann C. Tecklenborg yards at Geestemuende and the Vulkan yards of Hamburg and Bremen, was extended in January, 1928, by the acquirement of 75 per cent. of the share capital of the three shipbuilding yards Nueske-Werft, Stettin, the Neptun-Werft, Rostock, and the Seebeck-Werft, Geestemuende. Efforts were made to secure the inclusion of the Deutsche Werft, of Hamburg, in the combination, but these met with no success. It is reported that negotiations are at present being conducted with a view to the acquirement of the Frerichs Werft A.G., of Einswarden,\* and of the Oderwerke, of Stettin.

The capital of the Deschimag amounts to Mks.25 million, and the concern is chiefly under the influence of the banking firm of C. Schroeder, of Bremen.

2. *Deutsche Werft A.G., Hamburg.*—The concern, which is controlled by the Haniel concern and the Allgemeine Elektrizitaets Gesellschaft, acquired the Reiherstieg yard at Hamburg but disposed of the Tollerort yard. Its capital amounts to Mks.10 million.

3. *Blohm & Voss K.G., Hamburg,* which has retained its independence. Its capital is Mks.14 million.

4. *Bremer Vulkan A.G., Bremen, and the Flensburger Schiffsbau Gesellschaft, Flensburg,* which are independent concerns industrially related to the Thyssen concern. The capital of the former amounts to Mks.10 million and of the latter to Mks.2,640,000.

These four concerns represent three-fifths of Germany's ship-building capacity and more than that proportion of vessels of over 10,000 gross registered tonnage and the large number of orders for new constructions placed by the Hapag, the North German Lloyd and the Hamburg South American Line in connection with their building programmes have been confined almost exclusively to these companies.

---

\*On the 1st May, 1928, the majority share capital of the Frerichs Werft A. G. was acquired by "Deschimag."

A working agreement exists between the Hamburg yards of H. C. Stuelcken & Sohn and Janssen & Schmilinsky, a large proportion of whose shares are held by the Kloeckner concern, and these two yards have majority holdings in the Norder Werft A.G., of Hamburg. The Flender Werft, of Luebeck, has also been financially and industrially reorganised.

The position of the smaller yards is reported to be unsatisfactory, and the competition among them for orders for repair work and small constructions is very keen.

**Financial.**—Of the larger companies which have submitted their balance sheets for the business year 1926-27, Blohm & Voss and the Deutsche Werft A.G., of Hamburg, are the only ones to distribute dividends. The Germania Werft A.G., Kiel (Fried. Krupp concern), closed the year with a loss of Mks.66,062 as compared with Mks.161,595 in 1925-26. The Deutsche Werke A.G., Kiel, after writing off Mks.996,563, show a loss of Mks.33,936 which is, however, covered by the profit of Mks.140,034 on the previous year's working. An amount of Mks.106,907 was carried forward but no dividend was distributed. Blohm & Voss achieved the most favourable result. After writing off Mks.792,817 there remained a net profit, including the carry forward, of Mks.1,334,168, from which a 2½ per cent. dividend was paid on Mks.7 million preference shares and 5 per cent. on Mks.7 million ordinary shares. The Deschimag showed a gross profit, including the carry forward from 1926, of Mks.4,758,113, from which Mks.1,685,686 were deducted for social burdens. After writing off the large amount of Mks.2,559,709, Mks.512,717 were carried forward and nothing was allocated to the payment of dividends. The Deutsche Werft A.G., Hamburg, paid a dividend of 6 per cent. On the 1st October, 1927, its capital was raised by Mks.2 million to Mks.10 million for the purpose of the acquirement of the Reiherstieg yard, and it received Mks.3 million from the sales of the Tollerort yard. The gross profit amounted to Mks.1·28 million, of which Mks.580,000 were written off, Mks.35,955 placed to reserve and Mks.23,126 carried forward.

**Labour.**—On June 1st the numbers of workmen employed in shipbuilding yards at the various ports was as follows:—

Hamburg	...	...	...	about	14,000
Bremen	...	...	...	..	9,000
Kiel	...	...	...	..	8,000
Stettin	...	...	...	..	4,500
Elbing	...	...	...	..	2,700
Wesermuende	...	...	...	..	2,500
Flensburg	...	...	...	..	1,300
Rostock	...	...	...	..	1,200
Bremerhaven	...	...	...	..	1,200
Luebeck	...	...	...	..	1,200
Einswarden	...	...	...	..	800
Total	...	...	...		<u>46,400</u>

**POTASH INDUSTRY.***By C. J. Kavanagh.*

**Production and Sales.**—The potash industry continued to develop satisfactorily during the year 1927 and the first quarter of 1928. As compared with the 1926 production of 1,100,000 tons, output increased in 1927 by some 12 per cent., and with 1,230,000 tons exceeded the record figure of 1,225,000 tons achieved in 1925. The German agricultural industry was again the largest consumer, and the fears expressed that the rise in prices introduced at the end of 1926 would be a deterrent factor proved unfounded. Export business did not, on the whole, come up to expectations, chiefly because of the reorganisation of sales offices consequent upon the conclusion of the Franco-German potash agreement and of the difficulties which were experienced in America in connection with the anti-trust law. To other countries sales, however, remained more or less normal, Holland, the United Kingdom and the northern European States remaining the best customers, followed by Poland, the Eastern Border States, Czechoslovakia and Austria, whilst Russia and Japan remained large consumers. Sales to the home agricultural industry were nursed by granting special terms, especially in the way of high discounts.

The following table shows the inland and foreign sales for the various months of 1926 and 1927:—

GERMAN POTASH SALES IN 1926 AND 1927.

	Home Sales in 100 kg.		Foreign sales in 100 kg.		Total in 100 kg.		Of which			
	1927	1926	1927	1926	1927	1926	Home %	Foreign %	1927	1926
January ...	1,413,968	628,359	489,673	321,300	1,903,641	949,659	74	66	26	34
February ...	1,456,424	1,385,447	370,172	469,652	1,826,596	1,855,099	80	75	20	25
March ...	1,260,134	1,034,959	389,557	359,007	1,649,691	1,393,966	76	74	24	26
April ...	321,357	429,752	188,441	139,304	509,798	569,056	63	76	37	24
May ...	268,769	153,718	161,712	264,362	430,481	418,080	62	37	38	63
June ...	369,861	458,722	459,338	369,667	829,199	828,389	45	55	55	45
July ...	345,533	459,541	542,748	406,074	888,281	865,525	39	53	61	47
August ...	456,953	668,756	389,023	350,594	845,976	1,019,350	54	66	46	34
September ...	817,969	567,322	366,777	258,568	1,184,746	825,890	69	69	31	31
October ...	313,305	273,256	324,104	358,413	637,409	631,669	49	43	51	57
November ...	313,665	307,832	369,820	375,354	683,485	683,186	46	45	54	55
December* ...	ca. 570,000	575,352	ca. 380,000	383,509	1,004,756	958,861	ca. 60	60	ca. 40	40
Total ...	ca. 7,907,000	6,942,926	ca. 4,431,000	4,055,804	ca. 12,394,059	10,998,730	ca. 64	63	ca. 36	37

In 1928 sales were as follows :

January ...	2,020,059
February ...	2,084,462
March ...	1,614,437
April ...	674,149

\*The figures for December are estimated.

Inland sales increased by some 14 per cent. and export sales by some 9 per cent., as compared with the previous year, and the value of total sales, at an estimated price of Mks.15·5 per 100 kg., amounted to approximately Mks.190 million, as compared with Mks.148 million in 1926, when the average price stood at Mks.13·47, and with Mks.157 million in 1925 when the average price was about Mks.13·47.

**Mixed Fertilisers.**—No details are available concerning the amount of potash drawn by the I. G. Farbenindustrie A.G., for the production of "Nitrophoska."\* A good deal of propaganda has been carried out for this material in Germany and the inland demand is said to have become so large that long delivery terms are required. Some years must naturally elapse before it can be stated definitely whether this new fertiliser possesses great advantages over the old but, should this prove to be the case, it would be of the greatest importance for the potash industry. At the Leuna works alone the annual production of nitrogen amounts to 500,000 tons which it is hoped to increase next year to 700,000 tons and, as other plants for the production of synthetic nitrogen are being installed, production will in the near future be considerably in excess of home requirements. In addition to Nitrophoska, a new mixed fertiliser, consisting of nitrogen and potash, will shortly be put on the market by the Rauxel works of the Kloeckner group in which the Wintershall concern is participating with 50 per cent. It would, therefore, appear not improbable that a close connection may be established between the potash and the chemical industries in the not distant future. The Wintershall concern has already taken the first step and the sales agreement between the I. G. Farbenindustrie A.G. and the Vereinigte Chemische Fabriken Rhenania-Kunheim, in which the potash concern Friedrichs-Neustassfurt has the majority influence, is another pointer in this direction. The potash industry itself is in a strong position as regards the competitive plants for the production of mixed fertilisers and can quietly await developments before taking active participation in any particular concern, and it is probably for this reason that the other undertakings who were offered participations in the Rauxel and Sondershausen plants have not yet defined their attitude.

**Potash Trust.**—The above question is of considerably more importance to the potash industry than the formation of a large trust. Although the Burbach group, which was the strongest opponent of such a step, appears to have changed its attitude, there is still considerable opposition from other quarters and it appears doubtful whether much progress will be made in this direction in the immediate future.

---

\*See last report p. 82.

Further works were closed down during the year and at present there are 40 plants in commission; 121 have been closed down definitely until 1953, while a number are still being kept in reserve. The number of members belonging to the Syndicate has undergone no increase. Whereas the continuance of the Potash Syndicate is ensured until 1953, the further continuance of the Stone Salt Syndicate was jeopardised by the high quota claims which the Deutsche Solvay Werke made for their new plant at Wesel and upon the granting of which they made conditional their entry into the Syndicate. The difficulties were finally overcome and the Syndicate was prolonged for a further two years.

**Labour.**—Labour conditions continued quiet throughout the year and no disturbances of any importance occurred. As from the 15th June, 1927, wages were increased by an average of 6 per cent. to 7 per cent., the last increase having been in December, 1926, to the extent of some 7 per cent. The number of workers underwent an increase from some 20,000 in 1926 to 21,000 in 1927, mainly owing to the increased activity.

**Financial Results.**—From the financial point of view the year may be considered fairly good. Except for the details mentioned below there were no large capital requirements, and it was not found necessary to float the remaining issue of £3,000,000 of the 1925 7 per cent. loan. The difficulties which arose last year between the Wintershall and Burbach concerns appear to have found a settlement, and it is this which probably accounts for the change in attitude of the latter towards the formation of a trust. It will be remembered that in 1926 the Burbach concern acquired 387 Wintershall shares. It was apparently hoped at that time that the Kaliblock (Vereinigte Kaliwerke G.m.b.H.) would participate but, as this did not prove to be the case, the Burbach concern had themselves to finance this transaction of some Mks.24 million, in addition to which the previous acquirement of the majority of the shares of the Gumpel concern had already placed a strain upon their finances. Moreover, the 387 Wintershall shares still gave them no majority influence in that concern, and it was doubtless for this reason that a measure of agreement has now been arrived at between the two undertakings. To finance the above transaction the Burbach concern increased the capital of Kruegershall, one of its subsidiary companies, to which 251 of the Wintershall shares were made over, by Mks.15·6 million to Mks.30 million, and the capital of the Kaliwerke Niedersachsen, another of its subsidiary companies by Mks.4 million to Mks.10·8 million. The other financial transaction worthy of note was the 6½ per cent. 8 million Gulden loan taken up in Holland jointly by the Kali-Industrie A.G. and the Kloeckner works to finance the mixed fertiliser plant at Rauxel.



In addition to the potash harbour at Hamburg, the construction of which was financed by the Prussian State, a further harbour with extensive storing facilities is under construction at Bremen.

The prospects of the industry may be considered good. The rationalisation measures have been completed and the increasing production of synthetic nitrogen should bring a larger demand for potash for mixed fertilisers. Special steps are being taken by way of delivery conditions to nurse the home agricultural industry, and now that the reorganisation of foreign sales offices has been completed there is every indication that foreign business will show an upward trend.

### TEXTILE INDUSTRY.

**General Conditions.**—During the whole of 1927 the textile industry enjoyed the greatest activity in all branches. From the beginning of the year until October the mills had orders on hand for several months, and in many concerns double shifts had to be introduced to cope with the demand. From that date orders showed a falling tendency, but, although at the present time (April, 1928), the orders on hand only provide employment for from 6-8 weeks, business continues to be healthy and stable. The degree of employment may best be gauged by the following table showing the percentage of unemployed and short time workers among the members of the textile trade unions:—

#### UNEMPLOYMENT IN TEXTILE INDUSTRY.

	1927					Unemployed. Short time.	
January	...	...	...	...	...	9.0	10.4
February	...	...	...	...	...	8.6	8.5
March	...	...	...	...	...	6.5	5.2
April	...	...	...	...	...	4.7	3.8
May	...	...	...	...	...	4.1	2.9
June	...	...	...	...	...	3.6	2.6
July	...	...	...	...	...	3.2	2.3
August	...	...	...	...	...	2.9	2.8
September	...	...	...	...	...	2.8	2.8
October	...	...	...	...	...	2.4	2.1
November	...	...	...	...	...	2.6	3.5
December	...	...	...	...	...	3.1	4.8
	1928						
January	...	...	...	...	...	3.6	7.1
February	...	...	...	...	...	4.2	8.5
March	...	...	...	...	...	4.8	10.7

The lowest figures were reached in October, since when there has been a gradual increase, but the present figures compare very favourably with those of a year ago.

No interruptions of importance caused by labour disputes occurred. Payments were on the whole good and there were no large bankruptcies. At the time of writing it may be said that,

although only the most urgent requirements are in general being covered, stocks are low and the current demand is sufficient to ensure fairly satisfactory employment. According to the Association of the Retail Textile Industry, the retail turnover in 1927 was 100·5 per cent. of that in 1925 and 108·5 per cent. of that in 1926. The industry as a whole enjoyed a very good year financially and dividends of below 10 per cent. were rare, while 12 per cent. to 15 per cent. were the general rule.

Considerable progress has been made with standardisation and, in order to prevent unfair competition, definitions have been laid down for cotton, linen goods and textile mixtures.

**Labour.** —During the year under review considerable increases in wages took place, the smallest increases being some 7 per cent., the highest as much as 40 per cent. The following tables show the tariff hourly and weekly wages and the changes which have taken place in tariff wages :—

TARIFF HOURLY AND WEEKLY WAGES\* OF MALE AND FEMALE WORKERS IN THE TEXTILE INDUSTRY  
DURING 1927.

	Spinners and weavers.				Unskilled workers.			
	Male. †		Female.		Male. †		Female.	
	Hourly Pfgs.	Weekly. ‡ Mks.	Hourly. Pfgs.	Weekly. ‡ Mks.	Hourly. Pfgs.	Weekly. ‡ Mks.	Hourly. Pfgs.	Weekly. ‡ Mks.
1913 ... ..	43·2	25·04	31·1	17·88	33·3	19·01	24·9	14·10
1st January, 1927 ... ..	66·3	31·82	51·5	24·72	55·5	26·64	41·0	19·68
1st April, 1927 ... ..	66·6	31·97	51·8	24·86	55·7	26·74	41·3	19·82
1st July, 1927 ... ..	66·9	32·11	52·6	25·25	56·1	26·93	41·5	19·92
1st August, 1927 ... ..	66·9	32·11	52·6	25·25	56·2	26·98	41·5	19·92
1st September, 1927 ... ..	67·3	32·30	52·7	23·30	56·7	27·22	42·5	20·40
1st October, 1927 ... ..	69·0	33·12	55·5	26·78	58·6	28·13	43·5	20·88
1st November, 1927 ... ..	73·4	35·23	57·9	27·79	60·9	29·23	45·1	21·65
1st December, 1927 ... ..	73·7	35·38	58·4	28·03	61·3	29·42	45·3	21·74
1st January, 1928 ... ..	73·7	35·38	58·4	28·03	61·3	29·42	45·3	21·74
1st February, 1928 ... ..	73·7	35·38	58·4	28·03	61·3	29·42	45·3	21·74

Notes : \*Weighted average wage in 14 districts, for full time workers of the highest tariff class (20-25 years).

†Inclusive of social allowances for wife and 2 children up to 14 years of age, where granted.

‡On regular working hours of 55-60 in 1913 and 48 in 1927.

CHANGES IN TARIFF WAGES OF TEXTILE WORKERS.

District.	Class of workers.	Date of change in tariff.	Tariff rates* in Pfennigs for					
			Skilled workers.			Unskilled workers.		
			Previous	New	Change in %	Previous	New	Change in %
Kaiserslauten ...	Worsted spinners ...	m. 4. 7.27	72.0	80.0	+11.1	58.0	62.0	+ 6.9
		f. 4. 7.27	42.0	46.5	+10.7	41.0	43.5	+ 6.1
Gera ...	Ladies' cloth weavers ...	m. 1. 9.27	65.6	71.3	+ 8.7	57.0	62.0	+ 8.8
		f. 1. 9.27	56.4	61.5	+ 9.0	48.0	52.5	+ 9.4
Krefeld ...	Silk fabric weavers ...	m. 20.9.27	62.2	73.6	+18.3	52.5	62.0	+18.1
		f. 20.9.27	55.0	73.6	+33.8	45.5	50.0	+ 9.9
Leipzig ...	Worsted spinners ...	m. 1.10.27	73.0	79.0	+ 8.2	57.0	61.5	+ 7.9
		f. 1.10.27	44.5	48.0	+ 7.9	38.5	41.5	+ 7.8
Plauen ...	Lace weavers ...	m. 1.10.27	75.5	81.5	+ 7.9	56.0	60.5	+ 8.0
		f. 1.10.27	—	—	—	39.0	42.5	+ 9.0
Chemnitz ...	Hosiery knitters ...	m. 1.10.27	67.5	73.0	+ 8.1	53.0	57.5	+ 8.5
		f. 1.10.27	42.0	45.5	+ 8.3	37.0	40.0	+ 8.1
Forst ...	Carded yarn spinners	m. 6.10.27	65.6	71.3	+ 8.7	48.8	54.1	+10.9
		m. 6.10.27	56.4	62.1	+10.1			
	Cloth weavers ...	f. 6.10.27	45.4	51.2	+12.8	39.4	43.1	+ 9.4
		m. 17.10.27	66.6	74.8	+12.3			
Muenchen-Gladbach	Cotton spinners ...	f. 17.10.27	48.1	54.0	+12.3	56.0	63.0	+12.5
		m. 17.10.27	62.8	70.7	+12.6			
	Carded yarn spinners ...	f. 17.10.27	59.7	67.2	+12.6	42.0	47.0	+11.9
		m. 17.10.27	62.8	70.7	+12.6			
Aachen ...	Cloth weavers ...	f. 17.10.27	62.8	70.7	+12.6	60.0	68.0	+13.3
		m. 1.11.27	74.0	86.5	+16.9			
	Carded yarn spinners ...	f. 1.11.27	44.0	46.5	+ 5.7	40.0	50.0	+25.0
		m. 1.11.27	69.5	76.0	+ 9.4			
		f. 1.11.27	69.5	76.0	+ 9.4			

CHANGES IN TARIFF WAGES OF TEXTILE WORKERS—*continued.*

District.	Class of workers.	Date of change in tariff.	Tariff rates* in Pfennigs for								
			Skilled workers.			Unskilled workers.					
			Previous	New	Change in %	Previous	New	Change in %			
Rheine i. W.	Cotton spinners ... .. m.	1.11.27	79·0	87·0	+ 10·1	} 55·0	60·5	+ 10·0			
		1.11.27	52·5	58·0	+ 10·5						
	Cotton weavers ... .. m.	1.11.27	63·5	70·0	+ 10·2				} 45·0	49·5	+ 10·0
		1.11.27	52·5	58·0	+ 10·5						
Barmen-Elberfeld ...	Ribbon weavers ... .. m.	1.11.27	69·2	78·2	+ 12·0	57·0	65·0	+ 14·0			
		1.11.27	52·3	59·2	+ 13·2	43·5	50·0	+ 14·9			
Loerrrach (Baden) ...	Cotton spinners ... .. m.	14.11.27	66·0	72·0	+ 9·1	55·0	60·0	+ 9·1			
		14.11.27	51·0	56·0	+ 9·8	41·0	45·0	+ 9·8			
	Cotton weavers ... .. m.	14.11.27	57·0	62·0	+ 8·8	55·0	60·0	+ 9·1			
		14.11.27	53·0	58·0	+ 9·4	41·0	45·0	+ 9·8			

\* Inclusive of the tariff piece-work premium for skilled workers.

According to an official investigation which was made into the earnings of textile workers in September, 1927, the average earnings, exclusive of overtime pay and social allowances, were :—

				All skilled Workers. Spinners. Weavers.		
				Pfgs. per hour.		
Male ... ..	...	...	...	82·4	84·9	82·2
Female ... ..	...	...	...	60·3	55·5	63·0

Average of unskilled workers :—

				Pfgs. per hour.		
Male ... ..	...	...	...	...	...	61·3
Female ... ..	...	...	...	...	...	44·4

The above earnings for skilled workers were entirely piece-work earnings. The average tariff piece-work rates in the same month were as follows :—

				All skilled Workers. Spinners. Weavers.		
				Pfgs. per hour.		
Male ... ..	...	...	...	65·1	71·4	64·7
Female ... ..	...	...	...	51·3	47·9	53·8

The actual earnings were, therefore, 26·6 per cent. greater than the tariff piece-work basic rates for all skilled male workers, 18·9 per cent. greater for spinners and 27 per cent. for weavers. For female skilled workers the respective larger earnings were 17·5 per cent., 15·9 per cent. and 18·4 per cent.

Unskilled workers do not work on piece-time rates. Compared with the average hourly tariff rates of 55·6 pfennigs for males and 41·4 pfennigs for females, actual hourly earnings were 10·3 per cent. and 7·2 per cent. greater respectively.

It should be noted that this investigation was undertaken shortly before numerous tariff increases took place. During the period 1st September, 1927, to 1st February, 1928, it may be taken that the wages have been increased by the following percentages : skilled male workers 9·5 per cent., skilled female workers 10·8 per cent.; unskilled male workers 8·1 per cent., unskilled female workers 6·6 per cent. It is probable, therefore, that the difference between actual earnings and tariff rates has undergone some reduction.

The average weekly working time was for skilled male workers 50 hours, for skilled female workers 49·5 hours, for unskilled male workers 53·1 hours and for unskilled female workers 49·6 hours. Of the 36,519 textile workers covered by the investigation 67·7 per cent. worked more than 52·54 hours per week, 16 per cent. worked 48 hours per week and 16·3 per cent. less than 48 hours per week.

**Cotton.** —*General.*—The cotton industry was extraordinarily well employed in 1927, partly owing to the general improvement in

the industrial situation and partly to the influence of conditions on the raw cotton market. At the beginning of the year raw cotton was quoted at 12·80 cents loco New York; by the beginning of September the price had risen to 23·60 cents and thereafter showed a falling tendency until at the end of 1927 it stood about 20 cents. Under this influence spinners, with the exception of fine spinners, had by the end of May, 1927, sold their production for several months ahead and weavers in many cases were sold out until the end of the year. The very large stocks on hand at the beginning of the year were disposed of and it was almost impossible to satisfy the demand. Prices showed a rising tendency and considerable German orders were placed in Alsace and Czechoslovakia, especially for calicoes, zephyrs, poplins, &c., both on account of lower prices and shorter terms of delivery. The reduction in cotton prices which set in in September led to a falling off in orders, but in November the industry still had enough on hand to give it employment up to the end of the first quarter of 1928. As the prices of Alsatian products rose there was little foreign competition. In 1928 the receipt of new orders continued to be small, but in January spinners and weavers were still employed to 90·6 per cent. of capacity as compared with 96·9 per cent. in October, 1927. In April, 1928, however, both spinners and weavers only had orders for about a month ahead. In view of the fact, however, that stocks were low, the current demand for immediate requirements still ensured the industry satisfactory employment, and at the beginning of May it was reported that, in view of the rising tendency on the raw cotton market, the receipt of orders was becoming more satisfactory. Spinners of fine counts have not enjoyed the same activity and complaints were frequent in regard to the increasing imports of foreign yarns.

*Production.*—According to the Institute for the Study of Trade Fluctuations the development of the production of cotton products has been as follows:—

	Production.			Inland sales.		
	Yarns and Thread.	Finished Products.		Yarns and Thread.	Finished Products.	
	Mill. kg.	Mill. kg.	Mill. mks.	Mill. kg.	Mill. kg.	Mill. mks.
1913 ...	415	445	2,300	431	375	1,900
1924 ...	270	325	3,700	308	290	3,500
1925 ...	328	410	5,100	383	375	4,700
1926 ...	275	310	3,400	291	270	3,000
1927 ...	380	440	4,800	430	405	4,300

If the loss of territory occasioned by the Treaty of Peace be taken into consideration, the 1927 production is more than equivalent to that of 1913. The production of finished goods has shown the largest increase and consumption of these products is estimated

to be some 8 per cent. larger, or an increase per head of population of about 14 per cent., from 5·6 kg. to 6·4 kg.

According to a special census for 1926 the number of workers employed in cotton spinning and doubling (454 works) was: 1st January, 1926, 101,835; 1st October, 1926, 97,309.

The total number of spinning spindles at the end of 1926 was 10,417,323, including :—

Self-acting mule spindles with two cylinders ... ..	960,180
"          "          "          three          "          ... ..	3,433,161
Throstle spindles ... ..	5,976,415
Other cotton spindles ... ..	47,567

In addition there were 1,130,717 doubling spindles. On the 31st July, 1927, the total number of spinning spindles was estimated at 10,800,000.

The cotton spinning mills consumed in 1926 a total of 300·2 million kg. of spinning materials, as compared with 354·8 million kg. in 1925, from which was manufactured 266·3 million kg. single yarn, of which 212·2 million kg. was treble-spindle yarn and 54·1 million kg. double spindle yarn, representing a reduction as compared with 1925 of 14·5 per cent. in the former and 20 per cent. in the latter. The average count of the treble-spindle yarn rose from 24·34 to 24·45.

The consumption of spinning materials in spinning mills was in 1926 as follows :—

Total of cotton ... ..	(1,000 kg.)
283,572	
Including—	
American ... ..	209,056
East Indian ... ..	28,223
Egyptian ... ..	13,872
Other sorts ... ..	3,715
Linters ... ..	3,387
Cotton waste not produced in the concerns themselves ... ..	25,319
Of which drawn from abroad ... ..	13,862
Artificial cotton ... ..	15,291
Artificial wool ... ..	977
Wool, including combing room waste ... ..	249
Other spinning materials ... ..	120

In addition to the yarn spun by themselves, the cotton doubling mills consumed 10·5 million kg. yarn, as compared with 12·1 million kg. in 1925. Of this amount 7·7 million kg. was obtained from German mills and 2·8 million kg. from abroad.

The production of the cotton spinning and doubling mills amounted in 1926 to a value of Mks.851,000,000 as against Mks.1,200,000,000 in 1925, as will be seen from the following table :—



PRODUCTION OF COTTON SPINNING AND DOUBLING MILLS DURING 1926.

	For own account.		For foreign account.		Total production in 1,000 kg.
	Quantity in 1,000 kg.	Value in 1,000 Mks.	Quantity in 1,000 kg.	Commission value in 1,000 Mks.	
<i>Single yarn :—</i>					
<i>Raw cotton yarn—</i>					
Double spindle yarn including waste yarn...	38,298	61,405	885	823	39,183
Treble-spindle yarn ... ..	165,379	524,274	8,006	5,742	173,385
Total ... ..	203,677	585,679	8,891	6,565	212,568
<i>Cotton yarn, bleached, dyed, printed or otherwise improved—</i>					
Double-spindle yarn including waste yarn ...	14,871	30,609	236	216	29,482
Treble spindle yarn ... ..	14,375	50,344			
Total ... ..	29,246	80,953	236	216	29,482
Other yarns ... ..	367	1,084	62	42	429
Total of single yarns ... ..	233,290	667,716	9,189	6,823	242,479
<i>Twisted yarns—</i>					
Raw cotton, twisted yarns, excluding fancy twist, even twisted with other yarns except silk ... ..	26,280	108,510	3,657	2,989	29,937
Cotton twisted yarn, bleached, dyed, printed or otherwise improved, excluding fancy twist, even twisted with other yarns except silk ...	3,427	18,274	330	264	3,757
Fancy twist ... ..	392	3,208	21	19	502
Other twisted yarns ... ..	89	1,282			
Total of twisted yarns ... ..	30,188	131,274	4,008	3,272	34,196

Of the single yarn manufactured in the cotton mills 96 per cent. was for own account and only 4 per cent. was commission spinning, while in the doubling mills 12 per cent. of the production was on commission account. The value of *trafic de perfectionnement* for foreign account amounted to Mks.637,144, as against Mks.1,165,766 in 1925.

The sales of yarns and twisted yarns totalled 264·3 million kg., of which 97·8 per cent. remained in the country. Foreign sales increased from 1·1 per cent. of total sales in 1925 to 2·2 per cent. in 1926.

*Foreign Trade.*—The following table shows a comparison of German foreign trade in cotton and cotton products in 1913, 1925, 1926 and 1927 :—

FOREIGN TRADE IN COTTON.  
(In million kg.)

Year.	Imports.			Exports.		
	Raw cotton, cotton waste.	Cotton yarn.	Cotton fabrics.	Raw cotton, cotton waste.	Cotton yarn.	Cotton fabrics.
1913 ... ..	583·50	33·23	10·15	98·42	16·64	70·57
1925 ... ..	452·38	61·48	25·77	68·26	6·32	33·09
1926 ... ..	378·25	25·99	9·01	80·48	9·67	34·42
1927 ... ..	590·70	65·01	25·67	115·26	7·34	35·76

The imports from the United Kingdom\* were as follows :—

	Cotton yarns. (In tons.)	Cotton fabrics. (In tons.)
1913 ... ..	21,871	6,015
1925 ... ..	23,897	12,394
1926 ... ..	13,876	4,886
1927 ... ..	24,275	6,204

It will be seen that imports of raw cotton in 1927 underwent a very large increase and that Germany retained for her own use almost as much as in 1913, while both yarns and cotton fabrics also showed large increases. Exports, except for raw cotton, on the other hand, show no appreciable increase, so that it may be taken that the intense demand was very largely confined to the home market.

*Financial.*—That the year 1927 was a profitable one for the cotton industry is evidenced by the financial results achieved by some of the more important companies. In only one case was a dividend of less than 10 per cent. paid, while in several cases dividends of 12 per cent. to 16 per cent. were distributed.

\* Including the Irish Free State.

**Wool.—General.**—Owing to the firm tendency on the raw wool market the decline in business did not set in until later than in the cotton industry. By June, 1927, the industry was sold out until the end of the year. The steady raw wool prices and the general rise in wages resulted in an influx of orders and by October the worsted industry, which had throughout the year enjoyed exceptionally good business, was obliged to introduce double shifts in order to cope with the demand, but, even so, imports of worsteds, particularly of British origin, continued to increase.

Business began to decline in January, 1928, and by April weavers, as a whole, only had orders for a month to six weeks ahead and were in certain cases compelled to have recourse to short-time working. Worsted weavers were better employed, but could also make fairly quick deliveries. At the time of writing (end of April, 1928), business is quiet and only the most urgent requirements are being covered. Nevertheless, the market is fairly healthy and conditions are stable. The knitted goods industry enjoyed exceptional employment throughout the year and the prospects are very favourable. In February and March, 1928, winter orders for stockings and fabric gloves had already been received, for the latter particularly from the United Kingdom.

**Fusion.**—An important fusion took place in March, 1928, between four manufacturers of knitted goods under the majority influence of the Norddeutsche Wollkaemmerei und Kammgarnspinnerei A.G., Bremen. The firm of C. A. Roscher Nachf. A.G., Markersdorf (Saxony), changed its name to Altowa Deutsche Strickerei A.G., Chemnitz, and absorbed the following firms:—Altmann & Co., G.m.b.H., Lichtenstein, near Chemnitz (capital Mks.1 million), Ludwig Wagner, Cawl (Wuerttemberg) and Stern & Stern Co., G.m.b.H., Stuttgart (capital Mks.500,000). For this purpose it increased its capital from Mks.1 million to Mks.10 million. The new company will employ some 2,100 workers, and the value of the production of the member companies of the concern last year amounted to some Mks.15 million. It is intended that each factory shall specialise in a particular branch of production; the Stuttgart firm will manufacture chiefly children's clothing, Calw ladies' clothing and sports clothing and Lichtenstein hosiery.

In close connection with the Altowa a special company was formed, the Nowa Strumpffabrik A.G., Chemnitz, with a capital of Mks.1·2 million.

**Financial Results.**—The favourable year which the industry enjoyed is illustrated in the balance sheets for 1927 of some of the more important companies. Dividends in practically all cases showed an increase compared with the preceding year and varied on ordinary shares between 10 per cent. and 14 per cent.

The Norddeutsche Wollkaemmerei und Kammgarnspinnerei A.G., Bremen, increased its dividend from 10 to 12 per cent. The gross profit, amounting to Mks.10·61 million, showed an increase of some 75 per cent. Mks.4·35 million were written off. In order to cope with the increased business, an application was made at the general meeting for an increase of capital from Mks. 50 million to Mks.75 million.

The Augsburg Kammgarnspinnerei A.G., Augsburg (capital Mks.4 million), reported that its production had increased by 20 per cent. and its turnover by 29 per cent. A dividend of 14 per cent. was distributed, as against 12 per cent. in 1926.

The Bremer Wollkaemmerei A.G., Blumenthal, Bremen, paid 12 per cent. on its ordinary shares and 6 per cent. on its preference shares, while the Kammgarnspinnerei zu Leipzig paid 8 per cent. and 10 per cent. respectively. The Kammgarnspinnerei Stoehr & Co., A.G., Leipzig, increased its dividend from 6 per cent. to 10 per cent. Its gross profit rose from Mks.2·18 million in 1926 to Mks.3·39 million in 1927 and its net profit from Mks.1·11 million to Mks.1·84 million.

*Production.*—According to the special 1926 census 132·6 million kg. of raw wool were washed, as against 137·1 million kg. in 1925. Of these amounts the proportions of various sorts were as follows :—

	1925		1926	
	Mill. kg.	%	Mill. kg.	%
Merino ... ..	84·0	61	85·3	65
Cross bred ... ..	52·7	39	46·8	35

Of the merino wool 90·1 per cent. was imported from abroad in 1926 and of the cross bred wool 86·9 per cent.

On the 1st October, 1926, the numbers employed in the German wool industry were :—

Wool washers ... ..	474
Wool washers and combers ... ..	7,153
Worsted spinners ... ..	49,800
<b>Total ... ..</b>	<b>57,427</b>

Wool washers alone, numbering 19 works, dealt with 6·4 million kg. of raw wool, the production of washed and carbonised wool amounting to some 4·3 million kg. Wool combers dealt with 76·6 million kg. of raw wool. The production of tops amounted to 27·6 million kg., of which 63·3 per cent. were merino and 36·7 per cent. cross bred. The loss in weight from washing and combing amounted to 57·5 per cent. with merino and 47·7 per cent. with cross bred. 83 per cent. of production remained on the home market and 17 per cent. was exported.

The consumption, production and sale of wool combers working on commission account is shown in the following table :—

	1925 kg.	1926 kg.
Worked up wool (including fleece washed, wool and scoureds) for own and foreign account :—		
Merino wool ... ..	49,233,683	52,411,731
Cross bred wool ... ..	25,549,646	24,179,825
Wool washed for own and foreign account which has not been worked up by the concerns themselves, but has been sold :—		
Merino wool { Inland ... ..	2,960,250	3,972,686
{ Foreign ... ..	1,400,000	1,323,314
Cross bred wool* { Inland ... ..	2,604,729	1,781,921
{ Foreign ... ..	700,000	832,654
Annual production for own and foreign account :—		
Merino tops ... ..	14,086,408	17,473,211
Cross bred tops* ... ..	12,121,823	10,113,416
Sale of the tops manufactured for own and foreign account :—		
Merino tops { Inland ... ..	11,331,525	14,272,211
{ Foreign ... ..	2,792,550	3,281,835
Cross bred tops { Inland ... ..	12,369,958	8,452,855
{ Foreign ... ..	2,217,190	1,319,785
Annual production of by-products for own and foreign account :—		
Noils ... ..	2,810,111	3,178,702
Other saleable combing room waste and card waste ... ..	1,279,079	1,989,440

The consumption of raw wool by worsted spinners, of which 103 works were embraced in the census, amounted in 1926 to 49·6 million kg., of which 98 per cent. originated from abroad. Merino wool accounted for 59·4 per cent. and cross bred for 40·6 per cent. The production of tops amounted to 22·5 million kg., or some 12 per cent. less than in 1925. The production of "private" combers (those connected with spinning mills) and of the independent combers amounted together to 50·1 million kg., of which 45 per cent. was accounted for by the former and 55 per cent. by the latter. Of the production of the "private" combers 2·3 million kg. were not worked up in their own spinning mills.

The consumption, production and sales of wool combers connected with spinning mills is shown in the following table :—

	kg.
Worked up for own and foreign account :—	
Merino wool ... ..	29,493,492
Cross bred wool ... ..	20,118,474
Number of combing machines available at the end of 1926 ...	1,421
Annual production of combers for own and foreign account :—	
Merino tops ... ..	11,503,313
Cross bred tops* ... ..	11,030,547
Total ... ..	22,533,860

\* Including mohair, alpaca and camel hair.

Of which not worked up in own spinning mills but sold :—	kg.
Merino tops ... ..	1,018,217
Cross bred tops* ... ..	1,274,748
Total ... ..	2,292,965
Of which to foreign countries ... ..	1,073,949

The number of spindles in worsted spinning mills in 1926 was 1,993,328 spinning spindles and 517,937 doubling spindles. The quantity of tops spun amounted to 54·8 million kg., as compared with 56·9 million in 1925. While production of tops receded, imports showed a considerable increase. The application of merino tops showed a large rise, the proportion of merino tops consumed to cross bred tops being 43 : 57 in 1925 and 53 : 47 in 1926. The production of single yarns amounted to 50·6 million kg., of which 10·8 million were dyed in the top. For twisting the following additional amounts were drawn from elsewhere : 367,077 kg. worsted yarn, 34,037 kg. cotton yarn, 58,554 kg. artificial silk and 10,472 kg. other yarns. Of the total of these amounts 13 per cent. was obtained from abroad. The average count was 36·04 metres as compared with 31·79 metres in 1925.

The consumption and production of worsted yarn spinners in 1926 is illustrated in the following table :—

	Merino tops. kg.	Cross bred tops. kg.	Total. kg.
Tops worked up in the spinning mills for own and foreign account :—			
Tops of own production ...	10,371,307	9,794,548	20,165,855
Tops produced by other inland combers ... ..	13,867,980	10,444,892	24,312,872
Tops produced abroad ...	4,995,361	5,280,542	10,275,903
Total ... ..	29,234,648	25,519,982	54,754,630
Annual production of single worsted yarn by worsted spinners for own and foreign account :—			
		Grey. kg.	Dyed in the top. kg.
Merino worsted yarn ... ..		22,909,214	4,200,997
Cross bred worsted yarn* ... ..		16,843,220	6,628,656
Total ... ..		39,752,434	10,829,653
Annual output of final products :—			
			kg.
Single grey worsted yarn—			
Merino ... ..			7,791,523
Cross bred* ... ..			3,648,144
Bleached, dyed, printed or otherwise improved—			
Merino ... ..			2,192,309
Cross bred* ... ..			1,022,043
Twist—			
Grey ... ..			19,677,797
Bleached, dyed, printed or otherwise improved ... ..			16,936,490
Total ... ..			51,268,306

\*Including mohair, alpaca and camel hair.

Total value of annual output of final products ... .. Mks. 553,324,322

In addition to the 10·8 million kg. of yarns dyed in the top, 328,152 kg. of single yarns and 9,287,338 kg. of doubled yarn were bleached, dyed and otherwise worked up in the hank, cops or cross wound bobbin. In addition, 2·5 million kg. of noils were produced, 1·2 million kg. combing room waste, and 3·2 million kg. spinning waste.

Sales of worsted yarns and worsted twist were as follows :—

	To own weavers and hosiery manufacturers, etc.	To inland consumers and dealers	To inland exporters.	To foreign buyers.
Worsted yarns and twist, even mixed with other yarns, yarns, exclusive of cotton and silk :—	kg.	kg.	kg.	kg.
Grey ... ..	1,632,148	21,404,000	104,676	3,583,909
Dyed, bleached, printed or otherwise improved ...	926,820	15,098,565	352,396	2,973,024
Worsted yarns, mixed with cotton or silk, as well as other yarns and twist ...	165,923	133,134	—	21,266
Total ... ..	2,724,891	36,635,699	457,072	6,578,199

Sales of yarn and twist for own account amounted to 46·4 million kg. and, as production amounted only to 45·4 million kg., some 1 million kg. must have been taken from stocks. Of the amounts sold 79 per cent. went to inland consumers and dealers, 6 per cent. to concerns own weaving mills, and 15 per cent. were exported.

*Foreign Trade.*—In view of the intense activity which prevailed during 1927, it is not surprising to find that the imports of both raw wool and woollen yarns underwent a considerable increase, especially in the latter. Imports of woollen textures also showed an increase, but these were balanced by increased exports. Foreign trade showed the following development :—

	Imports.			Exports.		
	Raw wool and other animal hair, including waste, etc.	Woollen and other yarns.	Woollen Tissues.	Raw wool and other animal hair, including waste, etc.	Woollen and other hair yarns.	Woollen Tissues.
1926 ...	175·3	18·45	(In Million kg.) 1·46	26·46	8·74	20·64
1927 ...	229·5	36·76	3·28	34·47	9·09	24·75

Of the imported amounts in 1927 the following were drawn from Great Britain :—

	Million kg.
Wool and other animal hair ... ..	18·46
Woollen and animal hair yarns ... ..	14·78
Woollen tissues ... ..	1·39

In the first quarter of 1928 the imports of raw wool were as follows :—

	Million kg.
Merino ... ..	43·8
Cross bred ... ..	20·9
Total ... ..	64·7

**Linen.**—*General.*—Throughout 1927 the linen industry was well employed, but towards the end of the year the increasing flax and linen yarn prices made business more difficult. A satisfactory inflow of orders continued for several months, the large stocks were cleared and production was sold out for several months ahead. It was not until October that business showed any signs of falling off, but the high flax and yarn prices then led to a certain degree of stagnation. In November, in spite of good employment, in view of the low flax stocks, it was found necessary to restrict production by 20 per cent. In January, 1928, the industry was provided with only three or four months flax supplies. In 1924 German flax production covered some 60 per cent. of home requirements and in 1927 this had fallen to 33½ per cent., and Germany is becoming increasingly dependent upon Latvia and Russia. By March, 1928, certain concerns were obliged to restrict production by 30 per cent., although orders continued to be satisfactory. The future prospects of the industry would appear to be entirely dependent upon the trend of the flax market. Taken as a whole, however, in 1927 the industry was fairly prosperous.

In 1927 the area under cultivation of flax in Germany was 15,492 hectares, as compared with 22,207 hectares in 1926. Imports of flax rose from 10,341 tons in 1926 to 25,803 tons in 1927, and imports of linen yarns showed a large increase from 5,553 tons to 14,267 tons.

The credit of Mks.9 million spread over a period of 15 months, which was made by the Reich in 1926 for the promotion of flax growing, had not been fully utilised by the date of its termination and was further prolonged.

In December, 1927, the flax roasters concluded a community of interests and a company was formed known as the I. G. Deutscher Flachs for the purpose of improving the quality and introducing uniform methods of sorting. The Deutsche Flachsbaugesellschaft, Berlin, has ordered 10 of the latest flax harvesting machines from Belgium, which it intends placing at the disposal of flax growers, free of charge, with a view to encouraging their use.



*Production.*—The chief centres for flax spinning are Silesia (Riesengebirge), Free State of Saxony (Erzebirge and Vogtland) and the Rhine Province. According to the industrial census in 1925 and 1926 there were 56 works in the former year and 50 in the latter. Of these 27 were spinning mills, 16 doubling mills and 7 both spinning and doubling mills. Twenty-four of the 50 works have separate departments for *trafic de perfectionnement*. In 1926 the number of workers underwent a large decrease from 17,000 to 12,000. The number of spindles also showed a decrease, being as follows:—

	1925	1926
Spindles for spinning flax and flax tow ... ..	285,003	260,984
Including : for wet spinning ... ..	266,405	245,154
for dry spinning ... ..	18,598	15,830
In addition there were:—		
Spindles for spinning other fibrous materials ...	661	312
Doubling spindles ... ..	45,759	34,915

The flax and flax tow spinning mills worked up a total of 32,600 tons of fibre in 1925 and 21,500 in 1926, a decrease in the latter year of some 34 per cent. In both years about one-half of the supplies came from abroad.

In 1926 the linen yarn doubling mills worked up, in addition to the yarns produced in their own spinning mills, 900 tons of yarns purchased from other concerns, as against 1,300 tons in 1925, of which 44 per cent. were obtained from abroad in 1926 and 37 per cent. in 1925.

The following table shows the consumption of spinning materials and the production of single yarn:—

SPINNING MATERIALS USED BY LINEN SPINNING MILLS FOR OWN AND FOREIGN ACCOUNT.

	1925 Tons.	1926 Tons.
Raw flax ... ..	20,239	12,149
Hackled flax	11,460	9,076
Hackled flax tow } ... ..		
Hemp, hemp tow and other spinning materials ...	918	309
Total ... ..	32,617	21,534

PRODUCTION OF SINGLE YARNS.

	1925 Tons.	1926 Tons.
Linen yarn (of flax and flax tow)—		
Up to No. 8 English ... ..	2,975	1,124
Over No. 8 to No. 14 English ... ..	4,600	2,893
" 14 " 20 " ... ..	5,644	3,907
" 20 " 35 " ... ..	6,299	4,150
" 35 " 75 " ... ..	1,311	1,303
" 75 English ... ..	7	5
Total ... ..	20,836	13,382
Yarn of hemp or hemp tow and other spinning materials	436	78
Total ... ..	21,272	13,460

The saleable production of spinning and doubling mills amounted in 1925 to 20,400 tons of single yarns (20,000 tons of linen yarns and 400 tons of other yarns) and 2,100 tons of linen and other twisted yarns; in 1926 to 12,680 tons of single yarns (12,600 tons of linen yarns and 80 tons of other yarns) and 1,500 tons of linen and other twisted yarns. The total value of production of yarns and twisted yarns in 1925 and 1926 amounted to Mks.92 million and Mks.54 million respectively.

Of the 1925 production 5,500 tons of single linen and other yarns and 1,800 tons of linen and other twisted yarns were bleached, dyed, printed or otherwise worked up, and 4,270 tons of the former and 844 tons of the latter in 1926. The sales of yarns and twisted yarns amounted to 80 per cent. and 78 per cent. respectively in 1925 and 1926, and 20 per cent. and 22 per cent. respectively were used for further working up in the mills.

The following table shows the production of spinning and doubling mills in quantities and values in 1925 and 1926 :—

PRODUCTION OF SPINNING AND DOUBLING MILLS.

	1925				1926			
	For own account.		For foreign account		For own account.		For foreign account.	
	Quantity. tons.	Value in 1,000 mks.	Quantity tons.	Value in 1,000 mks.	Quantity tons.	Value in 1,000 mks.	Quantity tons.	Value in 1,000 mks.
<i>Yarns—</i>								
Single linen yarns     ...     ...	19,997	68,662	48	91	12,521	38,797	59	81
Other single yarns     ...     ...	440	681	—	—	78	114	—	—
<i>Twisted yarns—</i>								
Linen and other twisted yarns ...	2,066	22,493	80	65	1,477	15,167	51	44
Total     ...     ...	22,503	91,836	128	156	14,076	54,078	110	125

**Silk and Velvet.**—In spite of the complaints concerning the reduction in the import duty on products of the French silk industry, consequent upon the entry into force in September, 1927, of the Franco-German Commercial Treaty, the silk industry was well employed during the whole year under review. The home demand showed a rising tendency from the beginning of 1927, particularly for crêpes, crêpe satins, veloutine and brocades, and business in tie and umbrella materials was also lively. Export trade was also good and considerably exceeded the 1926 figures. Of the total exports Great Britain took some 36 per cent. In the autumn of 1927 a wages dispute caused the closing down of the Krefeld works for six weeks, but even this did not greatly affect the prosperity of the industry as a whole. In various months the imports of raw silk amounted to as much as 450 tons, as against a maximum monthly import in the preceding year of 300 tons. These figures are indicative of the fact that in practically all branches of the silk industry a higher production was achieved, and there is but little doubt that financially the year was also a successful one.

In the velvet industry a considerable improvement set in. Whereas it is estimated that in 1926 only 35 per cent. to 40 per cent. of the looms were employed, in the months of January-April, 1927, the percentage was 30 per cent. to 45 per cent., May-June, 45 per cent. to 55 per cent., July-October, 60 per cent. of the 3,900 looms available. It has been estimated that in 1913, 75 per cent. of 4,100 available looms were employed. Export business also developed satisfactorily and considerably more orders were received from the United Kingdom than in the preceding year. It would doubtless have been possible to find employment for more looms on the strength of the orders received, but this proved impossible owing to the lack of skilled workers, many velvet weavers having gone over to other branches of the textile industry during the recent years of depression.

In January, 1928, an export sales organisation was formed under the name Lindener Samt Verein G.m.b.H., Berlin, with the participation of the Mechanische Weberei Linden, Berliner Velvetfabrik M. Mengers & Soehne A.G. and the A. G. Froehlich & Sohn, Warnsdorf, Czechoslovakia. The Linden concern acquired the Berliner Velvetfabrik M. Mengers & Soehne A.G. in 1926, and in April, 1927, purchased the share majority of the Czechoslovakian company. In 1927 it paid a dividend of 15 per cent. on its capital of Mks.13·5 million.

**Artificial Silk.**—During the whole year the artificial silk industry has been employed to the utmost of its capacity, and at the time of writing (April, 1928), works are sold out until the end of the year. Many extensions of works have been undertaken and new works will be put into commission in 1928, so that a further

increase in production is almost certain. The strides which production has made are illustrated by the following estimated output figures:—1924, 10,800 tons; 1925, 10,800 tons; 1926, 11,800 tons; and 1927, 18,000 tons. In spite of this large production factories were unable to cope with the demand and imports still show a rising tendency. Dr. Bluethgen, of the Vereinigte Glanzstoff Fabriken A.G., Elberfeld, estimated the production and consumption in Germany in artificial silk products during the periods October, 1925, to September, 1926, and October, 1926, to September, 1927, as follows:—

				1925-1926	1926-1927
				Tons.	Tons.
Production	...	...	...	9,000	12,000
Imports	...	...	...	3,000	9,500
				<hr/>	<hr/>
				12,000	21,500
Less Exports	...	...	...	3,700	3,900
				<hr/>	<hr/>
Consumption	...	...	...	8,300	17,600
				<hr/>	<hr/>

In addition to the large extension of their own factory at Elberfeld, the Vereinigte Glanzstoff Fabriken A.G. will, it is reported, shortly put into commission the Cologne factory of the Glanzstoff-Courtaulds G.m.b.H. and the Breslau works of the Neue Glanzstoff Werke A.G., Breslau, and undertake the construction of a new yarn factory at Tannenberg in Silesia. The I. P. Bemberg, it is stated, also intend building a new factory in Baden. The patents of the Austrian chemist, Professor Lilienfeld, which have been acquired by Glanzstoff, will, it is claimed, enable the production process from the preparation of cellulose to the spinning solution to be carried through in one stage, as against three at present. The resultant product will be of greater tensile strength and elasticity, and the patents which have been acquired for treatment of the yarn after the spinning process will also, it is stated, introduce a great deal of simplification. Further, the Celta silk of the Deutsche Celta A.G., controlled by Glanzstoff, has, it is reported, been sufficiently advanced technically to enable it to be manufactured on a commercial scale, and the production of cuprous silk by the I. P. Bemberg and the associated factories of Hoelcken and the I. G. Farbenindustrie will undergo a further extension. As regards acetate silk certain difficulties appear still to await solution, and at the end of February, 1928, the Aceta G.m.b.H., Berlin-Lichtenberg, jointly controlled by Glanzstoff and the I. G. Farbenindustrie, were obliged to dismiss half their workers. It is stated that this was attributable to the fact that the acetate cellulose manufactured by the I. G. was not of sufficiently good quality, but it is hoped that the difficulties have been overcome and that manufacture may shortly again be taken up at full capacity. The Agfa-Travis silk manufactured by the

I. G. Farbenindustrie is reported to have achieved considerable success and to possess great advantages over other artificial silk. The weaving of this material is being undertaken by the Weberei Christian Dierig, Oberlangenberg, Upper Silesia.

The Vereinigte Glanzstoff Fabriken A.G., Elberfeld, which has intimate working agreements with Messrs. Courtaulds, Snia Viscosa and the Dutch Enka, which have been strengthened by interchanges of shares, has increased its ordinary share capital from Mks.42 million to Mks.60 million and its preferential share capital from Mks.600,000 to Mks.900,000. One-half of this capital increase will, it is stated, be applied to the acquirement of participations in other concerns. In 1927 its gross profit was Mks.17.3 million as compared with Mks.12.3 million in 1926, and its net profit Mks.10.7 million as against Mks.6.9 million, an increase of 41 per cent. and 40 per cent. respectively. Mks.4.7 million were written off, reserves were increased to Mks.48.5 million and dividend from 15 per cent. to 18 per cent. on ordinary shares, while 6 per cent. was paid on preference shares. In the report it is stated that its participations (which are booked at Mks.37.1 million) were considerably extended both at home and abroad, particular mention being made of the increased participation in the I. P. Bemberg, the interest acquired conjointly with Messrs. Courtaulds in the Snia Viscosa, the formation in the United States of the American Glanzstoff Corporation, and the acquirement with Messrs. Courtaulds of certain viscose silk patents. The Bayerische Glanzstoff Fabrik A.G., Munich, and the Vereinigte Kunstseidefabriken A.G., Kelsterbach, Frankfurt-a-Maine, were also absorbed by way of fusion.

The I. P. Bemberg A.G., Barmen, whose share capital has been increased from Mks.16 million to Mks.28 million, achieved in 1927 a gross profit of Mks.11.2 million as compared with Mks.6.8 million in 1926, and a net profit of Mks.5.5 million as against Mks.3 million in the preceding year. Mks.2.37 million were written off and the dividend was increased from 8 per cent. to 14 per cent. Its turnover increased from Mks.17 million in 1925-26 to Mks. 41.5 million in 1926-27. In the report it is stated that its new factory in France will shortly be put into operation, and its chief participations are given as the Bemberg Maschinenbau A.G., the Barmer Maschinenfabrik A.G., the American Bemberg Corporation, Tennessee, La Seta Bemberg S.A., Crozzana and the Hoelken Seide G.m.b.H.

**Hemp.**—The hemp industry was well employed throughout the year and the imports of hemp would indicate a considerable rise in production as compared with 1926. In 1927 imports of hemp and similar fibres rose to 71,466 tons as compared with 47,223 tons in the preceding year.

The industrial census of 1925 embraced 151 concerns in the hemp industry, of which 48 dealt with soft staple, 45 with hard



OUTPUT OF FINAL PRODUCTS IN 1925 AND 1926.

	For own account.				For foreign account.			
	1925		1926		1925		1926	
	Quantity in 1,000 kg.	Value in 1,000 mks.	Quantity in 1,000 kg.	Value in 1,000 mks.	Quantity in 1,000 kg.	Value in 1,000 mks.	Quantity in 1,000 kg.	Value in 1,000 mks.
Yarn and Twist of hemp and hemp tow, even mixed with other spinning materials except cotton—								
Single ... ..	3,961·4	11,449·0	3,520·5	7,968·6	} 47·5	67·7	8·9	11·8
Double and multiple ... ..	1,914·3	6,353·8	1,895·5	4,876·8				
Yarn and twist of hard staple, even mixed with other spinning materials—								
Single ... ..	12,203·1	14,118·4	14,258·0	16,315·4	3,151·1	709·8	2,381·3	499·5
Double and multiple ... ..	3,282·0	3,910·1	2,531·8	3,114·7	—	—	—	—
Other yarns and twist of soft staple, hard staple or jute ... ..	391·3	349·0	848·1	622·8	52·2	10·0	56·9	26·2
String, twine, rope, etc., of soft staple—								
Up to 1 mm. diameter ... ..	2,070·6	6,896·4	1,409·3	3,937·2	} 49·0	20·5	18·0	7·9
Over 1·5 mm. diameter... ..	13,544·1	34,424·0	11,142·0	25,645·1				
Over 5 mm. diameter ... ..	2,010·9	4,371·1	1,963·6	4,137·8				
String, twine, rope, etc., of hard staple—								
Up to 5 mm. diameter ... ..	2,344·7	3,161·3	2,200·0	3,011·4	—	—	—	—
Over 5 mm. diameter ... ..	5,059·5	6,741·8	5,932·2	7,177·3	601·3	466·6	313·5	57·3
Saleable spinning waste ... ..	1,176·6	465·8	909·5	317·0	—	—	—	—



In 1925, sales of soft staple products amounted to 21·9 million kg., of which 1·5 million kg., or 6·7 per cent. were exported, and of hard staple products to 23·6 million kg., of which 1·7 million kg., or 7·1 per cent., were exported. The corresponding figures for 1926 were 20·4 million kg. of which 1·8 million were exported, and 26·4 million kg. of which 2·5 million kg. were exported.

**Jute Industry.**—The jute industry enjoyed a much more favourable year than in 1926. The activity in other branches of industry called forth an increased demand for sacks and other industrial jute textures. The raw jute market, moreover, was firm and throughout the year there was a constant and steady demand for jute products. The official restriction of output by the Jute Syndicate was reduced from 50 per cent. to 40 per cent. for spinners and to 25 per cent. for weavers. Exports were difficult in face of Belgian, French and Calcutta competition, but, nevertheless, plant was kept in practically full commission.

The export of jute sacks showed a fall from 12,214·3 tons in 1926 to 7,653·4 tons in 1927, and of packing cloth and other unbleached jute textures from 12,255·3 tons to 7,396·8 tons. The imports of jute yarns showed a large increase from 663 tons in 1926 to 4,582 tons in 1927, of which 1,670 tons were obtained from the United Kingdom. Imports of raw jute and jute tow amounted to 140,341 tons, as against 88,577 tons in 1926.

With the rising jute prices in 1928 large new orders were received, particularly for sacks from the potash industry. At the beginning of April spinners and weavers were almost entirely sold out until the end of June and extensive orders had been received for deliveries up to September.

The favourable year is reflected in the balance sheets for 1927. The Deutsche Jute Spinnerei und Weberei, Meissen, for example, paid a dividend of 9 per cent., whereas no dividend had been distributed in the two previous years. The Hanseatische Jutespinnerei und Weberei, Delmenhorst, increased its dividend from 4 per cent. to 6 per cent., and the Jute Spinnerei und Weberei, Bremen, from 7 per cent. to 10 per cent. The Vereinigte Jute Spinnereien und Webereien A.G., Hamburg, paid a dividend of 6 per cent. on its capital of Mks.15 million. Gross profits rose from Mks.5·98 million to Mks.6·08 million, while expenses decreased from Mks.4·28 million marks to Mks.3·58 million.

**Production.**—According to the industrial census for 1925 and 1926 the jute industry comprised 45 works in the former year and 46 works in the latter. They are situated in Westphalia, Brandenburg, Saxony, Thuringia, Hamburg and Bremen.

\* The number of workers employed in the jute spinning and doubling works amounted to:—

	1st Jan.	1st April.	1st July.	1st Oct.
1925 ... ..	17,026	17,492	16,448	16,560
1926 ... ..	16,445	14,117	13,543	13,630

In 1925 the number of spinning spindles in the jute industry was 190,235 and that of jute doubling spindles 9,761; in 1926 the figures were 188,442 and 10,365. About 1 per cent. of the spindles were used for spinning fibre other than jute. The jute spinning spindles declined in 1926 compared with 1925 by 2,033. Doubling spindles have increased in 1926 compared with 1925.

The following table shows the consumption of spinning materials, the production and the sales of jute spinning and doubling mills in Germany during the years 1926 and 1927:—

<i>Consumption of Spinning Materials—</i>	1926 kg.	1927 kg.
Jute ... ..	100,151,369	126,175,420
Jute waste and old material ... ..	1,639,603	2,099,121
Other spinning materials (hemp, hemp tow, and flax tow) ... ..	557,554	406,861
	<u>102,348,526</u>	<u>128,681,402</u>

*Quantity of Single Yarn Spun—*

Jute yarn—

Up to No. 8 ... ..	100,687,234	128,498,027
Over No. 8 ... ..	582,086	948,109
Yarn of jute waste ... ..	1,021,338	1,416,767
Yarn of flax and flax tow, hemp or hemp tow, even mixed with jute ... ..	319,963	332,003

*Annual production of finished yarns for own and foreign account—*

Single yarn—

Jute yarn ... ..	96,165,434	121,751,535
Yarn of jute waste ... ..	1,000,967	1,365,973
Other yarns ... ..	107,907	132,353
Total ... ..	<u>97,274,308</u>	<u>123,249,861</u>

Doubled yarns—

Of jute ... ..	5,223,392	7,769,322
Others ... ..	232,427	250,444
Total ... ..	<u>5,455,819</u>	<u>8,019,766</u>

		1926	1927
		kg.	kg.
Total of single and doubled yarns	...	102,730,127	131,269,627
Plus workable waste	... ..	2,405,362	2,349,075
		Mks.	Mks.
Total value of annual production	...	116,497,000	127,712,000
Sales of single and doubled yarns—		kg.	kg.
Within the country	... ..	99,985,699	128,119,064
To foreign countries	... ..	2,504,066	2,856,820
Total	... ..	102,489,765	130,975,884

The value of the spinning materials worked up for own account amounted to Mks.113,600,000 in 1925, Mks.86,300,000 in 1926, and Mks. 76,400,000 in 1927.

The production of single yarn declined by 22 per cent. during 1926.

99 per cent. of the jute yarns manufactured were of counts 1 to 8 English.

The total value of the finished yarns manufactured in jute spinning and doubling mills for own and foreign account amounted in 1925 to Mks.164,600,000, plus Mks.644,000 for 2,800,000 kg. of spinning waste worked up. In 1926 the values were Mks.115,900,000, plus Mks.578,000 for 2,400,000 kg. of spinning waste worked up. In 1927 the values were Mks.127,700,000 excluding spinning waste worked up.

Approximately 75 per cent. of the total sales of the jute spinning and doubling mills were worked up in own concerns, about 23 per cent. went to inland consumers and dealers and the remainder to foreign buyers.

A comparison of these figures with those contained in the last pre-war census, viz., that of 1911, shows that one small spinning mill in Alsace Lorraine has fallen to France, while four new works have been established since then within the present German territories. In 1925 there existed 10,031 spinning spindles and 232 doubling spindles more than in 1911, but in spite of the increased capacity, the consumption and production of German jute factories was less in 1925 than in 1911; about 10 per cent. less jute was worked up in 1925 than in 1911, about 9 per cent. less jute yarn and about 3 per cent. less jute doubled yarn were produced. This is also illustrated in the table on pp. 141-142.

#### JUTE SPINNING AND DOUBLING MILLS IN 1911 (PRESENT FRONTIERS) 1925 AND 1926.

	1911	1926	1927
Number of works	36	46	40
Total number of spinning spindles	180,204	188,442	187,370
Of which for spinning jute	178,020	185,386	185,230
For spinning other fibre	2,184	2,056	2,140
Number of doubling spindles	9,529	10,365	11,180
	kg.	kg.	kg.
Quantity of jute worked up	142,471,532	100,151,369	126,200
Quantity of single yarn spun	142,032,390	101,269,320	131,200
Of which up to No. 8 English	140,121,608	100,687,234	—
No. 8 English and over	1,910,782	582,086	—
Annual production of finished yarns	142,042,400	102,730,127	131,300
Of which jute yarn	135,340,841	96,165,434	121,700
„ jute doubled yarn	6,701,559	5,223,392	—

According to a report of the Verband Deutscher Jute Industrieller G.m.b.H. published in June, 1927, the number of its members was as follows :—

	Spindles.	Looms.
Max Bahr. A.G., Landsberg a.d. Weser ... ..	14,141	690
Barther Jutespinnerei und Weberei A.G., Barth ...	3,082	184
W. Bluethchen & Soehne, Vetschau ... ..	1,000	80
Braunschweigsiche A. G. fuer Jute- und Flachs- industrie, Braunschweig ... ..	12,445	555
Bremer Jute Spinnerei u. Weberei A.G., Hemelingen	6,445	387
Deutsche Jute Spinnerei und Weberei, Meissen ...	11,044	377
Erste Deutsche Feinjute Garn Spinnerei A.G., Brandenburg ... ..	7,065	1
Dr. Weber, Berlin ... ..	1,820	110
Geraer Jute Spinnerei und Weberei A.G., Triebes ...	11,044	432
August Greve K. Ges., Lindau ... ..	2,171	1
Engelbert Groeter, Emsdetten ... ..	3,422	—
W. Groening, Mesum ... ..	2,640	152
A. G. Hanseatische Jute Spinnerei u. Weberei, Delmenhorst ... ..	9,005	386
Jute Spinnerei und Weberei A.G., Bremen ... ..	15,039	624
Jute Spinnerei und Weberei, Cassel ... ..	4,457	200
Jute Spinnerei Emsdetten ... ..	3,420	—
Gebr. Sandberg, Freystadt ... ..	1,685	73
C. & J. Schaub, G.m.b.H., Emsdetten ... ..	1,360	104
J. Schilgen, Emsdetten ... ..	5,104	300
Schilgen & Werth, Emsdetten ... ..	2,995	—
Scheuermann & Hollaender, Mesum ... ..	1,250	115
Engelbert Schoenfeld, Herford ... ..	2,743	50
Gebrueder Spohn G.m.b.H., Neckarsulm ... ..	2,475	155
Ver. Jute Spinnereien und Webereien A.G., Ham- burg ... ..	58,914	2,677
Gustav Waentig A.G., Olbersdorf ... ..	3,828	219
Weidaer Jute Spinnerei u. Weberei A.G. Weida ...	9,596	336
Westfael. Jute Spinnerei u. Weberei, Ahaus ...	6,471	305
	<hr/> 204,671	<hr/> 8,513

## IMPORTS OF RAW MATERIAL FOR THE GERMAN TEXTILE INDUSTRY.

	1927		1926		1913	
	Quantity in metric tons.	Value in million mks.	Quantity in metric tons.	Value in million mks.	Quantity in metric tons.	Value in million mks.
<i>Cotton (excluding linters)—</i>						
Egypt ... ..	22,878		12,903		40,555	73·0
British India ... ..	34,105		26,256		57,520	58·7
U.S.A. ... ..	421,903		278,753		369,397	461·7
Other countries ... ..	12,409		6,582		10,473	13·7
<i>Wool (excluding merino wool washed on the back)—</i>						
Australia ... ..	491,295	771·7	324,494	562·5	477,945	607·1
Argentina ... ..	65,565		56,008		77,672	165·7
South Africa ... ..	45,009		38,267		49,741	90·2
Other countries ... ..	33,604		21,908		26,533	50·4
	45,461		29,941		45,040	105·5
<i>Silk (artificial, not dyed and</i>						
Belgium ... ..	189,639	597·5	146,124	446·7	198,986	411·8
Switzerland ... ..	1,699		815		1,113	13·4
Italy ... ..	1,193		605		46	0·6
Netherlands ... ..	3,943		2,021		37	0·4
Other countries ... ..	1,797		657		3	0·0
	769		427		364	4·4
<i>Silk (raw, of the mulberry tree silk worm, not dyed)—</i>						
Italy ... ..	9,401	83·3	4,525	40·2	1,563	18·8
Other countries ... ..	2,221		1,367		2,706	111·0
	387		178		1,189	43·7
	2,608	152·7	1,545	93·2	3,895	154·7

IMPORTS OF RAW MATERIAL FOR THE GERMAN TEXTILE INDUSTRY—*continued.*

	1927		1926		1913	
	Quantity in metric tons.	Value in million mks.	Quantity in metric tons.	Value in million mks.	Quantity in metric tons.	Value in million mks.
<i>Flax (peeled, cleaned, etc., excl. raw steeped)—</i>						
Russia ... ..	5,152		1,442		62,775	52·7
Netherlands ... ..	2,114		581		434	0·6
Belgium ... ..	6,063		2,427		289	0·6
Estonia ... ..	385		525		(a)	(a)
Latvia... ..	1,800		1,190		(a)	(a)
Lithuania ... ..	4,418		1,699		(a)	(a)
Czechoslovakia ... ..	1,737		1,289		(b)	(b)
Other countries ... ..	603		260		3,626	3·4
	22,299	31·5	9,413	13·3	67,124	57·3
<i>Jute and Jute Tow—</i>						
British India ... ..	139,482		87,353		158,456	91·9
Other countries ... ..	859		1,224		3,607	2·1
	140,341	79·7	88,577	73·6	162,063	94·6
<i>Hemp—</i>						
Italy ... ..	24,343		15,782		14,846	12·8
Russia ... ..	985		183		26,528	16·4
Jugo-Slavia ... ..	2,121		1,495		(b)	(b)
Other countries ... ..	1,307		613		4,324	3·2
	28,756	30·7	18,073	19·8	45,698	32·4

(a) Included with Russia.

(b) Included with other countries.

## MOTOR VEHICLE INDUSTRIES.

*By C. J. Kavanagh.*

Under the pressure of foreign competition and the reduced rate of import duty, German manufacturers of motor cars have been making considerable efforts to improve their design and to place on the market cars competitive with the American product. Increasing attention has been devoted to the production of light six cylinder cars, the continuous band-conveyer system of manufacture has been largely introduced and a notable decrease has been made in the number of models. During the past year considerable progress has been made in the efforts to reduce the disparity between German manufacturing methods and technique and those of other countries. While a great deal has been done in this direction much leeway still remains to be made up, and in the meantime there should be a good opening for British cars in the case of manufacturers who are in a position to offer the same terms and facilities as their competitors. Apart from local competition the British exporter has to face the very intensive competition of the American manufacturers, many of whom assemble in the country and whose sales organisation is most actively supported by lavish outlays on advertising, a feature which has enabled them to attract the best established firms in the retail trade. With respect to spare parts and service the American organisation is a very complete one, and on the whole the cultivation of the German market has been set about with a view to establishing business of a permanent nature. The principal demand for cars ranges from the cheap car to the middle price car, that is, from a price of some Mks.2,500 to Mks.7,500, and increasing preference is being shown for the more elastic six-cylinder type.

The large strides which have been made in the reduction of German prices is evidenced in the following table :—

PRICES FOR MOTOR CARS AND MOTOR LORRIES—1913=100.

	Motor Cars.	Motor Lorries.
1924—January ... ..	125·2	101·1
December ... ..	106·0	84·6
1925—January ... ..	102·8	84·9
August ... ..	99·8	89·0
December ... ..	92·7	87·7
1926—January ... ..	88·2	86·8
August ... ..	77·6	67·4
December ... ..	70·1	66·7
1927—December ... ..	63·0*	60·0*

\*Estimated figure.

The principal types and the corresponding prices of such cars on the German market are given below, and it is not unlikely that a further decrease in prices will be made in view of the reduction of the import duty on the 1st July, 1928, to its lowest level :—

							Mks.
<i>Opel—</i>							
4/16 H.P.	4 cylinder,	2 seater,	Phaeton	...	...	...	2,700
"	4	" 4	"	...	...	...	3,000
"	4	" 4	Limousine	...	...	...	3,500
"	4	" 4	Limousine de Luxe	...	...	...	3,800
7/34 H.P.	6 cylinder,	4 seater,	Phaeton	...	...	...	4,600
"	6	" 4	Limousine	...	...	...	4,900
"	6	" 4	Limousine de Luxe	...	...	...	5,400
10/40 H.P.	4 cylinder,	4 seater,	Phaeton	...	...	...	4,800
"	4	" 4	Limousine	...	...	...	5,400
"	4	" 4	Pullman	...	...	...	6,600
12/50 H.P.	6 cylinder,	6-7 seater,	Phaeton	...	...	...	6,600
"	6	" 6-7	Limousine...	...	...	...	7,250
"	6	" 6-7	Pullman	...	...	...	7,950
"	6	" 6-7	Limousine de Luxe	...	...	...	9,000-9,500
<i>Daimler-Benz—</i>							
8/38 H.P.	6 cylinder,	4-5 seater,	Phaeton	...	...	...	7,100
"	6	" 4-5	Limousine (2 door)	...	...	...	7,600
"	6	" 4-5	Limousine (4 door)	...	...	...	7,950
<i>Citroen (manufactured at Cologne)—</i>							
500 kg.	4 cylinder,	4 seater,	Phaeton	...	...	...	4,250
" 4	" 4	"	Cabriolet	...	...	...	4,650
" 4	" 4	"	Landau	...	...	...	5,450
" 4	" 4	"	Limousine	...	...	...	4,650
<i>Brennabor—</i>							
6/25 H.P.	4 cylinder,	4 seater,	Phaeton	...	...	...	4,350
" 4	" 4	"	Limousine	...	...	...	4,600
10/45	" 6	" 6-7	Phaeton	...	...	...	6,650
" 6	" 6-7	"	Limousine	...	...	...	6,250-7,250
12/55	" 6	" 6-7	Phaeton	...	...	...	6,950
" 6	" 6-7	"	Limousine	...	...	...	6,550-7,550
<i>Wanderer—</i>							
6/30 H.P.	4 cylinder,	4 seater,	Phaeton	...	...	...	5,995
" 4	" 2 door,		Limousine	...	...	...	6,635
" 4	" 4	"	Limousine	...	...	...	6,783
8/40	" 4	"	Phaeton	...	...	...	6,195
" 4	" 2	"	Limousine	...	...	...	6,835
" 4	" 4	"	Limousine	...	...	...	6,985
<i>N.S.U.</i>							
6/30 H.P.	6 cylinder,	4 seater,	Phaeton	...	...	...	5,550
<i>Adler—</i>							
Adler Standard Six,	4 seater,	Open		...	...	...	6,700
"	4	Limousine		...	...	...	7,300

Of the more expensive makes the six-cylinder Daimler-Benz range from Mks.11,800 to Mks.27,750, the Horch eight-cylinder from Mks.11,900 to Mks.16,500, the N.A.G. six-cylinder from Mks.8,000 to Mks.12,800. The chief American cars are the Chevrolet, whose prices range from Mks.3,925 to Mks.6,650, the Buick from Mks.8,225 to Mks.13,350, the Chrysler from Mks.5,455 to Mks.19,950, the Nash from Mks.5,950 to Mks. 11,900, and the Essex from Mks.5,750.



The Opel works are said to have a plant for the production of some 500 cars per day, the General Motors Co. have a daily assemblage rate of some 75 cars, which it is reported they intend doubling in the near future, and the Chrysler Co. a daily output of 40 cars, and this company, it is stated, is projecting the extension of its works for a daily output of 120 cars. The extension and reorganisation of the N.S.U. factory at Heilbronn is about to be completed, and it is hoped to increase the production of cars to some 20 per day and of motor cycles to 2,500 per annum. During the year under review the Nationale Automobil Gesellschaft (N.A.G.) absorbed the Presto Works at Chemnitz. The Duerkopp Werke A.G., Bielefeld, ceased to build ordinary cars and have concentrated on the production of motor lorries.

As concerns lorries, a great deal of attention has been devoted to the six-wheel vehicle and the German product is excellent in design and technique, while great progress has been made with trailers of a variety of types.

**Production and Density of Motor Traffic.**—The census of motor vehicles in Germany on the 1st July, 1927, shows a considerable increase as compared with the previous year, as will be seen from the following table:—

NUMBER OF MOTOR VEHICLES IN GERMANY ON THE 1ST JULY, 1925, 1926 AND 1927, ARRANGED ACCORDING TO TYPES.

	1925	1926	1927
Motor bicycles up to 1·5 H.P. ... ..	88,470	141,133	177,113
"  "  from 1·5 to 3 H.P. ... ..	63,948	86,358	109,365
"  "  of more than 3 H.P. ... ..	9,090	8,920	8,708
Light-weight motor bicycles ... ..	—	26,934	44,040
Motor cars up to 6 H.P. ... ..	61,021	79,514	122,731
"  "  from 6-10 H.P. ... ..	63,415	73,020	82,169
"  "  "  10-14 H.P. ... ..	24,560	27,217	33,393
"  "  "  14-18 H.P. ... ..	14,075	14,983	16,112
"  "  of more than 18 H.P. ... ..	8,374	6,667	6,737
Motor omnibuses ... ..	3,220	5,086	6,632
Motor lorries up to 1,000 kg. net weight ...	8,486	9,736	12,834
"  "  from 1-2,000 kg. " ... ..	17,900	23,472	30,964
"  "  "  2-3,000 kg. " ... ..	8,625	9,506	10,101
"  "  "  3-4,000 kg. " ... ..	19,649	20,010	19,209
"  "  more than 4,000 kg. net weight ...	25,703	27,305	28,041
Traction engines without loading space ...	7,731	10,263	13,706
Fire brigade cars and street cleaning machines...	1,523	1,769	2,260
	425,790	571,893	723,935

From these figures and those for imports which are given below, it is possible to make a rough estimate of German production as follows:—

	Increase.	Imports.	Exports.	Pro- duction.
Motor cars ... ..	61,287	12,680	1,615	50,222
Motor lorries ... ..	11,431	1,765	833	10,499
Motor cycles ... ..	75,881	5,364	2,871	73,388
	148,599	19,809	5,319	134,109

This figure of 134,109 vehicles does not, however, take into consideration the replacement of old vehicles, but, if this is estimated at some 12 per cent., there would be an additional production (on the basis of the 1926 figures of 544,959\*) of some 68,000, giving a total production of 202,109. Although no official figures are available for the value of production in 1927, it is estimated at some Mks.1,000 million, as against Mks.771 million in 1925.

In spite of this increased production Germany still remains a long way behind certain other countries in the density of motor traffic, as will be seen from the following comparative statement for the 1st July, 1927. It would seem inevitable, therefore, that a large increase must take place in motor traffic within the next few years and the potential demand is very considerable :—

	Motor cars and motor lorries in 1,000's.	Number of persons per vehicle.
United States ... ..	22,137	5
Denmark ... ..	81	42
United Kingdom...	1,024	43
France ... ..	891	44
Sweden ... ..	99	61
Switzerland ... ..	52	75
Belgium ... ..	97	80
Holland ... ..	69	106
Germany ... ..	369	171

**Foreign Trade.**—Although exports are still comparatively small, the 1927 figures show a considerable advance over those for the preceding year. The exports of motor cars have doubled and those for motor lorries and motor cycles show a rising tendency. Exports of motor lorries increased from 814 of a value of Mks.9.2 million in 1926 to 1,374 of a value of Mks.10.4 million, the chief markets being Russia, Brazil and Holland. Exports of motor cycles increased from 2,156 of a value of Mks.1.9 to 3,715 of a value of Mks.3.4 million, the largest consumers being Czechoslovakia and Austria. Imports of motor cars and motor cycles continue largely to outbalance exports. Of the former the United States is the chief supplier, followed by Italy, Austria and France, while in the latter the United Kingdom continues to occupy the foremost position, followed by the United States. Of the motor lorry imports practically all come from America.

\*Motor vehicles, excluding light weight motor bicycles. See Table.

## FOREIGN TRADE IN 1927.

	Imports.		Exports.	
	Number.	Value in 1,000 Mks.	Number.	Value in 1,000 Mks.
Motor cars ... ..	11,383	56,942	2,688	16,459
From United States ...	5,400			
„ Italy ... ..	2,493			
„ Austria ... ..	1,454			
„ France ... ..	1,237			
„ Belgium ... ..	396			
„ United Kingdom ...	151			
Motor cycles ... ..	6,189	5,961	3,715	3,430
From United Kingdom ...	3,234			
„ United States ...	1,613			
„ Belgium ... ..	981			
Motor lorries and similar vehicles, motor road rol- lers, chassis for these vehicles ... ..	620	1,369	1,374	10,478
From United States ...	537			

## CERAMIC INDUSTRY.

By C. J. Kavanagh.

**General.**—In 1927 the fine ceramic industry enjoyed a year of extreme activity on the home market. Winter business was better than in any year since inflation, and with the depletion of stocks extensive new orders were given which ensured satisfactory employment well on into the present year. Works are said to be now employed to some 85 per cent. to 90 per cent. of capacity as against 70 per cent. in 1926. This satisfactory result has been achieved in spite of a falling off of exports and is indicative of the exceptional home consumption.

**China Production.**—It is estimated that the present world production capacity of porcelain goods is about double that of 1913, the greatest increase in production being in Japan, the United States, Czechoslovakia and certain smaller countries which have established their own industries. In Germany there are 292 factories, of which 122 are members of the Association of German China Table Ware Manufacturers and 130 of the Association of German Manufacturers of Art Porcelain, 56 of the total belonging to both associations. In addition there are 155 factories which draw supplies of white china and decorate it and are members of the Association of German Ceramic Decorators, and there are at least 284 such factories which do not belong to this association. Manufacturers of low tension porcelain electro-technical articles after the war formed an association known as the Association of German Electro-Technical Porcelain Factories, Berlin, and high tension porcelain factories are united in a syndicate, the Associated High Tension Insulator Works, Berlin.

In 1926, owing to the severe competition, efforts were made to introduce a quota for the production of table ware and for this

purpose the German China Table Ware Association, which was originally a price convention, was converted into a complete syndicate. The conflicting views which prevailed in the industry, however, owing to the large number of small factories which it comprised, prevented the accomplishment of this object, and the only result achieved was that an agreement was reached between the associated firms that they would instal no new furnaces without the consent of the association. Owing to the better conditions now prevailing the question of controlling production has receded somewhat into the background and will probably only be revived when demand falls off.

**Oven Capacity.**—According to a publication by the Institute for Economic Study, Nuernberg,\* the total oven capacity of the china ware industry is 51,980 cubic metres, the table ware branch accounting for 43,561 cubic metres. For art porcelain the oven capacity is 8,419 cubic metres. Taking the useful capacity at 64·2 per cent. the net capacity amounts to 27,966 cubic metres for table ware and 5,405 cubic metres for art porcelain, a total of 33,371 cubic metres. It is calculated that there are 4·8 firings per month, or 57·6 firings per annum, equivalent to 1,922,169 cubic metres per annum fired. Calculated on all factories and types there is a production in weight of 57·5 kg. per cubic metre of utilised oven capacity. This figure naturally varies a great deal with the various articles; for flat plates it is 49 kg. and for art figures 39 kg., while for small articles such as cups it is 93 kg. On the above basis the maximum productive capacity may be taken as 110,525 tons per annum and, allowing for factories closed down, as 101,170 tons per annum. In 1913 the capacity was some 70,000 tons per annum, so that the increase in capacity is over 30 per cent.

**Value of Production.**—The total value of production was as follows :—

	Household ware.	Export Proportion.	Art Ware.	Export Proportion.
	Mill. Mks.		Mill. Mks.	
1925 ... ..	112	47·5%	23·5	71·5%
1926 ... ..	82	66·4%	26·5	69·7%
1st quarter, 1927 ...	24	67·1%	6·9	77·4%

The prices in marks per ton worked out as follows :—

	Household ware.		Art ware.	
	Export Sales.	Home Sales.	Export Sales.	Home Sales.
1925 ... ..	1,391	1,565	2,800	1,486
1926 ... ..	1,315	1,397	2,980	1,898
1st quarter, 1927 ...	1,300	1,323	2,500	1,200

\* Die Lage der Deutschen Porzellanindustrie in den Jahren 1925, 1926 und Anfang 1927. By Wilhelm Vershofen und Hans Proesler.

**Cost of Production.**—It has been computed by Dr. Troemel, of Nuernberg, that the percentage proportions of the various items in cost of production are approximately as follows :—

	Per cent.
Wages ... ..	45·36
Raw materials ... ..	15·86
Coal ... ..	7·35
Overhead expenses ... ..	22·53
Renewal of plant ... ..	1·93
Interest on capital ... ..	6·96
	99·99

If the last two items are omitted the various proportions are :—

	Per cent.
Wages ... ..	49·79
Raw materials ... ..	17·41
Coal ... ..	8·07
Overhead expenses ... ..	24·73
	100·00

**Labour.**—In 1914 the total number of workers in the porcelain industry amounted to 35,386, of whom 15,645 were females; in 1927 the total was 40,895. In May, 1927, 93·5 per cent. of all workers employed were working 48 hours per week, 1·6 per cent. under 48 hours per week and 4·9 per cent. more than 48 hours per week.

**Amalgamation.**—With a view to the reduction of costs certain important amalgamations have taken place chiefly under the influence of two banking concerns, Gebrueder Arnhold, Dresden, and the former Bank fuer Thueringen M. B. Strupp, which has now gone over to the Disconto Gesellschaft. In the Strupp concern the Porzellanfabrik Kahla, Kahla, absorbed the H. Schomburg & Soehne A.G., Porzellanfabriken Grossdubrau, the Porzellanfabrik Schoenwald, Schoenwald, and the Porzellanfabrik E. & A. Mueller A.G., Schoenwald. This concern controls some 11 per cent. of the table ware production and is the chief producer of technical porcelain products. In the Arnhold concern the Porzellanfabrik Lorenz Hutschenreuther A.G., Selb, Bavaria, absorbed the Porzellanfabrik Weiden Gebr. Bauscher, Weiden, the Porzellanfabrik Tirschenreuth A.G., Tirschenreuth, and now controls some 8 per cent. of the table ware production. The other large concerns are the Philipp Rosenthal A.G., the well-known producers of quality ware, with works at Selb, Marktredwitz, Kronach and Waldenburg-Altwasser, which has a close connection with the Allgemeine Elektrizitaets Gesellschaft in regard to the production of electrical porcelain, and the community of interests between C. M. Hutschenreuther and C. Tielsch & Co., which dispose of 5 per cent. of table ware production. These four groups

control together 30 per cent. of the production of staple ware (chiefly cups and plates), 37 per cent. of cheap table and coffee service production, 24 per cent. of better quality table and coffee service production and 59 per cent. of quality table ware production.

**Rationalisation.**—Although a good deal of attention has been devoted to rationalisation measures, the peculiar production technique of the porcelain industry has made any great improvement difficult, and attention has been chiefly concentrated on firing technique on which larger concerns have spent considerable sums. Firing charges represent a large percentage of the costs and it is stated that in the ordinary table ware industry 3 kgs. of pit coal are required for the production of 1 kg. of porcelain, while for better qualities a larger amount is needed owing to the higher percentage of defective ware and its lighter weight.

**Foreign Trade.**—Before the war the German fine ceramic industry exported over 50 per cent. of its production and accounted for 34 per cent. of world exports. After the war Germany was replaced in the first position by the United Kingdom and now participates with 25 per cent. of world exports. Of fine ceramic exports porcelain goods account for some 60 per cent., of which three-fifths are table ware. Exports in 1927 show a falling off, as compared with 1926, from 136,319 tons of a value of Mks.126,326,000 to 136,100 tons of a value of Mks.123,748,000, the exports of china table ware being 39,537.5 tons of a value of Mks.53,042,000 and 35,712.1 tons of a value of Mks.49,422,000 respectively. Exports of fine ceramic articles to the United Kingdom receded from 16,450 tons of a value of Mks.16,450,000 in 1926 to 14,551.7 tons of a value of Mks.13,586,000 in 1927. In these totals china table ware represented 8,329.1 tons (value Mks.8,610,000) and 5,107.4 tons (value Mks.5,703,000) respectively. The attached table shows a comparison of the exports and the British share in 1926 and 1927.

As regards imports, the chief item was plain coloured floor tiles to a value of Mks.6.2 million, chiefly from the Saar, followed by white earthenware and fine clay ware to a value of Mks.2.6 million, the chief supplying countries being the Saar, Holland, France, Czechoslovakia and the United Kingdom in order of importance. The next largest item was wall tiles to a value of Mks.2.2 million, almost exclusively from the Saar.

In spite of the strong manufacturing position of Germany, the German market offers a certain limited field for the importation of high-class or specialised table ware. The post-war developments have seriously affected the sanitary ware trade, but the British-made article still enjoys a very high reputation, a factor which should be utilised to maintain the position which British sanitary ware at one time enjoyed.

EXPORT OF FINE CERAMIC PRODUCTS FROM GERMANY IN 1927, AS COMPARED WITH 1926.

	German Customs Tariff, No. 721.		German Customs Tariff, No. 722.		German Customs Tariff, No. 723.		German Customs Tariff, No. 725a.		German Customs Tariff, No. 725b.		German Customs Tariff, No. 726.	
	Pottery of clay colouring in the burning, glazed, or un- glazed, of one colour or more than one colour.		Stoves (fire places, cooking stoves) and parts of stoves, of one or of more than one colour with or without enamelled or metallic coating		Tobacco pipes, of one colour or white, unglazed.		Crucibles and other hollow articles of fireproof clay, except retorts.		Retorts.		Crucibles and other articles of graphite.	
	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.
<i>Total German Exports—</i>												
1913 ...	32,624	480	27,118	608	4,296	164	25,955	663	70,178	697	30,388	2,001
1926 ...	34,819	605	7,092	292	3,192	234	63,536	1,100	3,836	79	10,163	780
1927 ...	29,683	658	8,267	326	4,549	288	82,714	1,543	5,240	106	14,974	1,085
<i>Of which to Great Britain :</i>												
1926 ...	113	11	—	—	391	32	855	216	—	—	67	7
1927 ...	343	26	21	2	1,419	92	1,936	257	—	—	446	29

EXPORT OF FINE CERAMIC PRODUCTS FROM GERMANY IN 1927 AS COMPARED WITH 1926—*continued.*

	German Customs Tariff, No. 728a.		German Customs Tariff, No. 728b.		German Customs Tariff, No. 728c.		German Customs Tariff, No. 729.		German Customs Tariff, No. 730.		German Customs Tariff, No. 731a.	
	Paving tiles of clay or calcined clayey materials of one colour.		Paving tiles of clay or calcined clayey materials, of more than one colour.		Smooth, un- glazed tiles of clay or calcined clayey materials of more than one colour, or of one colour.		Wall-facing tiles of clay or calcined clayey materials of one colour or more than one colour, with or without enamelled or metallic coating.		Articles of faience, fine stoneware and fine clayey materials of one colour.		Ornamental vessels, figures and other fancy articles of faience, fine stoneware and fine clayey materials, of more than one colour.	
	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.
<i>Total German Exports—</i>												
1913 ...	328,944	3,764	14,742	277	12,740	234	145,800	4,093	122,058	5,903	6,455	1,272
1926 ...	76,260	1,625	5,809	147	761	22	355,087	18,110	142,241	9,897	7,264	1,661
1927 ...	76,870	1,621	2,273	57	356	10	353,498	16,782	139,135	9,702	8,367	1,782
Of which to Great Britain :												
1926 ...	686	14	—	—	—	—	58,050	3,392	2,779	181	510	98
1927 ...	1,386	37	247	8	—	—	60,789	3,256	7,964	507	503	108



EXPORT OF FINE CERAMIC PRODUCTS FROM GERMANY IN 1927, AS COMPARED WITH 1926—*continued.*

	German Customs Tariff, No. 731b.		German Customs Tariff, No. 731c.		German Customs Tariff, No. 732.		German Customs Tariff, No. 733a.		German Customs Tariff, No. 733b.		German Customs Tariff, No. 733c.	
	Crockery and other articles of faience, of more than one colour.		Crockery and other articles of fine stone- ware and fine clayey materials of more than one colour.		Articles of earthenware, faience and fine clayey materials in combination with other materials.		Insulating material for telegraphs and telephones.		Articles of white china, in- cluding orna- mental vessels, figures and other fancy articles.		China table- ware of all kinds.	
	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.
<i>Total German Exports—</i>												
1913 ...	190,455	11,385	1,777	181	15,686	1,996	96,861	6,440	22,812	2,696	352,173	31,918
1926 ...	118,429	10,030	834	132	8,735	2,336	58,895	6,185	16,964	2,922	395,375	53,042
1927 ...	126,705	10,597	1,240	181	11,597	2,827	67,238	7,097	19,581	3,309	357,121	49,422
<i>Of which to Great Britain :</i>												
1926 ...	1,309	131	119	12	737	216	1,845	159	1,815	370	83,291	8,610
1927 ...	6,103	537	151	21	657	213	1,519	108	1,682	368	51,074	5,703

EXPORT OF FINE CERAMIC PRODUCTS FROM GERMANY IN 1927, AS COMPARED WITH 1926—*continued.*

	German Customs Tariff, No. 733d.		German Customs Tariff, No. 733e.		German Customs Tariff, No. 733f.					
	Ornamental vessels, figures, and other fancy articles of coloured china.		China buttons, tobacco pipes, and other articles of coloured china ; white and col- oured in combin- ation with other materials.		Apparatus and instruments for chemical pur- poses of faience, fine stoneware and fine clayey materials, also in combination with other materials.		Total amounts of china articles under Customs Tariff, No. 733,a-f.		Total amounts of fine ceramic goods under Customs Tariff Nos. 721-723 and 725a-733f.	
	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.	100 kg.	1,000 Mks.
<i>Total German Exports—</i>										
1913 ... ..	71,758	11,945	36,838	4,026	—	—	580,442	57,026	1,609,658	90,694
1926 ... ..	30,450	12,938	23,205	4,101	143	88	525,032	79,276	1,363,190	126,326
1927 ... ..	28,857	12,476	22,687	3,838	48	41	495,532	76,173	1,361,000	123,748
<i>Of which to Great Britain :</i>										
1926 ... ..	7,574	2,328	4,338	660	22	13	98,885	12,140	164,501	16,450
1927 ... ..	5,726	1,762	3,545	548	6	4	63,552	8,493	145,517	13,586

## AGRICULTURE.

**General Statistics.**—According to the census of 1925 a total of 14,400,000 persons, that is 23 per cent. of the total German population, were dependent for their livelihood on farming, breeding of cattle, gardening, forestry and fishery; of these, 9,800,000 persons were actually engaged in these occupations. The following table shows the classification of those engaged upon farming, breeding of cattle and gardening :—

			Of whom female.
		Per cent.	
Employers ... ..	2,188,157	22·6	325,099
Relatives, assisting employers ...	4,786,343	49·1	3,575,446
Hired workers ... ..	2,499,945	26·7	1,039,554
Other employees ... ..	128,931	1·6	11,460
<b>Total ... ..</b>	<b>9,603,376</b>	<b>100·0</b>	<b>4,951,559</b>

The total area used for agricultural and forestry purposes in Germany (excluding the Saar) in 1925 amounted to 41,600,000 hectares (1 hectare = 2·471 acres), that is 88·7 per cent. of the area of the country. It was divided into 5,140,000 holdings, 24,400 of which were forestal estates. The area worked by the remaining 5,115,400 estates amounted to 25,600,000 hectares and was composed of ploughed land, meadows, pasture land, vineyards and area used for gardening. The following table shows these estates according to their size :—

Size of estates according to area cultivated.	Number of Estates.		Area cultivated.	
		%	Hectares.	%
Less than 2 ha ... ..	3,046,302	59·5	1,588,298	6·2
2 to 5 ha ... ..	894,453	17·5	2,924,051	11·4
5 to 20 ha ... ..	956,155	18·7	9,158,434	35·8
20 to 50 ha ... ..	174,155	3·4	5,076,709	19·8
50 to 100 ha ... ..	25,670	0·5	1,691,920	6·6
100 to 200 ha ... ..	8,902	0·2	1,240,986	4·9
200 and over ... ..	9,769	0·2	3,918,907	15·3
	<b>5,115,406</b>	<b>100·0</b>	<b>25,599,305</b>	<b>100·0</b>

It will be seen from this table that the bulk of German agriculture, viz., 73·6 per cent., is in the hands of farmers working between 2 and 100 hectares of land. In southern and western Germany the small and medium-sized holding (up to 20 hectares) is the prevailing type, while large estates predominate in the northern and eastern parts of the country.

86·6 per cent. of the area occupied by agriculture and forestry was worked by the owners, 12·4 per cent. was in the hands of

tenants, and the remaining 1 per cent. consisted of land allotted to workers, &c.

The following tables show (a) the utilisation of the areas occupied by agriculture and forestry in 1925; (b) the sub-division of agricultural land only:—

DISTRIBUTION OF TOTAL AREA INCLUDED IN CENSUS.

I. <i>Agricultural Land</i> —		Hectares.	%
Ploughed land	...	18,498,000	= 44·5
Meadows	...	6,586,000	= 15·7
Market gardens	...	448,000	= 1·1
Vineyards	...	66,000	= 0·2
II. <i>Non-agricultural Land</i> —			
Forestal land	...	12,021,000	= 28·9
Uncultivated land	...	1,925,000	= 4·6
Thin pasture land	...	1,163,000	= 2·8
Fishings (private owned)	...	241,000	= 0·6
Miscellaneous (house and farm sites, flower gardens, paths, etc.)	...	657,000	= 1·6

PLOUGHED LAND.

		Hectares.	%
Cereals	...	10,413,000	= 56·3
Of which—			
Wheat	...	1,622,000	= 8·8
Rye	...	4,405,000	= 23·8
Barley	...	1,387,000	= 7·5
Oats	...	3,000,000	= 16·2
Roots	...	3,741,000	= 20·2
Of which—			
Sugar beet	...	385,000	= 2·1
Potatoes	...	2,507,000	= 13·6
Pulse	...	557,000	= 3·0
Oil fruits	...	42,000	= 0·2
Miscellaneous crops	...	157,000	= 0·9
Of which—			
Flax and hemp	...	28,000	= 0·2
Hops	...	9,000	= 0·1
Tobacco	...	8,000	= 0·04
Vegetables	...	73,000	= 0·4
Plants for fodder	...	1,980,000	= 10·7
Uncultivated:—			
Fields (fallow)	...	470,000	= 2·5
Field pasture	...	438,000	= 2·4

As will be seen from the latter table, cereals are grown on nearly three-fifths of the agricultural land, mostly by farmers working between 2 and 50 hectares.

According to a statement of the Prussian Minister for Agriculture the value of the total annual production of German agriculture is estimated at between Mks.15 and Mks.17,000,000,000, the share of animal products in this figure being between Mks.8 and Mks.9,000,000,000.

**Harvest results and Supply.**—The harvest results of 1927 are shown in the following table:—

	1927	1927	1927
	Harvest results in 1,000 tons.	Production per hectare in 100 kg.	Area under cultivation in 1,000 hectares.
Winter rye ... ..	6,738	14·6	4,613·6
Summer rye ... ..	95	11·3	84·8
Winter wheat ... ..	2,979	18·7	1,588·6
Summer wheat ... ..	301	18·8	160·1
Winter spelt ... ..	138	11·1	124·5
Bread cereals together ... ..	10,251	15·6	6,571·6
Winter barley ... ..	399	23·1	172·1
Summer barley ... ..	2,339	17·9	1,306·3
Oats ... ..	6,347	18·3	3,475·9
Mixture of corn of all kinds ... ..	565	15·6	361·7
Buckwheat ... ..	20	9·5	21·2
Peas of all kinds ... ..	131	14·0	93·3
Edible beans ... ..	18	15·9	11·4
Beans for fodder ... ..	123	16·6	74·1
Vetches for fodder ... ..	45	13·0	34·3
Lupines for fodder ... ..	61	11·7	52·2
Mixture of pulse without corn ... ..	49	13·9	35·3
Mixture of pulse and corn ... ..	185	15·2	122·0
Potatoes ... ..	37,550	134·1	2,799·5
Sugar beet ... ..	10,854	250·0	434·1
Cattle turnips ... ..	24,389	345·0	706·9
Turnips ... ..	6,836	278·2	245·7
Carrots ... ..	583	214·4	27·2
White cabbage ... ..	1,022	224·1	45·6
Rape and rubsen seed ... ..	38	13·6	27·7
Clover (hay)... ..	9,682	53·0	1,827·5
Lucerne (hay) ... ..	1,786	64·3	227·7
Hay from irrigated meadows ... ..	2,028	49·6	409·1
Hay from other meadows ... ..	21,911	43·1	5,086·4

1 hectare =  $2\frac{1}{2}$  acres.

The 1927 harvest was much better than the unsatisfactory yield of 1926, while the area under cultivation was only slightly increased. The yield of bread cereals was 12·3 per cent. in excess of that of 1926, the largest increase being shown for wheat, the smallest for oats. The harvest results for potatoes were 25 per cent., those for sugar beet 3·4 per cent. higher than in the previous year. Preliminary statistics of the area under cultivation of sugar beet in 1928 show an increase of 4·5 per cent. compared with 1927. Hops yielded 7,179 tons on an acreage of 15,507 hectares, as against 2,523 tons on 14,169 hectares in 1926. Owing to the abnormally bad weather, however, most crops, especially bread cereals and potatoes, suffered considerably in quality. Except for hay, the area for which was increased, the 1927 results remain considerably behind those of the pre-war average yields during 1911-13.

The following tables show (1) Germany's dependence on imports of cereals and potatoes and (2) the available supply of these commodities during recent years, compared with 1913-14 (pre-war area):—

(In 1,000 kg.)

Harvest year, 1st July to 30th June.	1913-14*	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27
Rye ... ..	- 923,973	+ 128,431	+ 1,074,725	+ 626,887	+ 435,221	- 162,106	+ 386,630
Wheat ... ..	+ 1,769,321	+ 1,189,826	+ 1,145,895	+ 842,414	+ 1,988,650	+ 1,549,619	+ 2,554,475
Spelt ... ..	- 2,813	- 18	- 31	- 61	- 111	- 211	- 165
Total Bread cereals ... ..	+ 842,535	+ 2,018,239	+ 2,220,589	+ 1,469,240	+ 2,423,760	+ 1,387,302	+ 2,940,940
Barley ... ..	+ 3,778,554	+ 221,029	+ 264,519	+ 473,369	+ 648,745	+ 1,225,269	+ 2,195,197
Oats ... ..	- 388,255	+ 90,753	+ 101,743	+ 63,535	- 186,554	+ 331,966	+ 165,806
Potatoes ... ..	- 156,652	+ 37,444	+ 79,900	+ 230,724	+ 85,650	+ 235,251	+ 454,408

- Surplus of export.

+ Surplus of import.

(\*) = pre-war territory.

AVAILABLE PER HEAD OF THE POPULATION.

(Kilogrammes).

For consumption by human beings and animals and for industrial purposes.	1913-14*	1921-22	1922-22	1923-24	1924-25	1925-26	1926-27
Rye ... ..	153·1	100·4	89·7	105·5	87·2	114·5	97·2
Wheat ... ..	90·1	73·2	45·1	55·3	66·5	71·6	} 77·1
Spelt ... ..	5·7	2·9	1·4	2·1	1·4	2·1	
Total Bread cereals ... ..	248·9	176·5	136·2	162·9	155·1	188·2	176·0
Barley ... ..	108·0	34·8	29·3	41·5	45·4	57·5	70·5
Oats ... ..	128·3	73·5	57·1	87·3	85·1	85·9	95·3
Potatoes ... ..	700·2	331·5	599·6	433·1	495·1	581·9	381·9

\* pre-war territory.

It will be seen that, with the exception of rye and potatoes in 1926-27, the consumption of these foodstuffs in Germany, though lower than before the war, is on the increase since 1922. The large pre-war excess of exports over imports of rye has almost disappeared, while the usual German excess of imports over exports of wheat increased since 1924.

**Flour.**—The following table shows Germany's foreign trade in flour during recent years, compared with 1913:—

July to December.		Import.	Export.	Excess of Import (-) and Export (+)
		Tons. (WHEAT.)	Tons.	Tons.
1913	...	9,552	95,856	+ 86,304
1924	...	321,400	12,193	- 309,207
1925	...	159,771	31,262	- 128,509
1926	...	65,447	32,081	- 33,366
1927	...	24,770	22,402	- 2,368
		(RYE).		
1913	...	473	116,418	+ 115,945
1924	...	46,874	5,599	- 41,275
1925	...	2,194	25,622	+ 23,428
1926	...	471	18,529	+ 18,058
1927	...	273	12,912	+ 12,639

The table shows that, after an enormous rise during the first years following stabilisation, imports have fallen very considerably, while exports have remained far below the 1913 figures.

The latter fact adds to the difficulties of the milling industry which, with an estimated annual capacity of about 15,000,000 tons of cereals, actually deals with only between 9 and 10,000,000 tons per annum. The number of persons employed is 92,195, about one-third of which are working in small undertakings of up to five persons; there are only 140 works with more than 50 hands.

The majority of the big mills are amalgamated in eight big concerns: Scheuer, Kampffmeyer, Illkirch, Blumensteine, Plange, Werner & Nicola, Gebrueder Wolff and the Ostwerke A.G. In addition several of these concerns have begun to co-operate recently. Owing to thorough modernisation these large undertakings are working profitably in spite of severe competition. Most of these big mills grind wheat and are situated in southern and western Germany.

The large number of small mills for rye in northern and eastern Germany often suffer from unemployment; they complain of the system of import bonds as a result of which home-grown rye, on which they are dependent for their existence, is exported.

The difficulties of the industry have led to a certain amount of direct business between the mills and the bakers, whereby the flour trader is eliminated.

**Potatoes.**—The following table shows the utilisation of German potato crops:—

For seed	...	...	...	...	...	20
„ human consumption	...	...	...	...	...	35
„ fodder	...	...	...	...	...	35
„ industrial utilization	...	...	...	...	...	7
Losses (Schwund)	...	...	...	...	...	5

The quantity of German home-grown potatoes covers the needs of the country; imports consist of early potatoes from overseas. The excess of imports over exports was 542,526 tons in 1927 and 337,751 tons in 1926, as compared with only 49,577 tons in 1913 (pre-war territory).

In view of the large quantities used for fodder it is interesting to note that the chief potato-growing districts are situated in eastern and southern Germany, while the centres of pig-breeding are in the north-western part of the country, so that considerable quantities of potatoes have to be shifted each year from the eastern to the western districts of Germany.

It is hoped for the future to replace imported barley for fodder by home-grown potatoes, and the drying process of potatoes is to be developed for this purpose.

There are more than 1,000 varieties of potatoes in Germany at present, which are to be reduced to about 50 in order to simplify marketing.

**Sugar.**—Sugar beet cultivation is regarded in Germany as an important factor for the improvement of the soil as well as for the supply of fodder.

The output of sugar has increased steadily since stabilisation. It amounted to 1,660,000 tons in 1926-27, that is 72.6 per cent. of the pre-war figure (post-war territory), and is expected to be slightly higher in the current year. Inland consumption per head rose from 20.51 kg. in 1925-26 to 21.66 kg. in 1926-27, and shows higher figures for the seven months until March 31st, 1928, compared with the corresponding period of the previous year.

Exports amounted to 166,920 tons in the calendar year 1927, as against 199,647 tons in 1926. As from September 1st, 1928, they will be regulated on the basis of an agreement concluded between Poland, Czechoslovakia and Germany, according to which an export quota of about 190,000 tons per annum has been provisionally allotted to the latter. While Germany with an export of 1,126,217 tons in 1913 was the chief sugar exporter in Europe,



this position is now occupied by Czechoslovakia. The German exports in the main go to Sweden, France, the United Kingdom, Switzerland, British India, Portugal, Finland and Norway.

On the inland market the situation has also changed, as imports amounted to 111,501 tons in 1927 and to 90,543 tons in 1926, while hardly any imports at all were recorded before the war. Contrary to pre-war conditions, German inland prices of sugar now exceed the world's market prices owing to the excise duty of Mks.10.50 levied on each 100 kg. as well as owing to the protection accorded to the industry by a customs duty of Mks.15 per 100 kg. The cost of sugar beet cultivation is more than 70 per cent. higher, the cost of the manufacturing process about 60 per cent. higher than in 1913. With the exception of the undertakings in southern and western Germany, the factories work on a co-operative basis. The shares are in the hands of the beet growers, who are bound by contract to supply a fixed quantity of sugar beet each year. As modernisation of the factories was often hampered by lack of capital, profitable working was aimed at by concentration of the industry and by improvement of the manufacturing process; a number of raw sugar factories took up refining during recent years.

**Livestock.**—Pigs and cattle increased considerably, while the numbers of horses, sheep and goats declined during the period 1st December, 1926, to December 1st, 1927.

Though the total number of pigs was 18 per cent. higher on December 1st, 1927, than a year ago, and even exceeded the pre-war figure, young animals increased only by 11.7 per cent. and breeding sows showed a decrease; this development was due to falling prices for pigs during 1927, which made pig-breeding less profitable than it had been during recent years.

Cattle increased by 4.4 per cent., chiefly owing to a larger number of calves under one year. Young bulls increased by 14.9 per cent. during 1926.

The decrease in the numbers of horses, sheep and goats is expected to continue.

Poultry as a whole has increased, the biggest rise occurring in chickens.

There were 79,500 more beehives on December 1st, 1927, than in 1926, as hives with moveable honeycombs had increased by 80,700 to a total of 287,000, while the old-fashioned kind had decreased by 0.2 per cent. compared with the previous year.

Further details are contained in the following table:—

LIVESTOCK.

	1st December, 1927	1st December, 1926	1st December, 1925	1st December, 1913*
Horsest†	3,805,500	3,873,100	3,916,900	3,806,700
Cattle	17,982,900	17,221,100	17,202,300	18,474,400
Pigs ...	22,880,300	19,423,600	16,199,600	22,533,400
Sheep	3,813,400	4,080,500	4,752,800	4,987,800
Goats	3,217,800	3,483,800	3,796,500	3,163,800
Geese	5,481,300	5,494,500	5,339,400	5,850,800‡
Ducks	2,563,400	2,410,000	2,042,800	2,086,300‡
Chickens	71,033,100	57,800,100	64,122,100	63,970,300‡
Beehives	1,630,400	—	1,550,800	2,299,300‡

\*Present frontiers without Saar Area.

†1927, 1926 and 1925 without military horses, 1913 including them.

‡Census of 2nd December, 1912.

**Land Settlement.**—As in German agriculture small undertakings are generally more profitable than large ones, an active policy of settlement is projected in Germany. This policy is based on legislation of the Reich incorporated in the "Reichssiedlungsgesetz" of August 11th, 1919, by which the Federal States are required to form non-profit-earning organisations for the purpose of establishing small holdings and completing existing ones so as to make them profitable. These organisations acquire land for settlement in the open market, from the State, by reclamation of uncultivated districts and by the purchase of big estates. In 1926 the Reich provided intermediate credits to the amount of Mks.50,000,000 per annum during a period of five years for settlement in northern and eastern Germany. These funds are administered by a committee of the Rentenbank Kreditanstalt, and cost the borrower  $3\frac{1}{2}$  per cent. interest plus  $\frac{1}{2}$  per cent. amortisation per annum. Up to the end of 1927 Mks.76,929,943 had been placed at the disposal of land settlement organisations; Mks.60,553,872 of this sum were given for the purchase of land, Mks.8,248,444 for special advances and Mks.575,550 for equipment.

The Reich further guaranteed credits to the amount of Mks.70,000,000 which are given by the Rentenbank Kreditanstalt to refugee settlers from the ceded territories at the rate of  $4\frac{1}{8}$  per cent. per annum for interest and amortisation; the difference between this rate and that which the Rentenbank Kreditanstalt has to pay for the money is borne by the Reich.

In addition several smaller sums were granted by the Reich for settling during recent years.

The expenditure of the State of Prussia on settlement between 1925 and 1928 amounts to Mks.76,000,000; intermediate credit provided by the Prussian State costs the borrower 5 per cent. per annum. By a decree, dated February 1st, 1928, the State founded a special central bank, the Preussische Landesrentenbank, for the promotion of settlement. It took the place of provincial institutes of a similar character; these were liquidated on the formation of the bank. This bank will issue mortgage bonds (Landesrentenbriefe) guaranteed by the State, and will grant credit to settlers on the basis of these bonds. The bonds will be issued at 8 per cent. per annum, while settlers will have to pay only 5 per cent. interest, the difference will be covered by a non-interest bearing loan of the State. The credit granted by the Preussische Landesrentenbank will serve to convert provisional State credit into long-termed credit.

In addition Prussia granted loans for land settlement out of the revenues which the State received from the house rent tax; these loans were made at the rate of 1 per cent. per annum.

The practical results of this big scheme are relatively small, and on this account have met with much criticism. The competition

between the Reich and the State of Prussia is one of the reasons why more has not been accomplished. The whole scheme is also opposed by the large landowners.

During the period 1919 to 1925 the number of small holdings established on a total area of 146,704 hectares was 16,812; the bulk of them are situated in Brandenburg, East Prussia, Lower Silesia, Schleswig-Holstein, Saxony, Pomerania and Hanover. 13,207 hectares of the land distributed were waste land. Of the holdings established on cultivated land 38 per cent. were less than 5 hectares. In addition 44,943 existing small holdings were completed by the purchase of 52,319 hectares of land, while in a further number of cases loans were provided for the extension of small farms by the renting of additional land.

During 1927 2,903 small holdings were established in Prussia as against 1,487 in 1925.

**Reclamation and improvement of land.**—There are about 8,000,000 hectares of land in Germany requiring drainage and 2,400,000 hectares in need of reclamation. The execution of even part of this work is entirely dependent on the possibility of procuring cheap credit. In view of its great effect on agricultural production, it is intended to take up a loan of Mks.200,000,000 through the Rentenbank Kreditanstalt, and the Reichstag has voted the sum of Mks.6,000,000 per annum for the duration of five years for the reduction of the rate of interest on this loan to 4½ per cent. per annum during the years 1927 to 1931.

The work of drainage and reclamation is carried out by co-operative associations assisted by the Reich, the Federal States and the districts. Sums contributed by the Reich are taken from the funds for emergency work of unemployed; in addition an amount of Mks.35,000,000 out of the surplus of the former Central Grain Office was placed at the disposal of the Deutsche Boden Kultur A.G. This institute is also charged with the distribution of the credit of Mks.15,000,000 granted by the Rentenbank Kreditanstalt mentioned on page 172.

During the last three years the State of Prussia expended Mks.84,800,000 on reclamation and improvement of land.

**Seed:**—An important organisation for the supply of high-class seed to agriculture, the Saatgutverkaufs-Gesellschaft m.b.H., Berlin, was formed in January, 1927, with the assistance of the Darmstaedter & Nationalbank. A number of the leading German seed-growing institutes were amalgamated in this company for the sale of their products; a further result is that competition between them has been eliminated and specialisation promoted. The Government as well as the agricultural chambers are assisting these efforts on account of the great benefits which they are expected to confer on agriculture.

**Use of Fertilisers**—Among the most important factors in the endeavour to obtain a larger output and better quality of agricultural products are the use of artificial manure and the improvement of mechanical equipment.

The former are offered at prices about 20 per cent. below the pre-war level, and the Government, the banks and the chemical industry itself are eager to provide the farmer with credit for purchasing them. The growing sales of fertilisers during recent years will be seen from the following table:—

May-April.	Nitrogen. 1,000 t.	Phos- phoric Acid. 1,000 t.	Potash. 1,000 t.	Burnt Lime. 1,000 t.	Carbon- ate of Lime. 1,000 t.
1913/14 ...	185	555	490	2,000	1,500
Average 1921/22 to 1924/25 ...	296	286	668	479	616
1925/26 ...	330	380	609	566	638
1926/27 ...	400	475	717	591	806
1927/28 ...	380*	500*	735*	649*†	862*†

\* Approx.

† May-April.

The value of fertilisers used is estimated by the Minister of Agriculture at between Mks.600,000,000 and Mks.650,000,000 per annum.

**Mechanical Equipment.**—The improvement in the mechanical equipment of agriculture was promoted by the Government by the establishment of the Reichskuratorium fuer Technik in der Landwirtschaft in the autumn of 1927. This is an organisation composed of experts from agriculture, industry and science, in which all efforts towards bettering the mechanical outfit of agriculture are centralised.

A special company for financing the purchase of agricultural machinery, the Finanzierungsgesellschaft fuer Landkraftmaschinen A.G., was formed in 1926 by the Rentenbank Kreditanstalt and other banks. With the aid of this company payment for machinery bought by farmers may be made by fixed instalments, distributed as a rule over two years. Rates of interest amount to between 8½ and 10 per cent. per annum, according to the length of time for which bills have to be discounted. Until June, 1928, the company had provided credit to the amount of about Mks.25,000,000. Its transactions with regard to motor ploughs and tractors are secured by a Government guarantee of 20 per cent. of the credit granted. Technical supervision and control of the machinery thus purchased is provided for.

The growing extent to which agricultural machinery is used by German agriculture may be seen from the following table:—

## EMPLOYMENT OF MACHINERY IN AGRICULTURE IN GERMANY DURING 1924-25 AND 1906-1907.

Type of machinery.	Number of agricultural undertakings employing machinery.								
	Total.	Arranged according to number of hectares cultivated.							200 hectares and over.
		Less than 2	2-5	5-10	10-20	20-50	50-100	100-200	
				(a) June,	1924, to	June, 19	25.		
Steam ploughs ... ..	1,618	20	14	15	102	65	88	276	1,038
Motor ploughs ... ..	6,958	32	64	118	166	538	1,172	1,683	3,185
Electric ploughs ... ..	237	6	1	3	86	84	22	10	25
Manure distributors ... ..	104,399	452	1,594	5,481	20,506	43,020	16,152	7,843	9,351
Sowing machines ... ..	543,705	12,877	46,780	135,676	178,819	128,319	23,121	8,523	9,590
Hoing machines ... ..	135,388	4,362	15,063	22,558	31,376	36,557	11,941	5,904	7,627
Potato planters ... ..	54,309	1,147	2,071	4,638	10,878	19,805	6,457	3,668	5,645
Potato diggers ... ..	175,949	655	4,491	23,392	58,060	62,422	14,805	6,285	5,839
Grass mowing machines ... ..	618,816	3,376	40,975	169,248	222,068	142,122	23,353	8,291	9,383
Harvesters (self-binders) ... ..	109,070	477	3,139	11,282	26,405	40,695	13,393	5,827	7,852
„ (droppers) ... ..	211,040	516	3,531	24,671	77,177	75,645	15,278	6,507	7,715
Hay-tedders ... ..	194,859	763	8,203	31,465	66,250	62,093	13,110	5,691	7,284
Threshers, driven by horses ... ..	486,744	14,154	123,381	179,978	118,140	45,922	4,066	694	409
„ „ electricity ... ..	786,031	63,465	168,024	219,927	182,315	114,665	20,361	7,962	9,312
Seed-cleaning machines ... ..	740,013	31,187	174,215	219,486	175,619	103,862	18,851	7,708	9,085
Grist mills ... ..	325,071	4,745	30,255	72,994	101,964	83,400	16,689	6,668	8,356
Separators, driven by hand ... ..	1,386,558	260,606	416,424	349,073	231,030	106,715	14,110	4,552	4,048
„ „ electricity ... ..	33,289	893	2,514	3,997	8,684	10,752	2,845	1,367	2,237
Total of undertakings using machinery ... ..	2,029,770	331,311	593,010	538,034	351,638	172,024	25,285	8,794	9,674
				(b) June,	1906, to	June, 19	07.		
Total of undertakings using machinery ... ..	1,332,850	123,612	293,277	374,369	309,995	184,173	28,996	8,370	10,058

The total percentage of estates employing machinery of one kind or another, owned or hired, during 1924-25 was 40 per cent., against 28·7 per cent. in 1906-07. This increase is chiefly due to the greater number of small and medium-sized agricultural undertakings with mechanical equipment.

Details of the various kinds of motive machines, electric generators and motor lorries used in agricultural undertakings are available at the Department of Overseas Trade. An examination of these details reveals that electro motors are generally preferred, and among the other motive machines the light oil engine. 47 per cent. of the total capacity of installed electro motors is used on medium-sized estates.

Comparing the capacity of stationary motive machinery used by agriculture with that used by industry (with the exception of electric generators used by the latter), it will be found that about 20 per cent. of the total capacity installed in electric motors and nearly 10 per cent. of the capacity installed in other motive machinery are used by agriculture. It must be considered, however, that the machines work for a much shorter period in agriculture than in industry.

The total electrical power supply of agriculture in 1925 amounted to about 670,000,000 kw.h., that is 24 kw.h. per hectare as against an estimated pre-war supply of 12 kw.h. per hectare.

**Labour.**—Hired labour is chiefly employed by the large undertakings in eastern and northern Germany, while the ordinary farmer relies more or less on the assistance of his family (see statistics on page 155). According to the census of 1925, 30 per cent. of all agricultural workers were only seasonally employed, and 40 per cent. of those employed all the year round consisted of farm hands. Owing to the tendency of the agricultural working population to leave the rural districts, a fixed contingent of foreign labour, mostly Poles, amounting to about 138,000 in 1927, has to be brought in. The German worker prefers industrial employment because wages in agriculture are only about 50 per cent. of those paid in industry and because the conditions of employment and of dwelling in the country are as a rule unsatisfactory. By the so-called "Hofgaenger-System" the agricultural worker who does not receive wages, but an allotment of land, is forced to sign a long-termed contract by which he must not only himself work for his master, but must also supply other working hands for his employer; these obligations restrict his personal liberty to a considerable extent and are often difficult to comply with. With a view to preventing the migration of the agricultural population, the Reich and the States assist the settlement of the workers on the land and the construction of dwellings for them.

**Agricultural Training.**—It has been ascertained by exact investigations made in various parts of Germany that harvest results are profoundly affected by the knowledge and skill of the individual farmer. Prominence was thus given to the importance of agricultural training in respect of which much yet remains to be done. No statistics are available of the number of institutes for training farmers in the whole of Germany; in Prussia there were 383 ordinary farming schools with 19,000 pupils in 1927, as against 239 in 1913. The schools are maintained by the Chambers of Agriculture and by the State which pays 75 per cent. of the teachers' salaries. These schools are only open during the winter, and a course lasts for two winters. Advanced instruction is given in various kinds of agricultural high schools and in numerous special institutes for gardening, fruit and vine-growing, dairying, &c.

**Economic and Financial Position.**—The results of a number of careful investigations seem to show that since 1924 the majority of German farmers have been working at a loss; conditions in the eastern districts of the country are worse in this respect than in the remainder of Germany. The main reasons for this state of affairs are :—

1. Declining receipts owing to low price level of agricultural products.
2. Rising cost of production.
3. High cost of credit.
4. Uneconomic methods of farming during the war and insufficient progress since then.
5. Successful foreign competition.
6. Bad harvests.

Since the end of 1927 public and private efforts to relieve the situation were made on the following lines :—

1. Reform of agricultural credit (*a*) by consolidation of the floating debt at moderate rates of interest; (*b*) by economic distribution of credit.

2. Increase of home production (*a*) by modernised methods of production in order to raise quality of goods; (*b*) by modernised methods of sale (standardisation) in order to stabilise prices.

In the spring of 1928 these principles were incorporated in a Government scheme for the assistance of agriculture, which was passed by the Reichstag on March 31st, 1928, in the following form :—

Funding of agricultural indebtedness.

Permission for the Rentenbank Kreditanstalt to grant loans to certain private and public undertakings for promoting the sale of agricultural products

Mks.8,000,000 for the organisation of the sale of slaughtered cattle and meat; for the furtherance and organisation of direct sales between consumers' and producer's associations.

Guarantee of Mks.22,000,000 for the organisation of the sale of slaughtered cattle and meat, including producer's and consumers' associations.

Mks.25,000,000 subsidy for agricultural associations.

Mks.30,000,000 for the alleviation of the exceptional hardships from which agriculture is suffering at present.

Mks.1,000,000 for the promotion of the breeding and sale of poultry.



As long as the unsound conditions of inflation reigned a balance had been maintained between the prices of agricultural and of industrial products, but stabilisation brought about a sudden disproportion between the earnings of agriculture and industrial prices.

While the latter show considerable increases compared with 1913, agricultural receipts are below the pre-war figures or only slightly exceed them. Evidence of the unequal development of agricultural and industrial prices is furnished by the following table giving the index figures for agricultural and industrial products. It is true that the price level of the former has on the whole during this period increased and that of the latter decreased, but it will be seen that during the greater part of the time agriculture was at a great disadvantage, and that even after it had caught up industry towards the end of 1926 it very soon fell back again :—

	Index figure for wholesale prices of agricultural products.		of industrial products.	
	1913=100			
1924—1st quarter...	...	...	114·7	159·4
2nd „ ...	...	...	107·1	163·4
3rd „ ...	...	...	118·5	151·0
4th „ ...	...	...	138·2	150·9
1925—1st quarter...	...	...	133·5	152·5
2nd „ ...	...	...	127·6	156·2
3rd „ ...	...	...	137·3	158·8
4th „ ...	...	...	133·5	159·4
1926—1st quarter...	...	...	121·0	157·0
2nd „ ...	...	...	122·7	152·2
3rd „ ...	...	...	131·5	145·3
4th „ ...	...	...	142·1	143·2
1927—1st quarter...	...	...	138·2	141·7
2nd „ ...	...	...	138·1	144·4
3rd „ ...	...	...	137·7	148·7
4th „ ...	...	...	136·9	154·4
1928—1st quarter...	...	...	131·2	156·7
2nd „ ...	...	...	135·4	158·4

The cultivation of wheat was more profitable than that of rye. In the large districts of eastern Germany, however, only rye and potatoes can be cultivated. The search for a variety of wheat which could be grown in these districts is restricted by the lack of capital for research.

In order to dispose of the surplus of rye in northern and eastern Germany, the pre-war system of import bonds was reintroduced on October 1st, 1925; the holders of such bonds are entitled to tender them for their face value in payment of import duty on the following :—Rye, wheat, spelt, barley, oats, buckwheat, beans, peas, fodder beans, lupines, vetches, maize and dari.

In spite of this measure, however, the price of rye often falls to a level at which it leaves no profit to the farmer, particularly

where there is little pig breeding or if the prices of pigs decline simultaneously.

The burden of taxes on agriculture is estimated by experts to be two or three times as heavy as before the war according to the locality, in spite of numerous alleviations granted by the Government; contributions towards social insurance and other charges are also much higher than in 1913 :—

Results of an inquiry among 133 estates in eastern Germany.			Results of an inquiry among 103 estates in western Germany.		
Taxes per hectare.			Taxes per hectare.		
1912-14 ... ..	Mks.7		1912-14 ... ..	Mks. 8·80	
1924-26 ... ..	Mks.25·31		1924-26 ... ..	Mks.37·60	

Immediately after the harvest of 1923 and during the following years the farmers took up large amounts of credit for working capital as well as for investments. The sums involved are shown in the following table :—

Date.	Mortgages.	Other credits.		Total, -
		Of medium duration.	Short-termed.	
(Thousands of Mks.)				
31. 12. 1925 ... ..	1,011,300	25,750	2,158,090	3,195,140
30. 6. 1926 ... ..	1,464,800	46,860	2,194,380	3,706,040
31. 8. 1926 ... ..	1,664,500	49,180	2,150,070	3,063,750
31. 10. 1926 ... ..	1,851,700	54,500	2,104,240	4,010,440
31. 12. 1926 ... ..	2,018,200	71,400	1,892,990	4,012,090
28. 2. 1927 ... ..	2,169,500	77,120	1,990,140	4,236,760
30. 4. 1927 ... ..	2,368,100	84,720	2,174,130	4,626,950
30. 6. 1927 ... ..	2,493,400	91,610	2,331,530	4,916,540
31. 8. 1927 ... ..	2,596,000	118,590	2,335,910	5,070,500
31. 10. 1927 ... ..	2,666,900	146,950	2,300,180	5,114,030
31. 12. 1927 ... ..	2,807,000	248,000	2,082,000	5,137,000
31. 3. 1928 ... ..	3,034,000	288,000	2,125,000	5,447,000

In order to arrive at the total burden of debts Mks.1,800,000,000 of floating debts and Mks.3,500,000,000 of pre-war obligations have to be added to the sum mentioned above, bringing it up to a grand total of Mks.10,700,000,000 (£535,000,000). Interest due on this sum is estimated at between Mks.800,000,000 and Mks.900,000,000 per annum.

These debts are a danger to agriculture less by reason of their volume than on account of the terms and conditions under which they were contracted. Owing to the lack of capital for mortgages, short-term loans were taken up without regard to the purpose which they were to serve. The rates of interest and commission charged soon proved much too high for the profits which could be earned by agriculture in its present state of development. Moreover, the majority of the credits had been granted without any control as to their security so that numerous bankruptcies occurred

and the short-term credits had to be prolonged. The disorder prevalent in agricultural credit became apparent at the end of 1927, when the Preussische Zentralgenossenschaftskasse (Prussian Central Co-operative Bank), the so-called Preussenkasse, was obliged to admit a shortage of liquid assets. This bank is the distributing organisation for funds provided by the Reich, the Federal States, the Rentenbank Kreditanstalt and the Rentenbank, for the purpose of personal credits to agriculture. Personal credit here means credit taken up by the landowner on his personal security, mostly in the form of bills, without any lien being created on the land itself. The Preussenkasse was founded in 1895; its capital amounted to Mks.66,606,200 at the end of 1926, the majority of which was held by the Prussian State. The funds available are passed on by the bank to other banks of agricultural co-operative societies. At times more than 30 special credits granted by the Government for various agricultural purposes were available through the Preussenkasse. Further, this bank may discount bills with the Reichsbank and may take up money in the open market. The total amount of credit granted by the Preussenkasse on November 30th, 1927, was Mks.975,000,000, all of which, with the exception of Mks.100,000,000, was lent to agriculture. In view of these large engagements the State of Prussia decided to increase its holding to Mks.130,000,000. The amount will be paid up gradually and will bring the total capital to approximately Mks.151,000,000. At the same time a new managing director was appointed in order to introduce sounder methods of distribution, particularly a stricter control of borrowers.

The maximum rate of interest charged for agricultural bills by the co-operative credit societies is 11 per cent. per annum, plus a non-recurrent charge of  $1\frac{1}{2}$  per cent. for costs.

Personal credit is further provided by the savings banks, by all public banks and to a limited amount (about Mks.100,000,000) by private banks.

The Rentenbank Kreditanstalt, the chief bank for German agriculture, was founded in 1925 and does business under the control of the Reich. On December 31st, 1927, its capital amounted to Mks.335,000,000. Its purpose is the granting of short-termed and long-termed credit to all branches of agriculture through a number of other credit organisations, such as public banks, mortgage banks, savings banks, special agricultural mortgage banks and provincial institutes run on a co-operative basis, the so-called "Landschaften." The bank has taken up loans in the United States to the amount of \$135,000,000, the proceeds of which were distributed on agricultural mortgages. At present these cost the ultimate borrower 7.4 per cent. Further, the sum of Mks.360,000,000 has been made available for mortgages on agricultural land for a period of between three and five years by co-operation of the Rentenbank Kreditanstalt with the German

Gold Discount Bank, a foundation of the Reichsbank and completely controlled by the latter.

The German Gold Discount Bank has acquired mortgage debentures to the above amount from the Rentenbank Kreditanstalt.

Personal credits granted by the latter amounted to Mks.263,300,000 on December 31st, 1927; these cost the ultimate borrower 9½ per cent. per annum. An amount of Mks.110,000,000 of these credits was made repayable by annual instalments during three or five years, and the rate of interest was reduced to 7½ per cent. per annum, in order to make matters easier for the borrowers. In addition, Mks.15,000,000 of credits were granted at 4½ per cent. per annum for reclamation of land and various smaller sums for other purposes.

Other sources of capital for mortgages on agricultural land are the regular mortgage banks, savings banks, insurance companies, the private investor and, to the largest extent, the State and provincial banks. On March 31st, 1928, these latter had Mks.1,533,990,000 invested in agricultural mortgages.

In 1924 the only type of mortgage bonds which was saleable was that bearing 10 per cent. interest, but even this was subject to a discount of about 30 per cent. By the end of 1927, however, 7 per cent. mortgage bonds were usual and, allowing for the profit and charges of the bank, mortgage credit cost the farmer between 9 and 11 per cent.

The heaviest burden on farmers still consists of a considerable number of mortgages which, owing to inflation, were expressed not in marks, but in terms of rye. The security for the mortgage was as usual the farmer's real estate, but he undertook at the expiration of the mortgage to repay in cash the equivalent of so and so many hundredweight of rye. These mortgages were taken up chiefly during the years 1923 and 1924. They soon proved fatal to the borrowers on account of the fluctuations in the price of rye. The Preussische Pfandbriefbank stated recently that the sums actually received in terms of gold by borrowers were in a large number of these cases between Mks.2 and Mks.4 per hundredweight of rye. As the present price is Mks.13 per hundredweight, interest has to be paid on amounts from three to six times larger than those originally received from the bank. Of course, this system has led to numerous bankruptcies among the unfortunate mortgagees. The issuing bank is in a difficult position because it has sold mortgage bonds based on these rye mortgages\* and these bonds are also expressed in terms of rye, so that the obligations of the bank in respect of them are equally affected by the price of rye. The bank cannot, therefore, make concessions to the farmers.

---

\* According to an official statement the amount of these rye mortgage bonds in circulation on the 1st July, 1928, was in respect of 14,189,900 cwt. of a value of about Mks.165,000,000.

An interesting feature of German agricultural credit is the law of July 6th, 1926, according to which a number of banks are authorised to grant mortgages to tenants of agricultural land on the security of the equipment and implements owned by the tenant-farmers.

As will be gathered from the foregoing a critical situation had developed by the end of 1927, and the Government decided to institute relief measures. The various headings of the Government programme have been enumerated on page 168, and the following is a general survey of the scheme and of other similar measures :—

In the Budget law for the financial year 1928-29 the Minister of Finance was authorised to make short-date advances up to a total of Mks.200,000,000 to institutes which grant credits in order to assist in the funding of agricultural indebtedness. A special organisation will be created for this purpose in which the Reich will participate together with the Federal States and districts. A loan of \$25,000,000 was taken up in the United States at 6·5 per cent. for a period of 30 years on behalf of 14 provincial banking institutes in Prussia, Baden and Wuerttemberg, who will grant agricultural mortgages up to this amount. The charges of interest and amortisation to the ultimate borrower will amount to 9 per cent. per annum. As the foregoing scheme, however, far from covers the needs of all agricultural debtors, the Prussian State proposed in addition to come to an agreement with the Preussenkasse and the Rentenbank Kreditanstalt according to which the short-dated personal credit investments of these banks might be repaid by instalments distributed over several years.

As to the sum of Mks.25,000,000 granted by the Reich for the rationalisation of the agricultural co-operative system, little can be said as to how this money will be spent. It is intended to cover the costs of the amalgamation of the various groups of German co-operative societies into one big uniform organisation. There were 40,248 agricultural co-operative societies in Germany on May 1st, 1928, more than half of which were credit organisations. The deposits of the latter amounted to Mks.820,000,000 on June 30th, 1927.

The sums provided for the organisation of the sale of slaughtered cattle and meat will serve to finance measures for the stabilization of prices. It is also intended to do away with the present disproportion between prices received by the farmer and those charged by the butchers to consumers. It is proposed to supervise markets, to promote the technical development of the meat product industry, to further and organise direct sales between consumers' and producers' organisations and to promote export. Up to the beginning of June, 1928, subsidies had been granted to the amount of Mks.5,500,000 and credits of Mks.22,000,000 had been provided.

Another measure for the assistance of export was provided by a law of March 30th, 1928, by which import certificates similar to those described on page 170 were introduced in connection with the export of pigs, pork and ham.

At the same time the annual quota of frozen meat which may be imported duty-free into Germany was reduced from 102,000 to 50,000 tons.

The sum of Mks.30,000,000 for the alleviation of the exceptional hardships from which agriculture is suffering at present will be used to carry out a large number of measures for the improvement of the quality of agricultural goods, for the organisation of sales and for the promotion of standardisation. These measures are to apply particularly to dairy produce, potatoes, fruit, vegetables and eggs.

Public and private efforts have been made in these directions during recent years, but the practical results, though encouraging as to their effect on sales, were small; the most noticeable cases are the marketing of standardised butter in Schleswig-Holstein and of carefully sorted fruit in Southern Germany. The sale of controlled milk and of sorted eggs is also becoming more and more popular.

In addition to this Government programme further support is given to agriculture out of public funds, such as the sum granted to the province of East Prussia, mentioned in the section of this report dealing with Public Finance. It will, however, be evident without the enumeration of additional details how important is the part played by the Reich and the States in the development of agriculture.

A table compiled by the "Institut fuer Konjunkturforschung," showing the value of the total agricultural production in Germany during the last three years, will be found in Appendix VII.

## VI. FUEL AND POWER SUPPLY.

### I. COAL.

In the annual report of the German Coal Council, which was made at the meeting held on the 28th March, 1928, it is stated that the characteristic feature of the German coal industry during 1927 was an unexpectedly large production with unsatisfactory financial results. This is in the main correct, but it must be added that the usual discrepancy of views exists between mine owners on the one side and labour and consumers on the other as to the actual profits of the first-named. This question is dealt with in more detail in a later part of this report.

**Production.**—Coal production during the year amounted to 153,500,000 metric tons, thus exceeding that of 1926, although the latter was favoured by the British labour troubles, by about 8,500,000 tons (5·8 per cent.). It was greater than the 1913 output (present frontiers and excluding the Saar territory) by nearly 13,000,000 tons (9 per cent.). The same tendency continued during the first two months of 1928 for coal and coke. All German coal districts, with the exception of Saxony, participated in the increased production, the Ruhr naturally being the most prominent. Its output for 1927 was 118,000,000 tons, nearly 6,000,000 tons more than in 1926, and about 4,000,000 tons more than in 1913. The average daily production, which was 379,000 tons in 1913, rose to 390,000 tons, while for January, 1927, it was as high as 422,000 tons.\*

Taking the results for coal and lignite together and reckoning one ton of lignite as equal to two-ninths of a ton of coal, the total production of these two classes of fuel amounted in 1927, expressed in terms of coal, to 187,000,000 tons, that is 27,000,000 tons more

---

\* The production of coal in Germany during the first six months of 1928 amounted to 75,944,613 tons, which is nearly the same figure as last year.

than Germany produced in 1913 within her present frontiers and without the Saar. This greater output was disposed of, so that there were no stocks at the end of the year beyond 1,500,000 tons of coal.

**Numbers Employed.**—There were about 20,000 more miners employed in the Ruhr in 1927 than in 1926 and 12,000 more than in 1913; it must, however, be noted that there was a steady reduction in numbers during the year from a maximum of 396,000 in February, 1927, to 374,000 in December, a figure which remained unchanged during the first quarter of 1928. The decline is due chiefly to the process of concentration which is being carried out in pursuance of the policy of adaptation to market conditions. The miners who were thus thrown out of employment were absorbed partly by the neighbouring Aix mining area and the Dutch mines and partly by the general labour market, where the demand was good owing to industrial activity. The system of miners' pensions also facilitated the contraction of the numbers employed.

**Rationalisation.**—There are signs that, at any rate for the time being, the technical and organising rationalisation of German coal mines has reached a stopping place. The output per man and shift, which stood at 857 kg. in 1924 before this process was begun, was raised to 946 kg. and 1,114 kg. in 1925 and 1926 respectively, the two years during which rationalisation was seriously taken in hand, but in 1927 the increase was only to 1,132 kg.; the average for 1913 was about 20 per cent. less at 943 kg. Taking hewers alone the production per man and shift in 1927 was 2,450 kg. as against 1,845 kg. in 1913, and here, too, the increase was achieved almost entirely during 1925-26. During this period output rose steadily, but in 1927 considerable fluctuations set in, although the proportions of the various types of workers remained the same. In view of these developments it is considered in Germany that Ruhr coal mining, over 70 per cent. of which is said to be done mechanically, is hardly likely further to increase the output per man and shift appreciably by means of improved apparatus for some time to come.

Progress in German Upper Silesian coal production was also very marked. The average daily output of 64,500 tons during 1927 exceeded that of 1913 by over 27,500 tons or 75 per cent., in the Aix-la-Chapelle area the increase was more than 53 per cent. In both districts mechanical coal cutting has made great strides; in the Aix mines the proportion is about the same as in the Ruhr, while in Upper Silesia it is nearly 54 per cent., the need for machinery being less felt owing to the more favourable configuration of the seams. In Lower Silesia, on the other hand, 76·3 per cent. of the coal is obtained mechanically, because conditions below

ground are particularly difficult. A great improvement in organisation has been effected in this district by the merging of three of the larger mines, representing about two-thirds of the central area, under the title of Niederschlesische Bergbau A.G. The new company is carrying out a thorough reconstruction, more particularly is it concentrating and modernising its coke production. For this purpose a credit of Mks.11 million is being guaranteed to it, one half by the Reich Government and one half by Prussia. Upper Silesia and Aix have increased the number of miners by a few thousand compared with 1926, the former drawing on men of German origin from Polish Upper Silesia and the latter on men who could be spared from the Saar territory. Lower Silesia maintained its numbers unchanged, while those of the Saxon coal mines were reduced owing to the attraction of neighbouring industries which paid higher wages.

**Coke.**—The production of coke, like that of coal, rose above the 1913 (present frontiers) output, the respective figures being 32,250,000 tons and 31,650,000 tons. The upward movement in the production of coke which had set in in the Ruhr at the end of 1926 continued during 1927 and reached a total of about 27,500,000 tons for the year; the record is held by 1917, when nearly 29,000,000 tons were produced. The steady rise in production was due to the lively demand resulting from the intense industrial activity in general and more particularly from the high level reached and maintained by the iron and steel production. Further, a marked demand for small coke made itself felt which was probably caused by the central heating requirements of the many new buildings. This larger consumption of coke and, connected with it the whole question of by-products, have encouraged the works to renew or replace their antiquated cokeries more and more and to introduce the most modern plant. As illustrating the great advances which are being made it may be stated that up to October, 1928, applications for increased participations in the Coke Syndicate amount to over 11 million tons, the Vereinigte Stahlwerke alone having applied for an increase of 4 million tons in their quota.

**Consumption of Fuel.**—The German Coal Controller calculated that the country's total consumption of mineral fuel during 1927 amounted to 153,700,000 tons as against 132,600,000 tons in 1926, and exceeded that of 1913 (present frontiers) by about 3·6 per cent. Coal and coke taken alone were not consumed to the same extent as in 1913 if the year is taken as a whole, but the figures for the last three months of 1927 are greater than the monthly average for 1913.

This development in the consumption of coal is the more remarkable as not only has the latter to meet the undiminished



competition of other sources of energy, but is also affected by the systematic progress made in the application of fuel economy. Experts have estimated the saving effected by this means at 20-25 per cent. of pre-war consumption. Similarly the Federation of German Boiler Inspections report a continual fall in the number of units under their supervision, amounting to about 10 per cent. during the period 1921-22 to 1926-27. A decline has also been observed in the total heating surface.

**Sales and Prices.**—The Ruhr Coal Syndicate sold over 101,000,000 tons of fuel (taking coal, coke and briquettes together) in each of the years 1926 and 1927 (excluding the consumption of the mines themselves), but in 1926 about 66 per cent. went into the uncontested area, while in 1927 this area took nearly 71 per cent., thus affording further evidence of the growth in industrial activity. In spite of this increased internal demand, however, prices remained unchanged, except for a few unimportant adjustments in respect of certain qualities. Several attempts were made during the year by the producers to obtain higher prices for coal and domestic briquettes, but they failed in face of the opposition of the Minister for Economic Affairs, who considered a rise inadvisable on general economic grounds. In view of the less favourable conditions resulting from the higher wages which had to be accorded in April, 1928, the sales participations were increased as follows: for coal from 45 per cent. to 50 per cent., for coke from 60 per cent. to 70 per cent., for briquettes from 66 per cent. to 70 per cent.

A further result was that the Minister gave permission for an increase in prices as from the 1st May, 1928. This increase was not to amount of more than an average of Mk.1 per ton of the Ruhr Syndicate's total sales. As, however, no increase in the contested areas was possible, the higher prices have to be borne entirely by the uncontested area. In the case of bituminous rough coal the rise amounts to Mks.2 per ton, thus bringing the price up to Mks.16·87 per ton at pit head.

During April-May, 1928, production and sales of the Ruhr Coal Syndicate began to decline. In January the daily production had been 405,700 tons, in April 393,600 tons and in May 363,000 tons. Provisional figures for the latter month indicate that the sales of the Syndicate were less by 15 per cent. in the uncontested areas and by 25 per cent. in the contested areas. The falling off is due partly to seasonal influences, but also to the increase in price, as dealers had naturally effected considerable purchases at the lower rate in anticipation of a rise. A further cause was the strike in Rhine shipping.

Considerable discussion is going on as to the sales policy of the Ruhr Coal Syndicate without its being made clear what the Syndicate's intentions are. It has been repeatedly stated that the

Syndicate is finding the expenses connected with sales in the contested areas too heavy and is going to withdraw to a certain extent from these markets. Whether it carries out this intention remains to be seen. The decline mentioned above is no certain indication, because it is difficult to judge how far it was deliberate or due to the effects of the season and the shipping strike. The Syndicate met some of its contracts in the contested areas which had been concluded at low prices by purchasing and delivering British and Dutch coal instead of German.

**Foreign Trade.**—The sale of German coal suffered considerably from British and Polish competition, particularly in the matter of price, and these difficulties made themselves felt all the more as in 1926 Great Britain had, during the greater part of the year, not only been eliminated from the market as a seller, but had appeared as a large buyer. In 1927 the import of fuel into Germany, in terms of coal, amounted to just on 7,333,000 tons, which was more than double the 1926 figure, though much less than in 1925 or in 1913. It must, however, not be forgotten that Polish coal was artificially excluded owing to the trade war between Poland and Germany. The imports of British coal, exclusive of bunker coal, amounted to 3,267,789 tons, as against 3,432,588 tons in 1925 and double that amount in 1913. The Association of Importers of English Coal at Hamburg, in its annual report for 1927, complains of the limitation of imports by the "contingent" system. The quota were fixed at the beginning of 1925 and the average figures on which they were based were, it is stated, considerably below the normal imports which many firms could handle if the market were free. A further hindrance is that some firms at times do not need their full quota, but may not pass on their surplus to others who could utilise it, although the total quantity admitted for import would in no way be affected by such action. As a result of the low British prices the value (Mks.145,500,000) of the imports during 1927 was nothing like twice that of 1926, although the quantities were more than double.

German exports of fuel in terms of coal (including reparation deliveries) fell from 56,000,000 tons in 1926 to 39,666,000 tons in 1927. The value of the latter exports has been calculated at Mks.890,000,000 from which Mks.272,750,000 for reparation deliveries should be deducted, leaving Mks.617,250,000 as the value of the normal German exports which thus exceed imports by Mks.471,750,000. The excess of exports in 1926 was about Mks.800,000,000 and in 1913 Mks.435,000,000. It is to be noted that the German export values are so-called frontier values and accordingly do not represent the net takings of the coal industry for these sales, but include freight, handling and distribution charges.\*

\* German exports of fuel (including reparation deliveries) during the first six months of 1928 amounted to 17,900,000 tons.

It is alleged that the export price of British coal was reduced from 20s. 11d. per ton in January, 1927, to 15s. 7d. in January-February, 1928, and in its endeavour to meet this competition the Ruhr Syndicate repeatedly altered the levy which it collects on each ton of coal sold by its members and pays into a fund for assisting sales in contested areas. At the end of December, 1926, this contribution amounted to Mks.1.05 per ton for the contested area and to Mks.0.17 for the uncontested area, and represented a total per month of about Mks.3,500,000. In June, 1927, the contribution was uniformly fixed at Mks.0.95 per ton for both the contested and uncontested areas, and finally in September the rate was raised to Mks.1.38 per ton and the coal consumed by the mines themselves, which until then had been free, was from that date also subjected to the contribution. Thus about Mks.500,000 (£25,000) were collected on every working day. For April, 1928, the levy was raised to Mks.1.48 per ton. The Syndicate also exerts pressure on dealers, both its own and independent ones, to discourage them from handling foreign coal.\*

**Pulverised Coal.**—It goes without saying that in view of their difficulties and of modern requirements German mine owners are making every endeavour to find new ways of utilising coal, more particularly those kinds which are not easily sold. The committee of the Coal Council, which deals with pulverised coal, reports that the employment of this type of fuel for industrial and boiler plant has continued to make marked progress during 1927. Up to April, 1926, the capacity of all plants in operation and building amounted to a consumption of about 4 million tons, of which about one-half million tons were for brown coal. It is interesting to note that the application of coal dust firing to boiler plants has made greater strides than for direct industrial uses. There are no figures available later than 1st April, 1927, but these show that in Prussia alone the heating surface of steam boilers fired with pulverised coal had increased from 36,075 square metres to 75,161 square metres, and the estimated annual demand for this fuel has risen from 1,900,000 tons to 2,900,000 tons. Recently the German Railway Company has taken into experimental use a locomotive constructed by the A.E.G. and burning pulverised brown coal. It is hoped that, after abortive trials extending over many years, a practical solution of the use of coal dust in locomotives has at last been found. The most spectacular development may be said to be in the new Berlin generating station at Rummelsburg, which has the largest coal dust firing plant in Germany and works practically exclusively on bituminous coal which is delivered by barge and by special 50-ton trucks. Rummelsburg has its own crushing plant for large lump coal; it consists of two beater mills, each with an output of 140 tons per hour and the central pulverising plant

\* For subsequent months the levy was increased to Mks.2.20 per ton.

consisting of eight mills, which are capable of powdering coal with a water content of up to 12 per cent. and each of which has a capacity of 12 tons per hour. Germany is also watching with great interest the employment of this form of coal in British merchant ships.

**Fertilisers.**—A number of coal mines are utilising the cheap hydrogen which is available in their cokeries for the production of artificial nitrogen, and several large plants, working under German and foreign patents, are either running or in process of construction. The chief concerns engaged in this sphere are as follows, but most of them have not progressed beyond the experimental stage and but few details of the size of the plant have been published:—

(a) The Kloeckner concern which is operating upon the production of fertilisers by the Claude process at the "Victor" mine. It is reported that this plant will have a production capacity of 16,000-18,000 tons of synthetic nitrogen per annum.

(b) The Gewerkschaft Mont Ceniz (Rochling concern) operating their own process, which is reported to be the Bronn-Linde. This concern was recently successful in patent litigation instituted against it by the I.G. Farbenindustrie A.G. in the field of catalysts. The production capacity of synthetic nitrogen will, on completion of the plant, be, it is reported, 40,000 to 50,000 tons per annum.

(c) The Ruhr Chemie A.G., originally founded as the Kohle-Chemie A.G. in November, 1927, by 27 of the most important Ruhr coal mines, disposing of some 70 per cent. of Ruhr coal production. This company, it is understood, will operate on the Casale process, and has acquired the sole rights of the Concordia Linde process for the production of a hydrogen-nitrogen mixture from coke oven gas. The construction of a plant has been begun at Holten which, when completed in April, 1929, will, it is reported, have a capacity of 18,000 to 20,000 tons of synthetic nitrogen per annum. It is understood that in addition to the nitrogen factory, this company proposes to erect a nitrate factory. The original capital of Mks.500,000 was raised in April, 1928, to Mks.27 million of which Mks.9 million have been paid up. The remainder of the capital has been set aside for a 4 million Dollar loan, which has been negotiated with Messrs. Dillon, Read & Co., New York, and which is expected shortly to be placed on the New York market.

**Coal Distillation.**—In the liquefaction of coal the Leuna Works of the I.G. Farbenindustrie, which distil lignite, still occupy the predominant position, but no information is forthcoming as to how far they have progressed. In its annual report published in April, 1928, the I.G. merely says that, after the inevitable initial difficulties, work is proceeding satisfactorily, the production of petrol is increasing and is finding a ready sale in view of its good quality.

As concerns the liquefaction of bituminous coal the chief advance which has been made is the erection of an experimental plant at Duisburg-Meiderich by the A.G. fuer Kohleveredelung, which is operating on the Bergius-Billweiler process. It is stated that this plant, which will not be completed until October, 1928, will deal with 30,000 tons of coal per annum and produce some

13,000 to 15,000 tons of marketable oils annually. The coke oven gas will be supplied by the coke ovens of the Concordia mine at Oberhausen by means of a special long-distance gas line, and the construction of further distillation plants will depend upon the results of the working of this plant. The following are some interesting developments in low temperature distillation, which is already widely used in Germany :—

In low temperature distillation of bituminous coal, in addition to the plant of the Kohlenscheidungs-gesellschaft at Carnap, near Essen, which is reported to be working satisfactorily, the Plassmann plant of the Chemisch-Technische Gesellschaft, Duisburg, is stated to hold out prospects of commercial success. This company is working its first plant of a daily capacity of 50 tons of coal at the Prosper III mine of the Rheinische Stahlwerke.

In the low temperature distillation of brown coal the A.G. fuer Kohleveredelung has erected a plant at the Minna Anna mine at Goelzau, near Bitterfeld, which will be put into operation in the near future and will deal daily with 1,500 tons of raw brown coal. The Lurgi Gesellschaft (a daughter company of the Metallbank Frankfort-on-Maine) is also reported to be working successfully a plant at the Westeregeln brown coal mine, near Magdeburg, which has a daily capacity of 100 tons of raw brown coal.

**Long Distance Gas Supply.**—As regards long-distance gas supply, which interests not only the Ruhr district but all the German coal areas, the controversies which were originally aroused by the promulgation of these schemes continued throughout the year and led to repeated statements of the case for and against. The problem was also thoroughly examined by the committee which investigated the position of the German coal industry. In the meantime the A.G. fuer Kohleverwertung, at Essen (see page 129 of last year's report), which is the protagonist on behalf of the Rhenish Westfalian Coal Syndicate of long-distance gas supply, has persevered in its efforts to find a practical solution of the problem how the surplus gas produced in the cokeries of the mines may be utilised for satisfying the growing demand for gas in other parts of Germany, particularly in the industrial districts which adjoin the Ruhr.

Long-distance gas supply has been in operation in Germany for some years. Indeed the Rhenish-Westphalian Electricity Company has been operating such a system for the past 16 years. It supplies 38 localities over a distance of 100 kilometres, its pipe lines total a length of 280 kilometres, and in the year 1926-27 it delivered nearly 77 million cubic metres of gas.

According to a memorandum published by the A.G. fuer Kohleverwertung, in 1925 some 10,500,000,000 to 11,000,000,000 cubic metres of coke oven gas were produced, of which about one-half was applied to the heating of coke ovens for lack of other

means of disposal. The major portion of the other half was consumed by the mines and their associated foundries, and only a very modest amount (in the Ruhr district some 300 million cubic metres) was delivered for public consumption. It is calculated that, owing to the installation of modern coking plants which can be heated with generator gas, some 4,000,000,000 cubic metres of coke oven gas are already available for public consumption and that this quantity is likely to undergo a large increase in the near future. One of the chief advantages claimed for long-distance gas supply is the low cost of transmission, which is calculated to amount for a quantity of 75,000 cubic metres per hour over a distance of 400 km. to a yearly average of 0.99 pfennigs per cubic metre, as against 1.22 pfennigs railway freight per kg. for solid fuel. An additional advantage would be the solution of the coke market question, since in times of a falling demand for coke the superfluous coke production could be further gassified and, in the summer months, when gas consumption is low superfluous gas production could be utilised for the heating of coke ovens.

The A.G. fuer Kohleverwertung is at present building its first large pipe line from Dortmund to Plettenberg, a distance of about 70 kilometres, which, it is reported, will be later continued to Siegen and south Germany. The diameter of the pipes over the first half of the distance is 700 mm., and over the second half 600 mm. The pipes are 16 metres in length and 8 mm. thick, and are water-gas welded on the spot into lengths of 120 metres to 200 metres. The final capacity of this line will be 1,500,000,000 cubic metres. On the basis of the section which has been completed the cost of the pipe line works out to some Mks.50,000 per kilometre.

The preliminary plans of the A.G. fuer Kohleverwertung provide for lines from the Ruhr (a) via Bremen, Hamburg to Kiel; (b) via Hanover, Brunswick, Magdeburg to Berlin; (c) via Kassel, Thuringia to Saxony; (d) along the Rhine to Hesse, Baden, Wuerttemberg and Bavaria. No doubt the final realisation of these schemes is dependent upon some equitable arrangement between the older suppliers of gas and the A.G. fuer Kohleverwertung.

A number of agreements have already been concluded between the A.G. fuer Kohleverwertung and private and public bodies, such as the Province of Westphalia, the town of Hanover and the Rhenish-Westphalian Electricity Works (for the use of the latter's pipe lines), the Bayer chemical works at Leverkusen (belonging to the I.G. Farbenindustrie) and the towns of Cologne and Buer. As an instance of the price of long-distance gas it may be mentioned that the contract concluded with the town of Buer provides for an initial consumption of 4,000,000 cubic metres per annum, rising to 10,000,000 cubic metres. The price for household and

industrial purposes is 3 pfennigs per cubic metre and for consumers of more than 125,000 cubic metres per annum 2.75 pfennigs. In 1927 the cost of gas produced by the town of Buer itself amounted to 5 pfennigs per cubic metre. In Hanover the price, it is stated, will be 3.2 pfennigs for household and 3 pfennigs for industrial purposes, and in Cologne 3.15 pfennigs and 3 pfennigs respectively, with a reduction for large consumers.

The 1927 balance sheet of the A.G. fuer Kohleverwertung shows a loss of Mks.750,776 (including the loss of Mks.18,932 carried forward from the previous year).

At the general meeting it was decided to change the name of the company to "Ruhrigas A.G.," and the meeting approved the taking up of a \$12 million foreign loan.

In regard to business during 1927 it was stated that agreements had been concluded with shareholders, particularly with mines delivering gas, whereby the company acquired the disposal of all superfluous quantities of gas of those mines. Agreements concerning demarcation of districts or co-operation were concluded with gas producing districts or with undertakings already engaged in distant gas transmission. Negotiations with the Rheinisch-Westfaelische Elektrizitaetswerke concerning the purchase of their gas transmission system were concluded in March, 1928. A number of gas delivery and gas transmission contracts were entered into accounting for some 500,000,000 cubic metres of coke oven gas. The construction of the first pipe line was begun at the end of 1927, and in addition to short lines in the Ruhr from the Concordia Bergbau A.G., Oberhausen, to the Gesellschaft fuer Steinkohleveredelung und Steinkohleverfluessigung, Duisburg-Meiderich, and from the Mannesmann Roehrenwerke Consolidator Mine, Gelsenkirchen, to the Glas- und Spiegelmanufaktur, Gelsenkirchen-Schalke, the construction of collecting lines in the Ruhr from Duisburg to Dortmund was begun, as also two main lines, from Dortmund to Plettenberg and Siegen in the east and from Duisburg along the Rhine upstream. The latter line will be first carried through as far as Cologne. The company obtained a participation conjointly with the town of Bochum in the Fernheizgesellschaft Bochum-Ehrenfeld G.m.b.H., Bochum, and interests in the "Indugas" Industrie und Gasofenbau Gesellschaft m.b.H., Krefeld-Linn, the latter to enable it to assist with advice in the building of gas ovens for industrial users. The A.G. fuer Kohleverwertung also participated with Mks.500,000 in the A.G. fuer Steinkohleveredelung und Steinkohleverfluessigung, Duisburg, formed by mining companies in the Ruhr.

**Earnings of Coal Mines.**—An investigation undertaken by the Ministry for Economic Affairs during September-November, 1927, into the results achieved by three mining companies led to the conclusion that on coal production alone there was a loss, but

that the total proceeds from coal, coke and by-products, including an amount of Mks.1·25 per ton written off for depreciation, resulted in a profit of 36 pfennigs per ton of coal.

At the end of February, 1928, a committee of five, presided over by Dr. Schmalenbach, was appointed by the Ministry of Economic Affairs to undertake an investigation into the profitability of the Ruhr coal mining industry.

This committee conducted its inquiry during the month of March and its report was published in the latter part of April. The investigation was based on the results arrived at by the Ministry in November, 1927. The report consisted of a majority report and a minority report signed by Dr. Baade, one of the members of the Committee. For the purpose of the investigation of costs of production, the Ministry for Economic Affairs placed at the disposal of the Committee the material it had collected in its various enquiries. This material was examined, but the Committee departed in some points from the basis taken by the Ministry for Economic Affairs, particularly as regards the amounts to be written off for depreciation and claims on mines. Even within the Committee itself there was no unanimity on these points, and it was this question which led Dr. Baade to submit his special report, in which he differed fundamentally from the other members of the Committee on these questions.

As concerns claims on mines the Committee considered that the previous figure of 15 pfennigs per ton allowed by the Ministry for Economic Affairs was insufficient and increased this amount to 30 pfennigs per ton. This figure was mainly arrived at from the evidence submitted by experts and on the basis that claims would be made over a period of 20 years after a mine had been closed down. Dr. Baade found the evidence of the experts inconclusive, and that the mines had already set aside reserves from previous years for this purpose, even if they did not appear as such in the balance sheets. He came, therefore, to the conclusion that an amount of 15 pfennigs per ton was amply sufficient not only to cover current claims, but also to enable reserves to be made for future claims.

As concerns depreciation charges, the Committee considered that the amount of Mks.1·25 per ton previously taken by the Ministry for Economic Affairs should be increased to Mks.1·74 per ton. This figure was arrived at by an investigation into certain mines from which it was ascertained that for a 500,000 ton mine depreciation charges amounted to Mks.1·91 per ton of saleable output and for a 1,000,000 ton mine to Mks.1·58 per ton of saleable output. The average of the saleable output of the mines embraced in the investigation was 700,000 tons, and the average of the above two depreciation amounts was, therefore, taken. Dr. Baade differed from the majority view in several essential points, particularly from the opinion expressed in the majority report that "it appears illogical to the Committee that the costs of normal rationalisation, the results of which have not accrued to the undertakings, should be considered as charges which are to be met out of new capital." Dr. Baade was of the opinion that "so far as the new plant is dearer and more efficient than the old plant, such new plant is not a mere replacement of, but an addition to, plant. It cannot be claimed that this addition to plant should be met out of depreciation charges." He came to the conclusion that for a 500,000 tons mine depreciation charges amount to Mks.1·16 per ton of saleable production, and for a 1,000,000 ton mine to Mks.0·92 per ton of saleable production, or to an average of Mks.1·04 per ton, and that this amount included certain hidden reserves.

In the majority report the Committee arrived at a cost of production of Mks.15·62 per ton, taking the charges mentioned above for claims on mines and depreciation. The incidence of property tax, which was not taken into



consideration by the Ministry for Economic Affairs, was placed at 9 pfennigs per ton. Dr. Baade, on the basis of 15 pfennigs per ton for claims on mines and Mks.1.04 per ton for depreciation charges, arrived at a cost of production of Mks.14.73 per ton.

The proceeds from sales of coal were calculated by all members of the Committee at Mks.14.37 per ton, inclusive of the profits of the Syndicate trading companies, resulting in a loss per ton of Mks.1.25 according to the majority report and 36 pfennigs according to the minority report. Both results were based on proceeds per ton of saleable production ex pit-head.

In regard to coke and by-products the costs of production of coke, exclusive of depreciation charges, were accepted by the Committee as Mks.22.04 per ton. As concerns depreciation charges no unanimity of opinion could be reached. Three members of the Committee considered an amount of Mks.1.19 per ton sufficient for this item, while the two remaining members considered an amount of Mks.2.00 per ton necessary. If the majority report be taken, total costs of production amounted to Mks.23.23 per ton. From this amount profits from by-products, calculated at Mks.6.96 per ton, were deducted, leaving a net cost of coke production of Mks.16.27 per ton. Proceeds from sales were estimated at Mks.20.49 per ton, so that profits from cokeries amounted to Mks.4.22 per ton of coke. Calculated on one ton of saleable coal, the net profit was estimated to amount to Mks.0.95, in addition to which there was a profit of 3 pfennigs from briquette production. The final estimate was as follows:—

	Majority Report. Mks.	Minority Report. Mks.
Loss per ton of coal production at pit head ... ..	- 1.25	- 0.36
Profit from coke ovens ... ..	+ 0.98	+ 0.98
Total ... ..	- 0.27	+ 0.62

In order to complete the investigations the Committee examined the balance sheets for 1926 of 17 works, but this examination was not recognised by Dr. Baade. This investigation embraced plant to a value of Mks.511 million, a coal production of 34.7 million tons, and a coke production of 5.3 million tons. The profit amounted to Mks.30 million, or in relation to the plant value of Mks.511 million (exclusive of property, participations, stocks, creditors and debtors) to 5.98 per cent. An amount of Mks.46.7 million was written off for depreciation, which the Committee considered too low, and Mks.49.7 million were expended on new plant. This latter amount alone, therefore, considerably exceeded the profit of Mks.30 million and a larger amount should in the opinion of the Committee have been written off for depreciation. The Committee came to the conclusion that the value of plant in relation to per ton of production was too low, and should be Mks.30 to which must be added Mks.2.75 for other property, making a total of Mks.32.75 per ton of production. The profit shown by the balance sheets of the companies amounted to Mks.1 per ton, or to 3.05 per cent. of the capital invested in plant. This examination of balance sheets for 1926 shows, therefore, a more favourable result than that arrived at by the investigations into costs of production.

The majority report came to the conclusion that in November, 1927, the mines embraced in the investigation worked at a loss of Mks.0.27 per ton, while an examination of the balance sheets showed a more favourable result in that a rate of interest of 3.05 per cent. was earned. As regards the balance sheets for 1926 the Committee pointed out that in that year the clearance of stocks, in consequence of increased sales resulting from the British coal stoppage, favourably affected the position of the companies. In 1927,

however, in spite of large sales, proceeds were lower owing to the depressed prices. The report is of the opinion that the years 1926 and 1927 taken together were above the average as concerns sales possibilities and that similarly good years cannot be counted upon permanently.

The minority report arrived at the conclusion that the mines dealt with in the report had worked at a profit of Mks.0·62 per ton. This conclusion is based mainly on the previous investigations into costs of production undertaken by the Ministry for Economic Affairs, and Dr. Baade is of the opinion that the other investigations carried out by the Committee were of a subsidiary nature, since, owing to the lack of time at its disposal, these investigations could not be conducted nearly so exhaustively and were based on much less authenticated material. But even the results ascertained by the Ministry of Economic Affairs, he considers, show certain hidden reserves. The process of rationalisation was still in progress and, however favourable the final influence of such measures may be, they contributed to an increase in current costs of production. During the month under review labour and material was being employed to a considerable extent for this purpose and these charges did not properly belong to running overhead expenses and contributed to swelling costs of production. Moreover, the expenditure on mechanical coal getting appliances, which should properly be a capital charge, had been booked to current costs of production and could not be separated therefrom. The minority report recognised that certain mines producing poor quality coal were working at a loss, but considered it impolitic to endeavour to make these pay by a general rise in coal prices or decrease in wages.

**Labour.**—During the year under review the labour situation has been quiet and the industry has been able to concentrate on production with practically no interruption. According to the Reichsarbeitsblatt of the 1st March, 1928, the increases of wages which have taken place are as follows :—

TARIFF WAGES PER SHIFT IN MARKS.\*

District.	Date.	Hewers.			Above ground workers, excluding craftsmen.		
		Former.	New.	% Rise.	Former.	New.	% Rise.
Ruhr ... ..	1.5.27	8·40	8·91	+6·1	5·85	6·20†	+ 6·0
Saxony ... ..	1.5.27	6·70	7·10	+6·0	5·42	5·58	+ 3·0
	1.7.27	—	—	—	5·58	5·67†	+ 1·6
Aachen ... ..	1.6.27	7·35	7·70	+4·8	5·30	5·55†	+ 4·7
Upper Silesia ...	1.6.27	6·53	6·86	+5·1	4·90	5·31‡	+ 8·4
Lower Silesia ...	1.1.28	5·50	6·40	+16·4	3·89	4·78†	+22·9

The weighted average for the above districts shows an increase for hewers from Mks.8·50 on 1st January, 1927, to Mks. 9·05 on

\*Excluding Family Allowance of Ruhr 16 pfennigs for child, Aachen and Upper Silesia and Saxony 10 pfennigs, Lower Silesia 9 pfennigs.

†Inclusive of extra payment of 15 per cent. for the ninth hour.

‡ Inclusive of extra payment of 15 per cent. for the ninth hour and 25 per cent. for the tenth hour.

the 1st January, 1928, equivalent to 6·5 per cent., and for workers above ground from Mks.6·03 to Mks.6·41, or some 6·3 per cent. At the same time the regular shift for workers above ground was decreased to eight hours and additional payment was introduced for the ninth hour of 15 per cent. and for the tenth hour of 25 per cent. A comparison of actual shift earnings and tariff wages in December, 1927, is shown in the following table:—

SHIFT EARNINGS AND TARIFF WAGES IN DECEMBER, 1927.\*

District.	Hewers.			Above ground workers. excluding craftsmen.		
	Tariff Wage.	Shift earnings	In % of tariff wage.	Tariff wage.	Shift earnings	In % of tariff wage.
West Upper Silesia	Mks. 7·16	Mks. 8·31	116·1	Mks. 5·61	Mks. 5·03	89·7
Lower Silesia ...	5·77	6·81	118·0	4·16	5·01	120·4
Ruhr ...	9·39	9·62	102·4	6·68	6·87	102·8
Aachen ...	8·00	8·50	106·3	5·85	6·06	103·6
Saxony ...	7·30	7·76	106·3	5·87	6·15	104·8
Average ...	9·00	9·32	103·6	6·34	6·52	102·8

*Ruhr District.*—On the 1st March, 1928, the miners' union in the Ruhr district gave notices of the termination of the working time agreement for the 30th April, 1928, and on the 1st April notice of the termination of the wages agreement was given for the same date. The tariff of the 1st April, 1927, provided that the regular shift underground should be seven hours, but an overtime award decreed that a further hour should be worked for which no extra payment should be made. The unions demanded the introduction of the seven-hour shift, a wage increase of Mks.1·50 per shift for all workers of 20 years of age and over, equivalent to a 16 per cent. increase, and an increase of the family allowance from 16 pfennigs to 20 pfennigs per wife and child. These demands they supported by the increased production per man and shift from 943 kg. in 1913 (with an 8½-hour shift) to an average of 1,131 kg. for the first 11 months of 1927 (with an 8-hour shift), the large increase in total production and the favourable proceeds from coke and by-product production. Negotiations were on several occasions undertaken between the owners and unions in March and April, but no agreement could be reached. The owners contended that compliance with the demands of the unions would mean a decrease in output of 18 per cent. and an additional burden of Mks.200 million per annum, resulting in an extra burden of Mks.4·20 per ton, and that the wage increases which had been

\* Including social bonuses for wife and 2 children under 14 years of age, excluding miners' coal.

granted in May, 1927, were greater than the increase in the cost of living index figure. Between April, 1927, and January, 1928, the latter had increased by 3·01 per cent., whereas earnings had increased by 6·33 per cent. The earnings of a hewer with a wife and three children were, they stated, Mks.6·54 in the second quarter of 1924 and Mks.9·87 in the last quarter of 1927, corresponding to a real wage of Mks.6·55, or 100·15 per cent. as compared with 100 in 1914. For all workers they estimated the real wage at 103·82 per cent. of 1914 rates. Based on the average earnings of all workers in the last quarter of 1927 the real earnings amounted to 99·45 per cent., and for hewers to 96·44 per cent.

The unions, on the other hand, contended that, even after the increase of Mks.1·50 in wages asked for, the real wages of a hewer would be still further below the pre-war rates. They based their calculation on 1913 rates which were rejected by the owners as a basis of calculation, as that year, they contended, was one of exceptional prosperity. According to the unions the shift earnings of a hewer in 1913 were Mks.6·47, from which must be deducted the amount of social insurance borne by the workers. Before the war this amount was 5·64 per cent. of wages, and is now 15·7 per cent. of wages. Actual pre-war wages were, therefore, Mks.6·11 per shift, or equivalent in purchasing power to-day to Mks.9·16. Present hewers' wages they gave as Mks.8·91, from which 15·7 per cent. or Mks.1·40 must be deducted for social insurance, resulting in a wage of Mks.7·51. The increase of Mks.1·50 would, therefore, bring wages only up to Mks.9·01, or less than the pre-war wage in purchasing power.

As there appeared to be no possibility of agreement being reached, an arbitration committee was appointed which met on the 12th April. On the 14th April the following award was made which, as was generally expected, was in the nature of a compromise :—

#### *Working time.*

“ The working time agreement of the 18th March, 1927, will re-enter into force on the 1st May, 1928, with the following changes :—

The working time of workers above ground directly engaged in production shall amount to 8 hours.

The daily working time of workers above ground in continuous works shall be 9½ hours with an 11 hour shift. On the 1st August, 1928, these hours shall be reduced to 9 with a 10 hour shift. The new working time agreement shall be valid until the 28th February, 1929 ; after this date two months' notice of termination may be given.

#### *Wages.*

The wages agreement of the 26th April, 1927, will re-enter into force on the 1st May, 1928, but with the alteration that all shift wages and apprentices' wages shall be increased by 8 per cent.

This agreement remains valid until the 31st March, 1929. Should, however, coal prices be increased before that date, one month's notice of termination may be given.”

The increase in wages would, it was estimated by the owners, mean an additional burden of Mks.0.75 per ton and, as even the more favourable minority report of the Schmalenbach Committee only showed a present profit of Mks.0.62 per ton, it was evident that the industry could not bear this burden, especially as the shortening of working time above ground would entail a further increase in costs of production. After various negotiations, however, the award was declared binding by the Minister of Labour on the 23rd April.

*Upper Silesian District.*—On the 1st March, 1928, the miners' union gave notice of the termination of the overtime agreement for the 31st March and demanded the alteration of hourly wages for workers above ground into shift wages, and the introduction of a seven-hour shift for underground workers and an eight-hour shift for workers above ground. The owners on the same date gave notice for the 31st March of the wages agreement. By an arbitration award made on the 20th March it was decreed that the eight-hour shift for underground workers should continue and that for workers above ground the hours in continuous works should be ten, but that for workers working an 11-hour shift working time should be reduced to 9½ hours. The hourly wages for above ground workers were changed to shift wages and the award was accepted by both parties. In Appendices V and VI will be found tables showing the monthly production for 1927 and for the first quarter of 1928, and a comparison of coal exports in 1926 and 1927.

## II. LIGNITE.

**Production.**—After showing only little change during the years 1925-26, the output of lignite increased largely in 1927; for raw lignite it amounted to 150,750,000 tons in round figures, and in briquettes to 36,500,000 tons, a rise of 8.3 per cent. and 6.1 per cent. respectively over 1926, but compared with 1913 the increases are 73 per cent. and 66 per cent. It is noteworthy that, owing to the progress in mechanical equipment, the larger production was achieved in all areas with less workmen than in 1926. Towards the end of 1927 there was a certain rise in the number of miners, which was probably caused by the shortening of working hours and by the after effects of the strike in the Central German lignite district in October, 1927, but it remains to be seen whether the additional men need be retained permanently.

**Prices.**—By the introduction of a sliding scale of prices, with substantial reductions in the summer, the Central German Syndicate succeeded in attaining its object of ensuring a uniform occupation for its mines throughout the year.

**Labour.**—The most serious disturbance which occurred in the lignite industry was the strike which took place in Central Germany in the 17th October, 1927. This dispute, which affected some

60,000 workers was, however, of short duration and, as a result of an arbitration award, work was resumed on the 24th October.

The events which led up to the deadlock were as follows:—On the expiration of the wages tariff agreement on the 30th June, 1927, the workers demanded an increase of 80 pfennigs per shift, representing a wage increase of 16 per cent. The matter was submitted to arbitration and an award was made increasing wages by 3 per cent. This award was, however, rejected by the owners, who contended that they could not bear this extra burden without an increase in the price of coal. The Government authorities were unwilling to sanction such an increase in view of general economic interests and the Minister of Labour, therefore, refrained from declaring the award binding. At the beginning of September, 1927, the miners returned to the attack, but modified their demands by requiring an increase of 50 pfennigs per shift, representing a wage increase of 9.75 per cent. The owners, while recognising the desirability of a moderate wage increase, reiterated their previous view. The price of lignite, they stated, had remained unchanged since the 1st April, 1926. In the meantime rationalisation measures had resulted in increasing the output per man and shift by some 7 per cent., but during the same period the average shift wage had increased by some 10 per cent., from Mks.5.93 to Mks.6.54. Social levies, they claimed, amounted for the worker to Mk.1 and for the owners to 90 pfennigs per worker per working day. Wages were increased by 3.5 per cent. on the 1st November, 1926, a 15 per cent. wage increase for overtime was made on the 1st May, 1927, shifts were shortened for open-cut workers on the 1st January, 1927, for surface workers by 1½ hours on the 4th July, 1927, and for workers engaged on continuous operations by one hour as from the 1st October, 1927. No agreement could, however, be reached between the two parties and, as stated, the men ceased work on October 17th.

An arbitration award was made on the 21st October, 1927, which, although rejected by the owners, was declared binding by the Minister of Labour. This award, which is valid until the 31st August, 1928, provided for an increase of the average tariff shift wage in the central district from Mks.5.20 to Mks.5.80. The wage for the central district, it may be remarked, forms the basis for wages in other districts where wages are proportionately less on a percentage basis determined by the cost of living.

#### ELECTRICITY.

The industrial census of 1925 placed the power of primary electrical machines in Germany at 6,400,000 h.p. and that of electric motors at 12,900,000 h.p. A comparison of these figures with the human labour employed in German industry shows that in 1925 the proportion of electricity used was a half kilowatt hour to every hour of human work.

**Production.**—The census for the first time included the private installations of industry and agriculture, in addition to the public electricity supply companies which until then were the only ones whose capacity had been known. The total current produced in that year was 20,300,000,000 kilowatt hours, which represented 325 kw.h. per head of the population. The output of the private installations amounted to about 105 per cent. of that of the public works. As far as its total production of electricity is concerned Germany occupies the second place in the world, the United States being first, but as regards production per head it is far behind countries like Switzerland, Norway and Sweden. In Great Britain the production of electrical current per head of the population is estimated at 200 kw.h. per head.

The German census dealt with 9,563 works of which 8,726 furnished particulars, the remaining 837 are small and only represent a negligible fraction of the total production. Of the works which replied 1,370 were primary producers (public electricity supply companies) with an output of 9,914,661,000 kw.h.; 6,122 were secondary producers (private industrial installations) with an output of 10,413,328,000 kw.h.; 1,234 were distributing stations which did not themselves produce current.

On the basis of the accident insurance returns the number of persons employed in Germany in 1925 in the production and distribution of electricity was 88,526. They received Mk.s.196,600,000 in wages and salaries.

The following table shows the number and capacity of the motive machines and current generators as established by the census:—

	Number of machines.	Capacity kw.
<b>Motive machines—</b>		
Piston steam engines and steam turbines ... ..	8,635	7,189,415
Water turbines and water wheels ... ..	3,691	1,020,122
Motors driven by oil ... ..	1,512	198,945
"    "    gas ... ..	861	444,395
"    "    wind ... ..	11	203
<b>Total ... ..</b>	<b>14,710</b>	<b>8,853,080</b>
<b>Current generators—</b>		
For continuous current ... ..	10,136	1,132,739
"    alternating    "    ... ..	233	235,389
"    rotary    "    ... ..	5,971	7,345,033
<b>Total ... ..</b>	<b>16,340</b>	<b>8,713,161</b>

Another interesting comparison made in the following table is that between the sources of power which are used for the generation of electric current; the predominant position of coal and lignite is noteworthy. The "other sources" referred to in the table was chiefly waste heat:—

	Kw.h.
Total quantity of electric current produced ... ..	20,327,988,942
Of which from—	
Solid fuel ... ..	15,226,297,621
Water power ... ..	2,851,774,681
Oil ... ..	153,626,863
Gas ... ..	2,057,440,000
Wind power ... ..	66,281
Other sources ... ..	38,783,496

Germany exported 78,420,000 kw.h. to neighbouring countries in 1925 and received 306,919,000 kw.h. from them; adding the balance to Germany's production of 20,300,000,000 kw.h. a total of 20,578,420,000 kw.h. is arrived at, which represented the amount available within Germany, less the loss suffered in transmission which is equal to about 10 per cent. of the whole. The loss occurs chiefly on the cable lines of the public electricity supply companies where it amounts to 25 per cent. and more.

The length of the electric transmission lines in Germany amounted to 196,807 km. at the end of 1925. Low tension lines are not included :—

	Total.	Of which underground cables.
	km.	km.
500 to 35,000 volt... ..	182,178	35,283
Over 35,000 to 100,000 volt ... ..	10,455	28
Over 100,000 volt ... ..	4,174	—
	<hr/> 196,807 <hr/>	<hr/> 35,311 <hr/>

The following table shows the amount of current delivered to the various types of consumers in 1925. It will be noticed that by far the largest proportion went to industry and that the latter also produced 60 per cent. of its own requirements. The group "Other Consumers" includes the districts (for electric lighting), small workshops, households, hospitals, &c. :—



Consumers.	Current produced in Consumers' own plants.	Current sold.	Total.	Percentage of consumption.
	kw.h.	kw.h.	kw.h.	
Current consumed by electricity works ...	502,054,916	—	502,054,916	3
Industrial and commercial concerns ...	8,678,901,710	6,014,049,824	14,692,951,534	80
Agriculture ... ..	14,312,786	450,657,750	464,970,536	3
Railways, trams, etc. ... ..	215,955,990	786,846,793	1,002,802,783	5
Other consumers ... ..	265,323,288	1,407,990,349	1,673,313,637	9
Total .. ..	9,676,548,690	8,659,544,716	18,336,093,406	100

Public authorities own or control 76 per cent. of the current produced in public supply companies and 49 per cent. of the distributing stations.

The 7,492 producers of current dealt with by the census included 5,751 small installations of a capacity below 500 kw., 1,124 medium installations of from 500 to 5,000 kw. and 617 installations of over 5,000 kw., among which there were 434 of over 10,000 kw. The largest German power station, the Goldenbergwerk, of the Rhenish-Westphalian Electricity Works, has a capacity of 290,000 kw. The small works produced 4·7 per cent. of the total current, the medium works 12·7 per cent. and the large works 82·6 per cent. Half the German current is produced in about 120 works. Most of the current of the public power stations is produced in large installations; big private installations belong for the most part to the mining, steel and chemical industries. The current produced in 1927 by 122 works, representing about half the total German capacity, amounted in round figures to 12,500,000,000 kw.h., as against 10,400,000,000 kw.h. in 1926. It may, therefore, be assumed that the output in the whole of Germany amounted to about 25,000,000,000 kw.h. for the year 1927.

As regards legislation by the Government of the Reich for the production and distribution of electricity throughout the country, it was reported in September, 1927, that most of the material which had been asked for had arrived at the Ministry for Economic Affairs, and was to be sifted and collated for subsequent submission to the Government.

**The Reich.** —The electrical interests of the Reich are concentrated in the Elektrowerke A.G., which have a capital of Mks.60,000,000; this is completely in the hands of the Vereinigte Industrie A.G. (Viag), the parent company for all the industrial undertakings of the Reich. For 1927 the Elektrowerke made a net profit of Mks.5,154,587 and distributed a dividend of 8 per cent. The most important event during the year was the agreement reached with Prussia concerning the areas to be supplied with current. This is referred to again below in connection with the Preussische Elektrizitaets A.G. Northern Germany is now divided into three large districts for the purposes of electrical power: Rhineland-Westphalia where the Rheinisch-Westfaelische Elektrizitaetswerke are predominant, the Weser area which is supplied by the Prussian company, and the Elbe with its eastern district which rely chiefly on the Elektrowerke, though the latter also co-operate in this area with other large concerns, such as the Berlin Municipal works, the A. G. Saechsische Werke and the Gesellschaft fuer elektrische Unternehmungen (Gesfue). As regards the latter, the Elektrowerke contemplate erecting with this company a new power station at Cosel, on the Oder, to meet the increasing demand for current in Silesia. The size of the station

is provisionally fixed at 150,000 kw., but it is not yet certain whether it could be run on an economic basis at Cosel.

As consumption of current increased during 1927 the Elektrowerke were further extended. The installation of a new turbine aggregate was begun at Trattendorf which will bring the capacity of the company's stations up to 450,000 kw., and that of Trattendorf to 130,000 kw. The Silesian high tension transmission line was extended and a fourth double 100,000 volt line from Trattendorf to Berlin was commenced.

The current produced during the year amounted to 1,670,000,000 kw.h., as against 1,480,000,000 kw.h. in 1926.

In April, 1928, the Elektrowerke successfully placed \$5,000,000 of 6½ per cent. gold bonds in New York. They form series C of the 1925 loan, of which \$7,500,000 had already been issued. These \$12,500,000 form the only funded debt which the company has.

**Prussia.**—1. By a law of the 24th October, 1927, the State of Prussia authorised the creation of the "Preussische Elektrizitäts A.G., in Berlin," a company into which the State-owned power stations of Grosskraftwerk Hanover A.G., Preussische Kraftwerke Oberweser A.G. and Grosskraftwerk Main-Weser were brought. The law had retro-active effect as from the 1st April, 1927, but the company actually commenced operations in November of that year. The capital is Mks.80,000,000, of which the State received Mks.54,451,000 in shares, in return Prussia waived its claim to a repayment of the advances which it had made to the three companies, it transferred to the new company the claims which the State has against certain other electricity companies for loans, further Prussia brought into the company all her participations in electricity undertakings in the provinces of Hanover, Hesse-Nassau, Westphalia, Rhineland, Saxony, Upper Silesia, East Prussia and in the Rhine-Maine-Danube Company, as well as all options on similar participations. The State further purchased Mks.11,449,000 of shares for cash.

It is stated in the first annual report of the Preussische Elektrizitäts A.G., covering the period 1st April to 31st December, 1927, that the net profit amounted to Mks.2,580,000 and that a dividend of 4 per cent. was distributed.

Through the formation of this company a more efficient administration and a more uniform supply of current has been assured for a large area which is roughly enclosed within lines connecting Emden, Wismar and Frankfort-on-Maine. The chief object is to achieve a sound and stable price policy and thus to encourage an increased consumption of current. The area will be divided into sub-districts for each of which a consultative committee will be formed.

In February, 1928, an agreement was reached between Prussia and the Reich, after some months of negotiation, concerning their respective electricity interests. These negotiations arose out of the

arrangement which Prussia had come to with the Rheinisch-Westfaelische Elektrizitaetswerke early in 1927, as the former took the place of the latter in the Braunschweigische Kohlenwerke A.G., the majority of which had been held by the Rheinisch-Westfaelische Elektrizitaetswerke and by the Elektrowerke which are owned by the Reich. By the agreement of February the Elektrowerke and Prussia obtained an equal share in the administration of the Braunschweigische Kohlenwerke A.G., and defined their respective spheres of influence.

2. The Rheinisch-Westfaelisches Elektrizitaetswerk (R.W.E.) made a net profit of Mks.13,680,000 during the business year 1926-27, and distributed a dividend of 9 per cent. on the bearer shares and of 15 per cent. on the registered shares. Its capital is Mks.155,000,000. The quantity of current sold for power amounted to 1,154,050,422 kw.h. and for light to 92,264,790 kw.h. In order to supply new districts with which contracts have been concluded three new 100,000 volt stations are being built; one at Rauschermuehle, one at the waterworks Niederhausen, near Kreuznach, and one at Cochem. The company is also constructing a reservoir power station at Herdecke on the Ruhr with a pumping force of 105,000 h.p., a capacity of 1,500,000 cubic metres and a daily output of 550,000 kw.h. Towards the end of 1927 the company had 1,150 km. of double lines carrying 100,000 volt or over, and its works together have a capacity of about 500,000 kw. As a result of the agreement with Prussia, referred to above, the R.W.E. will erect a connection from their high tension system via Hanover to the central German lignite power stations, so that the western German area will ultimately be fed not only by its own works, but also by those in central Germany and, through a southern line, by the water power stations of southern Germany and the Alps. This last line, which is of 220,000 volt, has now reached Rheinau, near Mannheim, is to be continued to the Wuerttemberg station in Heilbronn and ultimately to the Vermunt works of the Vorarlberg Ill undertaking.

The company is also reported to have matured plans in conjunction with the Tyrolese authorities for the exploitation of the water power in that portion of Austria; these schemes will, however, probably not be put into effect for a number of years.

The R.W.E. entered into a contract with the Neckar A.G. by which the former will take over all current generated by the power stations constructed in the course of the canalisation of the Neckar between Heidelberg and Neckarsulm. The Hesse Railway Company, which is a potential consumer of current, is a party to the contract. The conditions of the latter are such that the Neckar A.G. is freed of all financial risk in connection with the construction, running, maintenance and renewal of the power stations and will be able, after paying the building costs of the stations, to amortise as well the constructional work along the whole length

of the stretch in question before the expiration of the Neckar A.G.'s concession for the utilisation of the water power. This contract ensures that the further construction of the Neckar canal will be proceeded with. It may be presumed that the R.W.E. entered into the agreement rather to obtain freedom of transit for its 200,000 volt line to southern Germany than on account of the importance of the current which is likely to be produced by the Neckar stations.

3. In March, 1928, the Prussian Government voted sums totalling Mks.9,200,000 and a loan of Mks.4,600,000 to assist the Province of Hanover in the construction of certain dams in the valleys of the Soese and the Oder, the prime object of which was the avoidance of floods, the improvement of drinking water, &c., but in connection therewith two power stations producing 50,000,000 kw.h. are to be erected.

4. The Ostpreussenwerk A.G., Koenigsberg, the bulk of whose capital is held by the Reich, by the Prussian State company and by the Province of East Prussia, increased its capital to Mks.24,000,000 early in 1928. For the year 1927, during which it sold 28.5 per cent. more current than in 1926, it made a net profit of Mks.779,919, and distributed a dividend of 4 per cent. The undertaking intends to build a 60,000 volt line from Insterburg to Tilsit and is negotiating with Lithuania for its continuation to Memel.

**Bavaria:**—1. In July, 1927, the Bayernwerk concluded an agreement with the Kraftwerke Oberweser (now absorbed in the Prussian State company) for the exchange of current.

2. In September the Achensee power station in the Tyrol was opened and connected up with the Bavarian system, which takes about 85,000,000 kw.h. out of the Austrian production.

3. Towards the end of 1927 the R.W.E. made proposals to the Rhine-Maine-Danube Company for taking over the current which would be produced by 13 power stations to be erected in connection with the canalisation of the Maine from Aschaffenburg to Wuerzburg. The Bavarian Government, however, directed the Bayernwerk to enter into a contract with the Rhine-Maine-Danube Company on exactly the same terms as those offered by the R.W.E. The contract is similar to the one concluded between the R.W.E. and the Neckar A.G. The Bayernwerk undertakes the interest and amortisation service of the capital outlay and pays all running costs and taxes for the first 25 years. From the twenty-sixth year the Bayernwerk will pay to the Rhine-Maine-Danube Company a small annual fixed sum in addition to meeting the running costs. It is estimated that under these conditions the cost of current to the Bayernwerk will be  $2\frac{1}{2}$  pfennigs per kw. h. during the first period and a  $\frac{1}{4}$  to  $\frac{1}{2}$  pfennig as from the twenty-sixth year. In spite of this it is anticipated that the Bayernwerk will lose about Mks.500,000 per annum on the three stations which

are to be built first, but these deficits will be covered by the Bavarian Government who would rather incur this outlay than allow a non-Bavarian concern, like the R.W.E., to obtain a footing in the distribution of electricity in Bavaria.

4. In March, 1928, the Bayernwerk purchased a majority holding in the Bayerische Braunkohlenindustrie A.G., a lignite mine at Schwandorf, with the object of constructing a large power station based on this fuel.

**Saxony.**—The total net profits of the A.G. Saechsische Werke, Dresden, for 1927 are estimated at Mks.3,200,000. From January to September, 1927, all the company's stations produced 367,560,000 kw.h., as against 271,910,000 kw.h. during the same period of the year before. The number of hands employed was 4,232 and of non-manual workers 1,180. The building programme of the company amounts to Mks.85,000,000, and includes a number of transmission lines and three new turbine sets of 35,000 kw. each. Negotiations were in progress with the Bayernwerk for the provision of current by the latter to the Saechsische Werke during the night.

**Baden and Wuerttemberg.**—In August, 1927, Baden and Wuerttemberg came to an agreement as to the linking up of their two electric distribution systems. It is provided that a 100,000 volt line from Pforzheim on the one side and Obertuerkheim on the other shall be built to meet at a point on the frontier between the two States. When completed this line will form part of a 100,000 volt transmission stretching for 570 km. from the upper Rhine to the Bavarian Walchensee stations. The cost of the Wuerttemberg section will be about Mks.2,500,000, which were obtained by a corresponding increase in the capital of the Wuerttembergische Landeselektrizitaets Gesellschaft, on the Baden side only about 10 km. have to be covered, the expenditure for which can be met out of existing resources. When the new line is finished a direct connection will exist between the systems of Bavaria, Wuerttemberg and Baden, representing altogether 1,600 km., which are served by stations with a capacity of 600,000 kw. or 1,000,000 h.p.

## VII. TRANSPORT AND COMMUNICATIONS.

### I. SHIPPING.

**Goods Traffic.**—The sea-borne cargo traffic in Germany's harbours increased by 2·3 per cent. in 1927 compared with 1926, although the stimulus which the labour troubles in Great Britain provided in 1926 was no longer operative. Its absence had a very marked effect on the relation between incoming and outgoing cargoes. While there was a big increase in outgoing cargo in 1926, owing chiefly to coal exports, and a considerable preponderance over incoming quantities, 1927 saw a return to the normal

position which is illustrated by the following comparison showing the incoming and outgoing tonnage of goods in German harbours during the last three years:—

	Incoming.	Outgoing.
	(Metric tons)	
1925 ... ..	24,874,000	12,849,000
1926 ... ..	21,673,000	24,745,000
1927 ... ..	32,143,000	15,019,000

The increase in arrivals is due largely to ores and cereals. The decline in departures is considerably greater than the total decrease in exports, so that sea-borne traffic had a smaller share in German foreign trade than in 1926. The following table gives the details for the various harbours and differentiates between foreign and German traffic:—

## SEA-BORNE GOODS TRAFFIC DURING 1927.

Ports.	Total.		Of which foreign.	
	Arrivals.	Departures.	Arrivals.	Departures.
	(In 1,000 tons)			
Koenigsberg ... ..	922	513	687	283
Stettin ... ..	3,018	1,049	2,272	844
Sassnitz ... ..	89	116	89	116
Rostock ... ..	181	218	155	196
Luebeck ... ..	1,179	553	864	520
Kiel ... ..	445	98	213	59
Flensburg ... ..	214	52	135	27
Hamburg ... ..	16,795	8,330	16,206	7,349
Altona ... ..	809	114	726	92
Harburg ... ..	1,158	391	1,113	325
Bremen ... ..	3,033	1,460	2,727	1,242
Bremerhaven ... ..	914	178	857	148
Brake ... ..	547	75	535	68
Nordenham ... ..	123	130	90	123
Emden ... ..	2,465	1,382	2,389	413
Rhine Harbours ... ..	251	360	53	107
	32,143	15,019	29,111	11,867
Total 1926 ... ..	21,674	24,435	19,093	21,818

As an interesting commentary on the effect of the coal stoppage it may be mentioned that 2,500,000 tons of coal were shipped through Stettin in 1926 and 175,000 tons in 1927.

Shipping traffic in German ports showed an increase of 1·7 per cent. in the number of ships and of 5·8 per cent. in tonnage compared with 1926, as the following table shows:—

## SHIPPING TRAFFIC IN 1927.

Ports.	Number of vessels arrived.	Tonnage.	Number of vessels departed.	Tonnage.
Baltic ... ..	22,394	8,131,000	21,992	8,052,000
Koenigsberg ... ..	1,544	601,000	1,547	603,000
Swinemuende ... ..	502	153,000	523	143,000
Stettin ... ..	4,123	1,987,000	4,224	2,005,000
Sassnitz ... ..	3,592	1,802,000	3,589	1,803,000
Rostock ... ..	2,920	1,811,000	2,915	1,813,000
Luebeck ... ..	4,458	933,000	4,424	933,000
Kiel ... ..	3,492	675,000	3,093	586,000
Flensburg ... ..	1,763	169,000	1,677	166,000
North Sea ... ..	37,520	32,532,000	41,072	32,441,000
Cuxhaven ... ..	3,790	958,000	3,692	898,000
Hamburg ... ..	17,864	19,805,000	21,818	19,899,000
Altona ... ..	3,531	751,000	2,654	666,000
Harburg ... ..	1,620	886,000	2,042	917,000
Wesermuende ... ..	2,163	221,000	2,096	207,000
Bremeren ... ..	4,296	5,454,000	4,346	5,402,000
Bremerhaven ... ..	1,217	2,408,000	1,364	2,424,000
Brake ... ..	308	300,000	223	280,000
Nordenham ... ..	465	247,000	537	234,000
Emden ... ..	2,266	1,502,000	2,300	1,514,000
Total ... ..	59,914	40,663,000	63,064	40,493,000
1926 (revised figures)...	59,490	38,277,000	61,430	38,397,000
1913 ... ..	59,479	31,437,000	60,375	31,226,000

**Shipping Traffic.**—The share of the German flag in this traffic rose again to 50·1 per cent. in 1927, after having fallen to 46·2 per cent. in 1926; in 1913 it was 60·1 per cent. On the other hand, the actual German tonnage participating was 8 per cent. greater than in 1913.

In drawing conclusions from the development of the tonnage engaged in traffic, it must be remembered that the steady increase in regular sailings and in the average size of ships causes a rise in the tonnage figures, which does not necessarily indicate an improvement in the economic situation of shipping in particular or of the country in general.

The following table shows the passenger movement at German ports during the last three years:—

	1925	1926	1927
<i>Emigrants</i> —			
Germans ... ..	58,395	62,003	58,791
Foreigners (formerly) resident in Ger- many ... ..	910	1,157	1,268
Foreign transmigrants ... ..	19,934	28,239	27,900
Miscellaneous German travellers ... ..	18,440	22,539	27,103
Miscellaneous foreign travellers ... ..	17,475	37,842	40,711
	<u>115,154</u>	<u>151,780</u>	<u>155,773</u>



<i>Immigrants—</i>	1925	1926	1927
Germans ... ..	32,596	29,656	38,264
Foreigners ... ..	45,375	46,786	50,510
	<u>77,971</u>	<u>76,442</u>	<u>88,774</u>
Immigrants via Hamburg ... ..	45,939	41,466	48,753

**Freight Rates.**—The fear that sea freights would fall sharply as the effects of the British coal stoppage wore off was, on the whole, not realised. Declines of course occurred, but none of importance and the average was above that of 1925, as the following table shows:—

GERMAN SEA FREIGHT INDEX (1913=100).

Month.	Coastal Traffic.	European Traffic.		Non-European Traffic.		Total Index.
		Inward.	Outward.	Inward.	Outward.	
December, 1927 ...	118·7	98·5	94·5	104·2	107·3	101·2
November, 1927 ...	119·2	100·8	90·1	107·4	111·0	102·0
December, 1926 ...	132·4	138·9	108·0	138·1	127·7	129·7
Year.						
1927 ... ..	117·1	103·3	95·5	115·2	115·7	106·2
1926 ... ..	118·9	114·0	99·8	111·0	121·7	110·6
1925 ... ..	108·6	102·7	91·8	104·8	122·8	102·3

**Mercantile Marine.**—The following list shows the development of the German mercantile fleet during the last three years and affords a comparison with 1913:—

	Number of Ships.	Gross Tonnage.
1st January, 1927 ... ..	4,045	3,420,000
1st January, 1926 ... ..	4,151	3,209,000
1st January, 1925 ... ..	4,270	3,169,000
1913 (present frontiers)	4,721	5,177,000

No figures for 1928 have yet been published, but a rough estimate may be made as follows:—

Tonnage at beginning of 1927 ... ..	3,420,000
Purchased during the year ... ..	211,890
Completed during the year ... ..	217,821
	<u>3,849,711</u>
Sold during the year ... ..	85,248
Lost or scrapped ... ..	9,703
	<u>94,951</u>
Estimated tonnage at beginning of 1928	3,754,760*

\* In the meantime the figure of the Germanic Lloyd has appeared, it is 3,731,220 g.r.t.

As the decline in the number of ships and the rise in the tonnage indicate, the size of the individual vessels has steadily increased. This applies, however, only to steamers and motor ships the average of which has gone up as follows:—In 1925, 1,424 g.r.t.; in 1926, 1,458 g.r.t.; and in 1927, 1,587 g.r.t. In 1914 the figure was 2,163 g.r.t. The average for sailing ships and lighters has fallen from 144 to 142 g.r.t. during the last two years, as against 197 g.r.t. in 1914. There was a slight increase in the proportion of tonnage of steam and motor ships to the total, the former rising from 83 per cent. to 83·6 per cent. and the latter from 7·3 per cent. to 7·8 per cent. As the following table shows, the vast majority of steam and motor ships continue to fall within the category of from 5,000 to 10,000 tons:—

## GERMAN MERCANTILE MARINE.

(Arranged according to tonnage).

Tonnage.	1st January, 1914.*		1st January, 1926.		1st January, 1927.	
	Sailing boats and tug boats.	Steam and motor boats.	(Capacity in Sailing boats and tug boats.	1,000 g.r.t.) Steam and motor boats.	Sailing boats and tug boats.	Steam and motor boats.
Less than 100 g.r.t. ...	95	14	72	17	70	17
100-500 ...	115	130	135	167	125	157
500-1,000 ...	29	193	44	257	40	254
1,000-2,000 ...	92	462	23	327	18	326
2,000-3,000 ...	134	450	19	254	19	259
3,000-5,000 ...	74	1,248	19	559	22	563
5,000-10,000 ...	6	1,647	—	1,047	—	1,203
10,000-15,000 ...	—	266	—	159	—	160
15,000 and over ...	—	284	—	110	—	187
Total ...	545	4,694	312	2,897	294	3,126

\*Pre-war frontiers.

German tonnage under five years of age amounted to 36·2 per cent. of the total, as against 48·2 per cent. during 1926, 24·8 per cent. are 20 years and over.

Germany continues to occupy sixth place among the mercantile fleets of the world, the proportion of its tonnage to the whole being 5·6 per cent. as against 5·2 per cent. in 1926 and 12 per cent. in 1914.

**German Shipping Companies.**—1. The decision of the United States Government to compensate German companies and nationals for their properties sequestered during the war is of considerable importance to German shipping. The chief beneficiaries will be the Hamburg-America Line, the North German Lloyd and the Hansa Line of Bremen. Nothing definite can yet be said about the amounts involved for shipping, but the maximum German estimate is \$100,000,000, less the value of patents and of wireless stations. This would leave \$80 to \$85 million in respect of the ships, of which about \$40 million would go to the Hapag and \$32 million to the Lloyd. American estimates are, however, very much lower, that of the Naval Board being \$20,500,000 for the Hapag, \$11,100,000 for the Lloyd and \$2,750,000 for the Hansa. No doubt the final allotment will lie somewhere between these two extremes.

2. Since the beginning of 1928 there has been a good deal of discussion as to whether the time had not come when the competition between the Hamburg-American Line and the North German Lloyd was about to lead to co-operation between the two companies. The North German Lloyd finally issued a communiqué in which it is stated that, in view of the large payments to be expected from America, informal, personal conversations had taken place between representatives of the two lines with the object of avoiding a policy which would involve an extravagant and unprofitable use of these funds. It is, the communiqué says, intended to continue these conversations, but no positive result had been arrived at. Finally, the rumour that the North German Lloyd was contemplating the transfer of one of its 46,000 tons ships, now under construction, to the Hapag was described as quite inaccurate.

The wording of the communiqué is vague and cautious, but it is evident that the possibility of some sort of understanding between the two companies must not be lost sight of. Combined with the influx of money from America it would enormously strengthen the position of German shipping. Latterly the two lines have been competing with each other in the North Sea and the Baltic in the acquisition of small companies trading with Great Britain and Scandinavia, which might serve as feeders for the main services.

3. The Acting British Consul-General at Hamburg has compiled a table from the balance sheets of the ten leading German

shipping companies showing their position in 1926 and 1927, which is reproduced as Appendix IV. In commenting on the figures the Acting Consul-General says:—

Compared with previous years the year 1927 presents the most satisfactory results since the war. The fact alone that dividends declared amounted on an average to over 8 per cent. speaks for itself and this impression is confirmed by the increases in the amounts written off for depreciation and placed to reserve.

The ten companies under review have a total share capital of 387,350,000 R.M. in 1927 compared with 337,761,000 R.M. in 1926. The extra 50 million R.M. must be placed to the account of the Hamburg-America, Hamburg-Sued and the two Africa lines.

The very interesting item "Book value of the sea-going vessels" can unfortunately not be exactly analysed owing to the fact that in several cases sea-going vessels are not shown as a separate item from auxiliary craft, and vessels under construction are also included in the case of so important a company as the Hamburg-America. An estimate, however, shows that the book value of the combined fleets in 1927 amounted to Mks.506 million against Mks.411 million in 1926.

In 1927 the working tonnage amounted to 1,923,000 tons, whereas in 1926 it amounted to 1,600,000 tons. In 1927 the specific value of the ton amounted to Mks.263 compared with Mks.233 in 1926.

As far as information is available regarding vessels under construction it appears that in 1927 357,000 gross registered tons were contracted for as against 356,000 gross registered tons in 1926; the Hamburg-America Line have 67,000 tons and the two Africa Lines have 18,000 tons more ships building than in 1926. whereas the North German Lloyd has 48,000 tons, the Hamburg-Sued 26,000 tons, and the Hansa Line 16,000 tons less under construction.

The gross profits of these 10 principal companies have increased from Mks.79 million in 1926 to Mks.113 million in 1927, which amounts to Mks.58 per ton in 1927 compared with only Mks.45 in 1926.

Expenses, which are only very summarily dealt with, in most cases show an increase of about Mks.7 million against 1926.

Practically every company has set aside increased sums for depreciation.

A total of Mks.46 million has been devoted to this purpose in 1927 compared with Mks.31 million in 1926 (in connection with this it must, however, be noted that the Hamburg-Sued has published these figures this year for the first time).

In 1926, Mks.18 were written off per ton of shipping, whereas in 1927 the amount written off is Mks.24 per ton which is equivalent to 9.1 per cent. of the book value of the fleet in 1927 compared with 7.5 per cent. in the year 1926.

The Hansa Line especially devotes a considerable sum to this purpose, *i.e.*, 14.5 per cent., whereas the North German Lloyd has written off somewhat less than in the previous year. This item shows an increase in all other companies.

The net profits amount to approximately Mks.31 million against Mks.17 million in 1926, *i.e.*, an increase of about 80 per cent. The average dividend amounted to 8.1 per cent. whilst in 1926 the percentage was 6.6 per cent. The assistance of the Reich in paying interest on loans could only be claimed if dividends did not exceed 8 per cent. The method of this assistance was explained on page 77 of last year's report. It provides for an annual sum of Mks.3 million during a period of six years.

4. There are no outstanding features in connection with the individual companies which call for any additional remarks. It may be mentioned, however, that the already friendly relations between the North German Lloyd and the Hansa Line were further consolidated by the exchange of Mks.2,000,000 Hansa shares for Mks.3,000,000 Lloyd shares and the nomination of a director by each company to the board of the other.

5. In April, 1928, on the occasion of the arrival of the ss. "Columbus" at Bremerhaven, the scheme for an aeroplane connection with the steamer, arranged by the North German Lloyd with the Lufthansa, was for the first time put into operation. The object is to enable passengers from the ship to continue their journey at once by aeroplane into the interior of Germany without having to wait for train connections. The service which this year will be run only for the "Columbus," consists of three large passenger aeroplanes for the routes Bremerhaven-Berlin; Bremerhaven-Leipzig-Dresden-Prague and Bremerhaven-Frankfort-on-Maine-Munich, and of a fourth machine for special flights.

## II. INLAND WATERWAYS.

**Traffic.**—There was a slight increase in the goods traffic on German inland waterways during 1927 compared with 1926, in which year traffic was large owing to the effect of the British coal stoppage, and even exceeded that of 1913. The further rise in 1927 was due to the generally improved industrial and commercial situation.

The transport of coal on inland waterways naturally showed a reduction; the latter amounted to about one-eighth. Thus the big fall in departures from Duisburg and in exports via Emmerich is attributable almost entirely to the diminution of coal traffic. Similarly all the sea ports, except Bremen, received less cargo from the inland waterways for the same reason. Imports via Emmerich more than made good the above deficiency; this was due chiefly to ores and cereals which were also responsible for an increased despatch from the sea ports on inland waterways and for the larger arrivals in the harbours of the upper Rhine and the Maine. The decline of cargo arriving at Hamburg by river is partly due to the big drop in sugar exports from Czechoslovakia, which came via Schandau, the German port of entry on the Oder; traffic at this place was further adversely affected by the falling off in the exports of lignite from Czechoslovakia.

**Freight Rates.**—In spite of the greater quantities transported freight rates did not go up in 1927 compared with 1926, but were generally lower than in the last two years, with the exception of those in east Prussia. It must, however, be pointed out that a vigorous rise set in in all areas, except that of the Danube, from September, 1927, to the end of the year.

In the following the position is summarised in tabular form :—

GOODS TRAFFIC AT THE CHIEF GERMAN INLAND HARBOURS DURING 1926 AND 1927.

	Total Goods Traffic.				Of which coal.			
	Arrived.		Departed.		Arrived.		Departed.	
	1926	1927	1926	1927	1926	1927	1926	1927
				(In 1,000 tons)				
Koenigsberg ... ..	388	424	153	170	2	7	93	37
Kosel ... ..	729	736	2,394	2,500	3	1	2,244	2,418
Breslau ... ..	150	262	600	511	6	14	394	332
Stettin and Swinemunde ... ..	2,113	1,400	984	1,216	1,013	552	161	215
Berlin ... ..	4,324	5,589	1,000	910	1,045	1,509	14	14
Magdeburg ... ..	587	786	575	641	61	84	27	25
Hamburg ... ..	4,966	3,902	3,343	5,089	820	152	350	557
Hanover and neighbourhood ... ..	724	800	604	687	663	704	4	—
Emden* ... ..	1,775	1,533	1,866	2,270	1,695	1,480	20	—
Duisburg ... ..	3,196	5,739	24,045	18,491	156	151	22,688	17,096
Mannheim and Ludwigshafen ... ..	7,054	8,673	2,247	1,658	4,238	4,939	598	70
Karlsruhe ... ..	1,307	1,806	209	249	1,132	1,550	37	1
Kehl ... ..	579	836	184	239	321	369	114	57
Frankfort ... ..	1,308	1,811	124	126	682	858	—	—
Aschaffenburg ... ..	644	883	93	66	525	644	14	5
Passau and Regensburg ... ..	300	362	264	353	7	15	7	10
Bremen, Weser Lock ... ..	1,520	1,726	288	523	819	937	1	1
Ruhr District (Munster Lock) ... ..	2,226	2,773	3,764	3,750	16	11	3,629	3,514
„ „ (Duisburg Lock) ... ..	1,621	2,846	10,592	10,615	51	15	9,493	9,638
From abroad via Emmerich ... ..	38,020	29,763	14,043	24,069	28,840	20,771	163	683
„ „ Schandau ... ..	556	813	1,641	1,110	—	—	607	258
Total ... ..	74,087	73,463	69,013	75,243	42,095	34,763	40,658	34,931

\*No traffic from the 21st November to 5th December, 1927, as canal was closed during this period.

INDEX FIGURES OF INLAND SHIPPING FREIGHTS.  
(1913=100).

District.	1925	1926	1927
All inland waterways ... ..	119·1	129·2	111·1
Rhine district ... ..	114·0	133·2	105·2
Danube district ... ..	106·3	104·8	107·6
Elbe-Oder district ... ..	124·4	126·2	117·8
East Prussia ... ..	110·3	116·0	122·7

**Financial Assistance.**—Towards the end of 1926 the Reich made arrangements with three shipping banks for the provision of funds to assist the owners of inland shipping in the construction and renovation of tonnage. The assistance of the Reich consists in taking over mortgages from the banks on favourable conditions. It would appear that the owners have received about Mks.6,000,000 (£300,000) in this way. In addition it would seem that Mks.3,000,000 were voted to alleviate the distress of small owners. Published information is, however, scanty and vague.

**Canals.**—1. The Reichstag had asked the Government to bring in a separate financial vote in respect of canal work. Unfortunately this request was not acceded to, but the Ministry of Transport submitted a memorandum dealing with the building programme until 1937; this provides that:—

(a) The main line of the Mittelland Canal from Peine to Burg shall be constructed and work done on its southern extension in the Halle, Leipzig, Bernburg area.

(b) The work on the Ihle Canal, the Plauer Canal and the Oder-Spree Canal shall be completed.

(c) The Kachlet barrage on the Danube near Passau, the low water regulation of the Danube from Regensburg to Passau and the canalisation of the Main from Aschaffenburg to Wuerzburg shall be completed.

(d) The Neckar from Mannheim to Heilbronn shall be canalised.

The object of the programme is to connect the western and eastern waterway systems and to give Northern Bavaria and Wuerttemberg access to Rhine shipping.

The memorandum goes on to justify the policy of the Government in regard to waterways and states that the Government will have the power, through altering the shipping dues, of protecting the railways from insupportable losses. Generally speaking the Reich will bear two-thirds and the States affected one-third of the costs of the proposed work. The share of the Reich till 1937 is estimated at Mks.337,300,000 (£16,865,000).

2. In the 1928-29 budget a sum of Mks.67,758,000 is set aside in the ordinary budget for canals and waterways and Mks.12,959,000 for administration; the extraordinary budget includes an expenditure of Mks.58,081,000 on canals and waterways.



3. The position of the work on the Rhine-Maine-Danube Canal and the Neckar Canal is explained in the section dealing with electricity, as the finance is in both cases being guaranteed or provided by electricity undertakings. On July 26th, 1927, the Mannheim-Heidelberg section of the Neckar Canal was opened.

4. In October, 1927, the portion of the Ruhr which had been canalised from the Rhine to Muelheim so as to connect the latter again with the main stream after a lapse of nearly 40 years, was opened to traffic. It will take barges of up to 2,300 tons. A power station has been erected at one of the locks with a maximum of 7,000 h.p. and an annual production of 18,000,000 kw.h.

### III. RAILWAYS.

**Goods Traffic.**—A further indication of the pronounced industrial and commercial activity in Germany during 1927 is afforded by the railway goods traffic which was appreciably greater than in 1926. For short distances the additional employment of light, quick goods trains improved and shortened the services considerably and successfully met the competition of other means of transport. For long distances also better times were achieved by the reorganisation of connections, of which the following are some examples:—

Hamburg to Kufstein	now 56 hours	instead of 73	hitherto.
Hamburg to Passau	.. 40	.. 46	..
Bremen to Salzburg	.. 55	.. 69	..
Basel to Cologne	.. 17	.. 23	..

The use of the Kunze-Knorr brake for goods trains was extended, the proportion of trucks connected to this continuous brake and running in goods trains in 1927 was 93 per cent. as against 89 per cent. in 1926 and 83 per cent. in 1925. The number of guards on goods trains is now no greater than that on passenger trains. Goods trains up to 60 axles and trains of the largest types of trucks are being experimentally run with the vacuum brake and one guard only.

**Motor Vehicles.**—There was a further increase in the use of motor vehicles by the railways for goods and passenger traffic. Tests continue to be carried out in conjunction with the various motor transport companies and future policy depends upon their result.

**Air Transport.**—Since the 1st October, 1927, an arrangement exists between the Railway Company and the Lufthansa by which goods can be despatched under a uniform joint waybill for alternate transport by both these means of communication whichever is the more suitable and expeditious.

**Passenger Traffic.**—Passenger traffic was also greater than in 1926, the rise in persons carried and in km. travelled being 7 per cent. and in receipts 4 per cent. The number of passengers carried by the Reichsbahn during 1927 was 1,923,700,000, in 1926 the total was 1,819,400,000. It is remarkable that in spite of the lively activity during 1927 the numbers

carried were 9 per cent. less than in 1925, a much quieter year. The difference is, at any rate partially, accounted for by the increasing importance of motor vehicles for passenger transport. The average number of passengers carried per month was 160,000,000 in 1927 as against 131,000,000 in 1913 (present frontiers). Except for an unimportant reduction of fares on the Berlin local railways, passenger rates have remained unchanged since May 1st, 1925, nevertheless the rise in receipts did not correspond to the increase in the number of passengers, an indication that there was a greater use of cheaper trains and classes. The takings per person and km. amounted to 2·92 pfennigs in 1927 and 2·97 pfennigs in 1926. The share of the receipts from passenger traffic in the total revenue of the railways has been as follows:—1913, 27·3 per cent.; 1925, 30 per cent.; 1926, 28 per cent.; 1927, 26·6 per cent. The number of passenger trains was slightly increased in May, 1927, so that the train kilometres run in that year were about 359,000,000 which is 4 per cent. more than in 1926, but 15 per cent. less than in 1913.

**Locomotives.**—The average run of a locomotive between two general overhauls was increased to 81,000 km., which is 10 per cent. more than in 1926. The total number of steam locomotives was reduced by 1,100 in the course of the year by the elimination of old and unremunerative machines. The fuel consumption of German locomotives remained at 12·80 tons per 1,000 locomotive km. as against 13 tons in 1913.

**Electrification.**—At the end of 1927, 1,107 km. of long distance track were electrically run and 112 km. of town and suburban lines. Together they represent 2·3 per cent. of the total lines in the Reich. The electrified lines added during 1927 consisted of 192 km. of long distance track, mostly round Munich, and 21 km. of suburban line at Berlin. At the end of 1927, 325 km. of both types of track were being equipped for electrical traction. Ninety electric locomotives were ordered during the year. The self-propelled units for alternating current proved satisfactory in Bavaria, and a further 20 were ordered. The self-propelled units used on the Berlin urban and suburban railways are run on single phase current, and the first of an order for 749 motor and passenger coaches of this type were delivered towards the end of 1927.

**Goods Tariff.**—The normal goods tariff was altered as follows with effect from the 1st August, 1927:—Freights in Class A were reduced by 5 per cent., in Classes B and C by 7 per cent., and in Class D by 2 per cent. The clearing charges in Classes B and C were reduced by 10 per cent. A new Class D1 was created with rates about 20 per cent. below those of Class D.

The loss in revenue resulting from the above reductions and from their effects on the special tariffs and the tariff for animals is estimated to be at least Mks.74,000,000 per annum.

The policy of introducing special tariffs for goods exported and imported through German ports was continued with the object of assisting German exports, facilitating the import of necessary raw materials and meeting the competition of foreign harbours. The following new special export tariffs via German ports were introduced during the year :—No. 145 for acetic acid ; No. 162 for iron plates, wire, rails, open hearth pig iron (Stahleisen), sections and tubes from Upper Silesia ; No. 163 for caustic potash and carbonate of potash ; No. 164 for merry-go-rounds ; No. 156 for sulphate of copper and gypsum powder mixture ; No. 165 for graphite smelting crucibles, also when exported over land frontiers.

Among the reductions and extensions of existing export tariffs it is of interest to note that pig iron, ingot steel, semi-manufactures, iron and steel goods were given a more favourable classification, also that coastal tariff 53 for yarns and woven tissues which had until then only applied to western and southern Germany was extended to Bavaria, Saxony, central and eastern Germany.

All coastal tariffs were made applicable to express goods in order to assist the export of such goods through German ports.

The special tariff No. 6 for coal was lowered as follows :—For 1-6, 9 and 12 km. by 2 pfennigs per 100 kg ; for 13-17 km., 19, 20, 22, 25 and 30 km., by 1 pfennig per 100 kg.

Special tariff No. 6u for coal transhipped on the Rhine and Maine was reduced by 1-6 pfennigs per 100 kg. from Mannheim and Ludwigshafen to stations in Southern Baden and Southern Wuerttemberg.

On February 24th, 1927, a special tariff was introduced for coal (including briquettes and coke) from the Ruhr and the Aix-la-Chapelle area to Italy if a minimum quantity of 30,000 to 45,000 tons per month is sent. The reductions in freight under this tariff go up to 12½ per cent.

On November 4th, 1927, a special tariff was introduced for coke from Ruhr stations to certain Austrian stations via Salzburg, if a minimum quantity of 240,000 tons per annum is transported and if a minimum quantity of 120,000 tons of iron ore is transported to the Ruhr over the same lines. The reduction is 10 per cent.

**Passenger Traffic.**—As already mentioned, passenger tariffs have not been altered since 1st May, 1925, and still are as follows :—

3·3	Pfgs. per km, for the fourth class.			
5	"	"	third	"
7·5	"	"	second	"
10·8	"	"	first	"

including transport tax.

A number of modifications were introduced during 1927 for the benefit of season ticket holders, passengers on urban and suburban lines, parties using special trains, &c. As an experiment a reduction of 25 per cent. was introduced for foreign visitors to recognised German fairs and for Germans visiting similar fairs abroad.

In the course of the year several special party tariffs were arranged with other countries :—England via Dutch, Belgian and French ports, Switzerland, Austria, Italy and Holland.

(NOTE.—At the beginning of June the Government decided that an increase in passenger and goods tariffs was not necessary for the time being.)

**Financial.**—The financial position of the Railway Company at the end of 1927 is shown by the following summary :—

OPERATING ACCOUNT OF THE GERMAN RAILWAY COMPANY FOR  
THE BUSINESS YEAR, 1927.

<i>Operating Receipts.</i>		Mks.
Passenger traffic and luggage ... ..		1,379,571,978·57
Goods traffic ... ..		3,226,400,653·45
Other receipts ... ..		433,296,590·86
Total ... ..		5,039,269,222·88
<i>Operating Payments.</i>		Mks.
I. Payments for Traffic and Maintenance—		
(a) Payments to Staff—		
Salaries of officials ... ..		1,068,395,590·86
Wages of employees and workmen of Traffic Department ... ..		399,646,915·14
Pensions and retaining pay of officials or other persons having claims on the Company ...		423,966,358·33
Other payments on account of staff ... ..		286,074,494·80
Total ... ..		2,178,083,359·13
Less—General costs in connection with the renewal and the extension of installations ... ..		88,624,568·45
Balance (a) payments to staff ... ..		2,089,458,790·68
(b) Payments for material—		
Consumption of coal and other working material, maintenance of furniture and equipment ...		440,115,211·34
Maintenance of permanent way and structures ...		308,477,135·27
Maintenance of rolling-stock ... ..		542,041,362·86
Other payments for material ... ..		97,561,348·11
Total ... ..		1,388,195,057·58
Less—General costs in connection with the renewal and the extension of installations ... ..		39,816,835·10
Balance (b) payments for material ... ..		1,348,378,222·48
Total payments for traffic and maintenance ((a) and (b)) ... ..		3,437,837,013·16
II. Payments for Renewals—		
Renewal of furniture and equipment ... ..		2,166,626·88
Renewal of permanent way and structures ... ..		479,324,748·18
Renewal of rolling-stock ... ..		239,435,180·80
Total payments for renewals ... ..		720,926,555·86
Grand Total of Operating Payments (I + II) ... ..		4,158,763,569·02
Surplus ... ..		880,505,653·86

BALANCE SHEET OF THE GERMAN RAILWAY COMPANY ON DECEMBER 31, 1927.

ASSETS.		Mks.	LIABILITIES.		Mks.
Concession in respect of the original railway property taken over ... ..		24,463,333,333·33	Ordinary shares ... ..		13,000,000,000·00
Concession in respect of increase of plant ... ..		995,141,607·76	Preference shares :—		
Working supplies ... ..		407,538,963·44	(a) The proceeds of which the Reich is entitled to claim ... ..		500,000,000·00
Cash in hand ... ..		66,080,047·05	(b) the proceeds of which go to the German Railway Company ... ..	1,500,000,000·00	
Credit balances with banks ... ..		374,109,090·97	Less those not yet issued	1,119,000,000·00	
Instalment paid on preference dividend (Series IV) ... ..		5,250,000·00			381,000,000·00
Securities ... ..		171,567,728·88	Reparation Bonds ... ..		10,963,333,333·33
Commercial paper ... ..		994,400·00	Legal Reserve ... ..		304,975,050·12
Claims :—	Mks.		Working reserve ... ..		756,085,548·72
On traffic receipts account ... ..	11,386,221·69		Reserve for writing off concession ... ..		340,000,000·00
On insurance and welfare organisations ... ..	131,832·89		Sundry debts :—		
Other claims ... ..	76,970,816·61		Caution money and Suspense Account ... ..	4,124,486·06	
		88,488,871·19	Credits of the Reich :—		
Suspense accounts ... ..		49,096,509·65	To combat unemployment ... ..	80,000,000·00	
Holdings in other undertakings ... ..		16,500,000·00	To complete lines the construction of which has been interrupted ... ..	28,700,000·00	
			Insurance and Welfare Organisations ... ..	5,056,594·48	
			Other debts ... ..	39,994,664·22	
					157,875,744·76
			Net profit ... ..		234,830,875·34
			To be distributed as follows :—		
			Preference dividend instalment paid on Bonds of Series IV ... ..	5,250,000·00	
			Still to be paid (Series I, II, III and balance of IV) ... ..	56,409,202·13	
					61,659,202·13
			Carried forward to next year	173,171,673·21	
					234,830,875·34
Total... ..		26,638,100,552·27	Total ... ..		26,638,100,552·27

Gold mark amounts are entered at the rate of one gold mark = one reichsmark.

**Personnel.**—In January, 1928, the personnel of the Reichsbahn consisted of 649,584 permanent employes and 9,065 temporary workmen; during February the numbers were reduced to 647,900 and 8,279.

On the 1st October, 1927, when the reorganisation of the salaries of the officials of the Reich came into effect, separate legislation dealing with railway officials was introduced, so that in future their pay can be adapted to their peculiar needs.

After unsuccessful negotiations between the Railway Company and its workmen the Minister of Labour made a binding award on the 14th April, 1927, by which the wages of all workmen over 24 years of age in Classes I to VII were to be increased by 4 pfennigs for the period 1st April to 30th September, 1927, and by 3 pfennigs for those of Class VIII. After the 1st October a further rise of 1 pfennig was to be made. Overtime beyond 48 hours a week was to be paid for at the rate of 15 per cent. for the 49th to the 51st hour and at the rate of 25 per cent. for the 52nd to the 54th hour.

The foregoing arrangement was terminated by the trades unions on the 31st March, 1928, and after negotiations under the auspices of the Ministry of Labour a new arrangement was arrived at which provided for the following additions to wages in the various districts and groups:—

District.	1	2	3
	(Pfennigs)		
Class I... ..	6	5	5
„ II ... ..	5	4	4
„ III ... ..	5	4	4
„ IV ... ..	5	4	4
„ V ... ..	4	4	3
„ VI ... ..	4	3	3
„ VII ... ..	4	3	3
„ VIII ... ..	5	3	3

Notice of termination may not be given before the 31st January, 1929.

Only one short strike, involving 1,650 men in the Dresden district, occurred during 1927.

During the year Mks.37,200,000 were expended in benefits as follows:—

	Mks.
To serving officials ... ..	14,300,000
To pensioned and half-pay officials and their relicts ...	5,400,000
To workmen, invalid workmen and their relicts ...	13,500,000
Emergency relief for pensioned and half-pay officials ... ..	4,000,000

The Railway Company lent co-operative building societies Mks.16,000,000 on second mortgage, and with this assistance a

building programme of 8,000 railwaymen's dwellings was undertaken which will cost about Mks.90,000,000.

**Maintenance and Innovations.**—During the year 4,072 km. of main lines and 12,650 points were completely renewed. A new type of rail 30 metres long instead of 15 metres, as hitherto, has been used, and it is proposed in future to employ it with wooden sleepers on the more important express routes, on bridges and in tunnels, in order to diminish the number of shocks, to ensure even running and less noise.

A locomotive burning powdered coal was completed and tested. The experiments warrant the hope that at last a practical locomotive firing system for this type of fuel has been found. Further, a high pressure locomotive with a boiler pressure of 60 atmospheres was carefully tested and the turbine locomotive, which has been in use for some time, was approved. Two kinds of self-propelled units with Diessel motors and wheel drive were completed and taken into service, and one unit with suction gas motors was completed for testing.

The total building and equipment programme of the Railway Company reached the sum of Mks.1,800,000,000 (£90,000,000). Since November, 1926, the Railway Company has ordered from the Stahlwerksverband 1,230,000 tons of steel material for delivery by the end of May, 1928.

#### IV. AVIATION.

**General.**—In reviewing German aviation during 1927 the Minister of Transport stated that the effects of the Paris Agreement of May, 1926, which removed nearly all restrictions had made themselves felt and enabled progress to be made both as regards the technique of aeroplane and engine construction and the organisation of air transport, particularly internationally. With regard to the latter, air agreements were concluded between Germany and Great Britain, Italy, Spain and Czechoslovakia.

Internal legislation and organisation were also proceeded with. Thus the wireless stations at aerodromes were subordinated to an "Aerial Safety Centre" under the direct control of the Minister of Transport. Another innovation of the Ministry is the introduction of an express wireless service for the rapid dissemination of information which is of importance to aviation. Such information is now sent out daily by the wireless station at the Tempelhof aerodrome to all other aerodromes with wireless receivers instead of only appearing once a week in the official publication.

The Minister mentioned that the increasing size and power of aeroplanes had unfortunately not brought any nearer a solution of the question how to make aviation pay and that consequently, if funds remain as they are, a certain reduction in air lines will be inevitable. The Minister regards this problem as chiefly a technical one and accordingly the subsidy for air transport has not

been increased, in fact some items have been reduced in the current budget in order that larger means may be available for assisting aeroplane and engine construction and for extending the research system.

**Finance.** —The foregoing principle certainly seems to have been put into practice in the current budget. It is difficult to ascertain how much has actually been set aside for aviation, because this item is not shown separately. The sums provided in the budget for aviation amount to Mks.52,534,395. In addition the German States contribute in their budgets a total of approximately Mks.6,000,000 per annum. The total furnished by the Reich is to be used for the following purposes :—

	Mks.
To air-transport undertakings ... ..	20,165,000
(which is Mks.1,900,000 less than in 1926-27.)	
To aeroplane and engine constructors, scientific development and advance in general efficiency ... ..	19,500,000
(An increase of Mks.10,800,000 on the previous year.)	
For aerodromes and auxiliary services ... ..	5,800,000
For the training of pilots ... ..	4,650,000
For exhibitions and competitions ... ..	2,000,000

It may be added that the Reich pays the Lufthansa Mks.2 for every km. flown on a subsidised line and provides the company with material assistance in the shape of new machines, replacements, instruments, &c., to the extent of Mks.5,000,000.

**Lufthansa.** —The Lufthansa was founded in 1926 with a capital of Mks.25,000,000, of which 26 per cent. is held by the Reich, 19 per cent. by the States, 27½ per cent. by the districts and their public companies and 27½ per cent. by private firms. Apart from traffic receipts the company receives about 70 per cent. of the balance of its current funds from the Reich and 30 per cent. from the States and districts.

The receipts of the Lufthansa during 1927 from traffic amounted to Mks.30,040,582 and from other sources to Mks.574,738, making a total of Mks.30,615,320. Expenses were Mks.23,638,209, leaving a gross profit of Mks.6,977,111. Of this Mks.6,958,056 were written off and the balance of Mks.19,054 was placed to reserve. Of the traffic receipts only Mks.6,500,000 were actual takings, the balance being subsidies from States and districts.

The following are the results during the last two years :—

	1927	1926
Number of passengers carried ... ..	102,681	56,268
	kg.	kg.
Freight carried ... ..	641,186	258,464
Luggage carried ... ..	821,921	358,945
Mails carried ... ..	479,816	301,945
	km.	km.
Distance flown ... ..	9,208,029	6,141,479



There is a strong tendency amongst German towns to assure for themselves a regular air connection, and with this object in view they construct aerodromes and pay subventions to the Luft-hansa in return for its services. Thus the company visited no less than 92 aerodromes during 1927, as against 72 in 1926. The expediency of this proceeding is very doubtful as only small single aeroplanes can be used for this local traffic, which neither assists the technical development of German aviation nor has any chance of becoming profitable.

At the end of 1926 the Lufthansa owned 120 aeroplanes, of which 31 were large passenger machines, and at the end of 1927 140, of which 41 were large passenger machines.

The company stated that it was aiming not so much at the institution of new lines as at developing traffic between large centres and avoiding as much as possible intermediate landings. It was also intended to introduce several services a day on routes where the amount of traffic warrants it.

As a result of agreements with neighbouring States the following international lines were added to the Lufthansa services during 1927:—Berlin-Breslau-Vienna; Berlin-Prague-Vienna; Chemnitz-Marienbad; Chemnitz-Prague; Geneva-Marseilles; Munich-Prague-Breslau; Stettin-Oslo.

On April 23rd, 1928, the company put into operation the greater part of its summer programme which embraces 90 lines. During the busiest part of the season the daily distance flown will be 60,000 km., that is 3,000 km. more than in 1927. Among the new lines that to Madrid may be mentioned. The Munich-Milan service, reported last year, did not come into operation, but is now to be run experimentally for freight and mails, with a stop at Trient. A line from Travemuende to Kolmar will be run with connections to Stockholm on the one side and to Hamburg, Bremen and the Rhineland on the other, so that it will be possible to fly from Cologne to Stockholm in 11 hours. Among journeys which have been shortened by better organisation and the omission of intermediary landings, the following may be mentioned:—Berlin-Moscow by three hours; Berlin-Basle by 70 minutes; and Berlin-Paris by 40 minutes. Further, the luxury non-stop flight of  $5\frac{1}{2}$  hours from Berlin to Paris and return, starting at 12 noon, on Sundays only, has been inaugurated.

In addition to the night line Berlin-Danzig-Koenigsberg further international routes, viz., Berlin-Breslau and the Near East and Berlin-Hanover-Essen-London are being provided with beacon and night-landing equipment.

The agreement between the Lufthansa and the Railway Company for the carriage of freight on a joint waybill has already been referred to in the section dealing with the railways. Its object is to extend the benefits of air-transport to towns and districts which have no direct air connection of their own.

A task at which the Lufthansa is working steadily is the institution of regular trans-ocean lines. The first route aimed at is from Spain to South America, via the Canary and Cape Verde Islands. In conjunction with the Condor Syndicate experience was gathered on the South-American portion of this route. The firm of Rohrbach is constructing three "Romar" flying boats and Dornier a "Dox" flying boat for this purpose, and the experimental flights of the former will be carried out from June to August.

Among the new types of aeroplanes which Lufthansa is putting into commission this summer are the Junkers G.31 which is already in service, the Caspar C.35, a bi-plane with a BMW VI motor of 550 h.p. and accommodation for two pilots and eight passengers, and the M.20 with the same type of BMW motor. The Dornier Superwal will, for the first time, be employed on a regular service over the Baltic to the Scandinavian capitals, to be joined later by the Rohrbach "Rocco." Germany possesses eight seaplane harbours, Norderney, Wilhelmshaven and Sylt on the North Sea and Kiel-Holtenau, Luebeck-Travemuende, Warnemuende, Stralsund and Stettin on the Baltic.

The Raab Katzenstein Werke at Kassel have come to an arrangement with Messrs. de Haviland for the construction in Germany of moth aeroplanes.

**Airship.**—An airship, the LZ 127, is nearing completion at Friedrichshafen. The length of her skeleton is 235 metres and her maximum diameter 30·5 metres; she will have five 530 h.p. Maybach engines giving her a speed of about 75 miles an hour; she is to carry a crew of 26, 20 passengers or 15 tons of freight, and to have a range of about 6,250 miles. A novel feature is that gas fuel instead of petrol will be used. The Government of the Reich have provided Mk.s.1,100,000 during 1927-28 which are urgently needed to enable the work to be brought to a finish.

In October, 1928, an international air exhibition is to be held in Berlin. The following countries have signified their intention of exhibiting:—Austria, Belgium, Bolivia, Czechoslovakia, Denmark, Great Britain, France, Greece, Hungary, Italy, Mexico, Russia, Sweden, Switzerland, Turkey and the United States.

## V. POSTS AND TELEGRAPHS.

**General.**—All branches of postal work showed a favourable development during 1927, as the following figures indicate:—

POSTS AND TELEGRAPHS.

	1927*	1926	Percentage, 1927, compared with 1926.
<i>A. Postal Traffic—</i>	Mks.	Mks.	
Postal Money Orders and payments into postal cheque accounts ... ..	21,671,100,000	18,967,800,000	114·3
	No.	No.	
Number of packages despatched ...	299,100,000	267,300,000	111·9
Of which to Saar area and foreign countries ...	10,900,000	9,400,000	116·0
Number of packages received from Saar area and foreign countries ... ..	3,900,000	3,100,000	125·8
<i>B. Telegrams—</i>			
Number of telegrams despatched ...	37,700,000	36,300,000	103·9
Of which to Saar area and abroad ...	7,900,000	7,400,000	106·8
Number of telegrams received from the Saar area and foreign countries ...	7,400,000	7,600,000	97·4
<i>C. Telephone—</i>			
Total number of calls—			
Local calls ... ..	1,972,800,000	1,791,800,000	110·1
Suburban and district calls ... ..	33,300,000	32,700,000	101·8
Long distance calls ... ..	234,300,000	227,800,000	102·9
	Mks.	Mks.	
<i>D. Total Receipts—</i>	1,960,700,000	1,696,500,000	115·6
Of which from telegrams ... ..	101,100,000	87,700,000	115·3
„ „ telephone ... ..	648,900,000	594,000,000	109·1

\*Preliminary figures.

**Finance.**—In order to meet the necessary expenditure for new building and equipment a loan of Mks.300,000,000 (£15,000,000) had been included in the estimates for 1927-28. In view, however, of the tightness of the money market it was found impossible to place it and an increase in postal, telegraphic, telephone and postal cheque rates had to be introduced during the year. An additional Mks.196,000,000 was thus secured for 1927 and the remaining requirements were met by a reduction of Mks.86,000,000 in expenditure and the transfer of Mks.20,000,000 to the following financial year. The proposed loan has been reduced to Mks.150,000,000; it is intended to issue Mks.50,000,000 of this sum during 1928. There are, further, Mks.24,000,000 still to be taken up from 1926; in that year Mks.150,000,000 of Treasury notes, expiring on the 1st October, 1930, were issued, which are to be converted before that date. The post will, therefore, have to raise at least Mks.374,000,000 of loans during the next three years and its financial position may accordingly still be regarded as somewhat strained.

**Postal Rates.**—The increase in telephone rates came into effect on May 1st, 1927, that for parcels on October 1st and the remainder on August 1st. The rise in respect of letters, post cards, printed matter, business papers, samples and mixed consignments was on an average 50 per cent. The rates for parcels were put up considerably for distances below 350 km., beyond this limit the charges for certain weights were reduced and for others remained unchanged. The fees for postal orders were increased by 50 per cent. for amounts over Mks.10 and up to Mks.25, while those for amounts over Mks.500 and up to Mks.1,000 were lowered by 16·7 per cent. to 25 per cent. In the case of postal cheques the fees for amounts up to Mks.250 were increased by from 50 per cent. to 25 per cent., for amounts of Mks.1,250 and over by 16·7 per cent. to 66·7 per cent. Similarly, telegram charges became more expensive, so that they are now two and a half times the pre-war rate for local telegrams and three times for others. The increase for press telegrams is 60 per cent. over 1913. The telephone rates were reduced for short distances up to 75 km. and conversations between 7 p.m. and 8 a.m. are only reckoned at two-thirds of the day rate, but the charges continue to be well above those of 1913.

**Organisation and Equipment.**—The Ministry of Posts is making every effort to expand its services and to keep them up to date. The position may be summarised as follows from statements of the Minister and of his officials :—

The Post Office owns 7,600 large type motor vehicles which cover a mileage of 31,500 km. As an innovation country post offices are being supplied with small delivery vans, so as to provide a better service for villages. The total length of cables amounts to 8,000 km., containing 3,400,000 km. of effective lines, 56 per cent. of which are underground. A new direct cable, Berlin-Hamburg-U.S.A., is projected, which will make Germany less dependent upon

foreign systems. For the office work machines are being introduced for as many processes as possible, such as stamping, addressing, calculating, registering, etc., Efforts are also being made to achieve the greatest possible degree of standardisation by evolving uniform types of motor vehicles, post boxes, telegraph instruments, telephones, tools, etc. The full effect of standardisation will, however, not begin to make itself felt until the existing older apparatus has been gradually used up. The installation of automatic telephones is progressing, and at present 683,000 main connections (28 per cent. of the total) are of this kind ; they are served by 149 large, 273 medium and 369 small automatic exchanges. In administration decentralization has been aimed at, with the result that the officials at the Ministry have been reduced by 22 per cent. At the same time 14 Postal Directorates (Oberpost direktionen) have been abolished and their duties distributed amongst the remainder ; the presidents of the directorates have now been invested with wider powers and increased responsibility, the activities of the Ministry being confined to matters of principle only.

**Radio.**—Germany possesses 2½ radio transmitting stations, and the greatest attention is being devoted to the perfection of all types of radio. In August, 1927, a direct public radio telegraph service was opened by the Transradio A.G. between Berlin and the Philippines (Manila); the rate is Mks.3·20 per word for ordinary and 95 pfennigs for press telegrams. For the time being Germany is dependent upon the London stations for radio telephony to the United States, but preparations are being made for a direct service with a transmitter at Nauen and a receiver at Beelitz. During the autumn radio telephony between Berlin and Buenos Aires is to be opened. About the same time Berlin is to be connected with Mexico and Siam by short wave radio telegraphy and telephony. Towards the end of 1928 the large radio transmitting station which is being built in Japan by German firms will be finished so that sending will then be possible in both directions instead of, as now, only from Germany. In the meantime experiments will be made in transmitting telephone messages and pictures with the Nauen short wave sender to Tokio. While Germany's radio services with other countries are dealt with by the Transradio A.G., those within the country are under the Ministry of Posts which is also substituting short wave for long wave installations. The police have ordered a number of portable short wave sets with which country police on patrol can get into touch with headquarters at any time. The number of subscribers to the German broadcasting system was 2,000,000 at the beginning of 1928, an increase of about 500,000 during the year.

**Pictorial Transmission.**—The telegraphic transmission over cables of pictures, facsimile documents, &c., between Berlin and Vienna has been in operation for some time and has now been introduced between Berlin and London.

## VIII. LABOUR.

**Wages.**—As pointed out in last year's report, the stability of wages during 1926 was succeeded by universal increases through-

out 1927, and there has been a recrudescence of this movement at the beginning of 1928.

The situation is best illustrated by the following table, from which it will be seen that between January, 1927, and January, 1928, the hourly tariff wages of skilled workers rose on an average from 94·9 pfgs. to 102·8 pfgs. (8·5 per cent.), and for unskilled workers from 66·7 pfgs. to 74·9 pfgs. (12 per cent.). In the weekly wages, based on regular working hours, usually 48, the increases are less, because a partial reduction of working time in the mining and metal industries was introduced during the year. As was also mentioned in last year's report, one of the chief reasons for the demand for higher wages was the authorised increases of controlled rents by 10 per cent. on April 1st and October 1st; the internal industrial boom was an additional contributing factor. Employers were the less able to ignore it as the cost of living rose continually, and had done so even in 1926 when wages remained practically unchanged.

TARIFF WAGES PER HOUR AND WEEK DURING 1926, 1927 AND THE FIRST TWO MONTHS OF 1928.

	Hourly wages in Pfennigs.						Weekly wages in Marks.					
	Skilled workers.			Unskilled workers.			Skilled workers.			Unskilled workers.		
	1926	1927	1928	1926	1927	1928	1926	1927	1928	1926	1927	1928
January ...	94.1	94.9	102.8	66.0	66.7	74.7	45.98	46.36	49.82	34.05	34.46	37.43
February ...	—	—	103.0	—	—	74.9	—	—	49.83	—	—	37.53
April ...	94.2	97.6	—	66.1	68.8	—	46.02	47.64	—	34.08	35.46	—
July ...	94.0	100.7	—	65.9	72.7	—	45.93	49.18	—	34.05	36.70	—
August ...	94.0	100.7	—	65.9	72.7	—	45.93	49.09	—	34.05	36.64	—
September ...	94.9	100.9	—	66.5	72.9	—	46.37	49.02	—	34.35	36.63	—
October ...	94.8	101.6	—	66.6	73.6	—	46.31	49.31	—	34.38	36.84	—
November ...	94.8	101.9	—	66.6	73.8	—	46.31	49.34	—	34.38	36.94	—
December ...	94.9	102.1	—	66.7	73.9	—	46.36	49.43	—	34.44	37.01	—

PRODUCTIVE INDUSTRIES.

January ...	—	97.3	105.2	—	66.3	74.5	—	47.44	50.89	—	34.55	37.51
February ...	—	—	105.3	—	—	74.6	—	—	50.98	—	—	37.58
March ...	96.6	—	—	65.8	—	—	47.11	—	—	34.21	—	—
April ...	—	99.8	—	—	68.2	—	—	48.69	—	—	35.48	—
June ...	96.4	—	—	65.5	—	—	46.99	—	—	34.11	—	—
July ...	—	103.4	—	—	72.7	—	—	50.48	—	—	36.93	—
August ...	—	103.4	—	—	72.7	—	—	50.38	—	—	36.84	—
September ...	97.5	103.5	—	66.2	72.8	—	47.52	50.28	—	34.48	36.81	—
October ...	—	104.1	—	—	73.4	—	—	50.33	—	—	36.92	—
November ...	—	104.2	—	—	73.5	—	—	50.40	—	—	36.97	—
H December ...	97.5	104.3	—	66.4	73.5	—	47.49	50.44	—	34.56	37.01	—

TARIFF WAGES PER HOUR AND WEEK DURING 1926, 1927 AND THE FIRST TWO MONTHS OF 1928—*continued.*

	Hourly wages in Pfennigs.						Weekly wages in Marks.					
	Skilled workers.			Unskilled workers.			Skilled workers.			Unskilled workers.		
	1926	1927	1928	1926	1927	1928	1926	1927	1928	1926	1927	1928
				CONSUMING			INDUSTRIES.					
January ...	—	81·6	89·7	—	70·1	76·9	—	39·17	43·06	—	33·62	36·83
February ...	—	—	90·4	—	—	77·4	—	—	43·38	—	—	37·11
March ...	80·8	—	—	69·1	—	—	38·77	—	—	33·18	—	—
April ...	—	85·3	—	—	73·3	—	—	40·95	—	—	35·17	—
June ...	80·7	—	—	69·1	—	—	38·74	—	—	33·18	—	—
July ...	—	85·9	—	—	73·7	—	—	41·24	—	—	35·38	—
August ...	—	85·9	—	—	73·7	—	—	41·24	—	—	35·39	—
September ...	80·6	86·2	—	69·1	74·2	—	38·71	41·39	—	33·15	35·60	—
October ...	—	88·3	—	—	75·8	—	—	42·40	—	—	36·39	—
November ...	—	89·5	—	—	76·6	—	—	42·97	—	—	36·76	—
December ...	80·9	89·6	—	69·5	76·8	—	38·85	43·03	—	33·36	36·81	—



Many further details of interest are given in the *Reichs-arbeitsblatt* No. 7, of 1928, and in the *Gewerkschafts-Zeitung* No. 7, of 1928, which cannot be reproduced here. The wages in the various industries are dealt with in the sections relating to those industries. In last year's report an attempt was made to demonstrate the vastness of the wages movement by assembling the particulars according to trades and districts in an appendix (X); this year (1928) the tide of tariff negotiations has assumed such dimensions in the first months of the year that it is useless to attempt any co-ordination until the situation has again become settled and a general survey can be worked out by the Ministry of Labour and the Trades Unions. Some idea of the far-reaching nature of the changes is given by the fact that out of a total of 380 tariff agreements affecting 5,300,000 workmen, 247 were terminable at the end of February, March and April; these relate to about 3,200,000 men distributed over nearly all important branches of industry. The foregoing figures relate only to tariffs contained in the statistics of the Federation of German Employers Unions, and the trades unions state that a revision of all the other tariffs will also be demanded as they expire. The same applies to the employés. Of 800 tariff agreements embracing about 3,000,000 persons, two-thirds terminate at the end of February and March.

**Social Allowances.**—A subject which always meets with interest is that of the social allowances which are added to wages; the following are a few examples at the end of 1927:—

<i>Metal Industry</i> —		Pfgs.	
Aix-la-Chapelle per head and shift	... ..	10	
Augsburg-Nuernberg, Munich, for wife and each child, per hour	...	1·2	
Dortmund, Duesseldorf, Essen, house allowance, per hour	...	1	
"    "    "    "    " for each child, per hour	...	2	
Cologne, per head and hour	... ..	2	
<i>Chemical Industry</i> —		Mks.	
Mannheim	} for wife and each child, per week ... ..	} 1·46	
Cologne			1·14
Berlin			0·80
Elberfeld			0·70
Bielefeld, for wife and each child, per shift	... ..	0·15	
Frankfort o.M., for wife and each child, per hour	... ..	0·02	
<i>Textile Industry</i> —		Pfgs.	
Berlin, for wife and each child under 14, per hour	... ..	2	
Elberfeld, for wife and each child under 14, per week	... ..	100	
Frankfort o.M., for wife and each child per hour	... ..	3	
Krefeld, for wife and each child as long as dependent, per day	... ..	8	

*Railway Workers*—

In all places for wife and each child, 27 pfgs. for each day on which wages are earned.

**Working Hours.**—Under the provisions of the Working Time of Law of April 14th, 1927 (see page 160 of last year's report), a decree was issued on July 16th, 1927, making the strict application of the eight-hour day, as defined in Article 7 of the law,

compulsory for certain classes of workmen in iron and steel works and enjoining the employers to complete the necessary preparations for the operation of the new regulations, which involved the introduction of three shifts, by January 1st, 1928. The employers complained that the time allowed them was insufficient and at one period serious trouble threatened; however, a compromise was ultimately reached, the details of which are given in the section of this report dealing with iron and steel.

The Federation of German Trades Unions made one of its periodical surveys of working time in Germany at the end of October, 1927, the previous one having been at the end of April (page 160 of last year's report). The same branches of industry were included, as follow:—Building, printing, wood, chemical, metal, boot and shoe and textile.

The trades unions regard this inquiry as of particular interest because they consider that it should show any effect produced by the Working Time Law of April 14th. The survey extends over a week and includes overtime; reports were received from 535 local committees and referred to 67,099 firms employing 2,904,849 hands, as against 562 localities, 57,895 firms and 2,533,147 hands in April, 1927.

The unions record with satisfaction that the results show a greater preponderance of shorter working hours in October than in April, although industrial activity had in the meantime increased, as indicated by the decline in short time. The following table, which includes two surveys of 1924, gives a clear picture of the position:—

	Number of local committees.	Embracing Total		On short time.		Fully occupied with a weekly time of working					
		Works.	Workmen.	Works.	Workmen.	Up to 48 hours.		Over 48 hours.		Of which over 54 hours.	
						Works.	Workmen.	Works.	Workmen.	Works.	Workmen.
1927						Per 100 works	or work men.				
24-29 Oct.	535	67,099	2,904,849	1·3	1·7	76·3	55·6	22·4	42·7	3·2	6·2
25-30 April	562	57,895	2,533,147	3·2	4·6	73·0	47·0	23·8	48·0	3·7	12·3
1924											
3-8 Nov. ...	419	51,166	2,362,820	6·1	9·3	69·6	45·3	24·3	45·4	4·5	10·7
12-17 May	533	46,122	2,453,523	—	—	66·5	45·3	33·5	54·7	5·1	13·0

**Unemployment.**—Unemployment was much less severe in 1927 than in 1926, as was only to be expected in view of the improved industrial situation. The figures rose with the approach of winter, but even the numbers in January, 1928, were substantially less than those in any month in the first quarter of 1927 or at any time in 1926, except November; by the end of February, 1928, they had already begun to decline again.

Another factor must be borne in mind when comparing the unemployment figures of the winter 1927-28, with those of previous years, and that is the introduction of unemployment insurance which gives all unemployed the right to relief, merely because they are unemployed, and has done away with any necessity to prove that they are also needy. The official *Institut fuer Konjunkturforschung* considers that these changes have brought in a certain class of unemployed who formerly did not apply for relief and estimates their number at 10 per cent. to 15 per cent. of relieved persons. Under the old system, for instance, the highly skilled workers in outdoor occupations, such as building, quarrying, &c., received specially large wages as compensation for the cessation of work during the winter and were, therefore, not eligible for relief, but as insured they are now entitled to it.

The unemployment figures during 1926, 1927 and up to May, 1928, were as follows :—

#### RECIPIENTS OF UNEMPLOYMENT RELIEF.

		1926				1927	
January	1st	...	1,498,681	January	1st	...	1,745,559
February	"	...	2,030,646	February	"	...	1,827,200
March	"	...	2,055,928	March	"	...	1,695,515
April	"	...	1,942,011	April	"	...	1,121,150
May	"	...	1,781,152	May	"	...	870,378
June	"	...	1,744,126	June	"	...	648,606
July	"	...	1,740,754	July	"	...	540,703
August	"	...	1,652,281	August	"	...	452,127
September	"	...	1,548,138	September	"	...	403,851
October	"	...	1,394,062	October	"	...	355,462
November	"	...	1,308,293	October 31st	...	...	339,982
December	"	...	1,369,768	November 30th	...	...	604,509
				December	"	...	1,188,274
1928							
		January 31st	...	...	...	1,333,115	
		February 29th	...	...	...	1,237,504	
		March 31st	...	...	...	1,010,763	
		April 30th	...	...	...	729,329	

#### RECIPIENTS OF EMERGENCY RELIEF.

		1927				1927	
January	15th	...	138,164	July	15th	...	181,375
February	"	...	192,801	August	"	...	156,378
March	"	...	223,357	September	"	...	136,576
April	"	...	234,104	October	"	...	112,719
May	"	...	226,011	November	"	...	126,215
June	"	...	208,426	December	"	...	171,657

		1928
January 31st ...	...	214,829
February 29th ...	...	214,912
March 31st ...	...	197,643
April 30th ...	...	162,403

Note.—Emergency or crisis relief was described on page 163 of last year's report. It was introduced in November, 1926, and provides for the local relief of unemployed whose right to benefit has expired owing to lapse of time. The law is limited as to duration, but has so far always been prolonged before expiration.

Unemployed per 100 Trade Union members.		Short time workers per 100 Trade Union members.	
1927			
January ...	...	16·5	6·6
February ...	...	15·5	5·8
March ...	...	11·5	4·4
April ...	...	8·9	3·7
May ...	...	7·0	2·9
June ...	...	6·3	2·7
July ...	...	5·5	2·6
August ...	...	5·0	2·8
September ...	...	4·6	2·4
October ...	...	4·5	2·0
November ...	...	7·4	2·2
December ...	...	12·9	3·1
1928			
January ...	...	11·2	3·5

**Unemployment Insurance.**—An important step forward in German labour legislation was made by the passage of an Act through the Reichstag on July 16th, 1927, which remodelled the system of German employment exchanges and introduced unemployment insurance. The Act came into operation on October 1st, 1927, and a summary of it will be found on page 289 of No. 8 of the Ministry of Labour Gazette for August, 1927.

With the exception of certain classes of fishermen, seamen and workers in agriculture and forestry, the Act makes it compulsory for all manual workers to be insured and all non-manual workers whose annual income does not exceed Mks.6,000

The insurance is financed by contributions of employers and employed, the latter's share being deducted from wages by the former, who are responsible for the full amount. This may not exceed 3 per cent. of the basic wage of the insured person.

The emergency fund referred to in last year's report is retained under the Act, but it is to be kept at a level sufficient to relieve 600,000 unemployed for three months, instead of 400,000.

As pointed out above, the Act does away with the necessity of proving need when applying for relief, and makes the amount of the latter dependent upon the wage of the insured, instead of upon his place of residence.

For the purpose of fixing the amount of relief the insured have been divided into eleven wage classes, Class I including those whose wages amount to not more than Mks.10·0 per week, Class II over Mks.10·0, but not more than Mks.14·0, etc., up to Class XI, to which belong those who earn more than Mks.60 per week. In each of these classes a uniform rate of wage is laid down as a basis upon which the amount of relief is calculated. For Class I it is

Mks8, and for Class XI Mks.63. The benefit paid to the unemployed person is 75 per cent. of this uniform wage in Class I, and gradually diminishes to 35 per cent. in Classes VIII to XI. In addition there is a family allowance for dependants which amounts to 5 per cent. of the uniform wage for each dependant, but the total relief paid (including these allowances) may not exceed a certain percentage of the uniform basic wage in each class, varying from 80 per cent. for Classes I and II to 60 per cent. for Classes VIII to XI.

Before becoming entitled to benefit an insured person must have paid at least 26 weeks' contribution during the preceding twelve months while working in an occupation for which insurance is prescribed. The claim to relief expires after benefit has been received for a total of 26 weeks ; in special circumstances this may be increased to 39 weeks. Benefit commences seven days after the notification of unemployment, but this period can be altered by the Minister of Labour according to the general condition of the Labour market ; at the time of writing (March, 1928), it is three days, and from April 15th to July 1st it is to be five days, and thereafter seven days.

The emergency or crisis relief (*Krisenunterstuetzung*) mentioned above and referred to on page 163 of last year's report, is incorporated in the Act. It only comes into operation during times of particular distress, and enables the Minister to grant relief, the amount of which he can vary, even if all the regulations have not been complied with or to continue it beyond the normal 26 weeks. Four-fifths of its cost are borne by the Reich and one-fifth by the local authority.

The Act also provides for short-time benefit, if considered advisable on account of lack of industrial employment.

A section of the Act deals with measures for preventing unemployment and thus consolidates legislation in respect of the so-called "productive unemployment relief."

The Act places the working of employment agencies under the supervision of the Government Employment Exchange, and provides that as from January 1st, 1931, such agencies shall be abolished altogether.

The *Reichsarbeitsblatt* No. 4, of February, 1928, contains interesting comparative statistics of the cost of employment agency work and of unemployment relief since stabilization. The following figures show the expenditure for the various types of relief :—

	1924	1925	1926	1927
		(In 1,000 Mks.)		
Unemployment relief... ..	333,000	270,700	1,214,000	745,600
Short time relief ... ..	300	—	7,100	700
Emergency relief ... ..	—	—	5,800	160,000
	333,300	270,000	1,226,900	906,300
Productive relief ... ..	70,000	97,000	160,000	160,000

In the first three groups the expenditure was incurred during the twelve months, January 1st to December 31st, and in the last during the financial year April 1st to March 31st. The outlay is chiefly affected by the number of unemployed whose average was as follows during the different years: 1924, 728,000 ; 1925, 384,000 ; 1926, 1,672,000 ; 1927, 885,000 ; so that the cost per head and year under the first group, based upon the expenditure for one direct recipient of relief plus the average family allowance drawn by such recipient, works out at : 1924, Mks.457 ; 1925, Mks.705 ; 1926, Mks.727 ; and 1927, Mks.843.

The relief of short time workers was not in operation from the 1st April, 1924, to the 28th February, 1926.

Emergency relief was first introduced on the 21st November, 1926. Before the 1st October, 1927, three quarters of the cost of this type of relief was borne by the Reich, and one-quarter by the local authority, since that date the proportions are four-fifths and one-fifth.

The figures for productive relief include the outlay of the Reich and of the States. The sums are partly estimated because the expenditure of the States is not accurately known to the Reich, but it is provided that the costs shall be shared equally between the latter and the States; the expenses of the latter are, however, usually slightly less as some undertakings are financed by the Reich alone. The 1927 figure for this group refers to the months April to December; on the 31st December there were in addition outstanding with the States advances of the Reich to the amount of Mks.79,300,000.

The following table shows the sources from which the means for financing unemployment and short time relief were obtained :—

	1924	1925	1926	1927
		Calendar years.		
		(In 1,000 Mks.)		
Contributions of employers and employed ... ..	224,400	165,000	523,600	682,300
Contributions of the Districts ... ..	34,100	36,200	148,400	53,800
Assistance from the Reich ... ..	74,600	200	258,300	116,000
Assistance from the States ... ..	74,600	300	243,000	52,800
Miscellaneous ... ..	6,700	7,700	6,500	3,400
	412,400	209,300	1,179,800	908,300

The receipts from the contributions of employers and employed were comparatively small during 1925 because the favourable condition of the labour market made it possible to reduce the contributions from the maximum of 3 per cent. of the wage to 1 per cent. From the 1st March, 1926, they had to be raised to 3 per cent. again.

In addition to the amount shown in the table as assistance from the Reich, the latter contributed Mks.50,000,000 for the formation of a so-called emergency fund (*Notstock*). When the total receipts exceed expenditure, reserves are created which are used to cover the difference, if receipts are less than expenditure. Since the 1st October, 1927, the surplus receipts plus the Mks.50,000,000 mentioned above represent the emergency fund; on the 1st October, 1927, it amounted to Mks.57,900,000, and rose steadily to Mks.140,200,000 on the 21st December, 1927, since then it has fluctuated and stood at Mks.91,100,000 on February 1st, 1928.

The average number of persons receiving crisis relief during 1927 was 175,000. Since October 1st, 1927, two classes who are entitled to this type of benefit must be distinguished. First, those who, as hitherto, have been in receipt of relief for the full period prescribed by the regulations and would normally become time expired; and, secondly, a new class introduced by the Act and consisting of those who have paid contributions during at least thirteen weeks while working at an occupation subject to insurance, instead of the normal minimum of 26 weeks. The number receiving relief in the first group fell from 101,000 on October 15th, 1927, to 84,000 on January 15th, 1928, while that in the second group rose during the same period from 11,000 to 144,000, the reason being that the latter is open to all occupations for the purposes of crisis benefit, but the former applies only to those employed as gardeners, as metal workers, as leather workers, as wood-workers and carvers, as clothiers and as employees, including domestic servants.

**Other Social Insurance.**—1. *General.*—The following tables show the contributions for social insurance during the last four years compared with 1913 :—

CONTRIBUTIONS IN MILLION MARKS.

	1913	1924	1925	1926	1927
	Total.	Total.	Total.	Total.	Estimated Total.
I. Sickness Insurance (1914) ... ..	582·8	1,070·1	1,382·4	1,487·2	1,600*
II. Accident Insurance ... ..	226·8	144·9	233·8	317·7	323
III. Invalidity Insurance ... ..	290·0	362·5	548·9	659·6	845
IV. Employees Insurance ... ..	138·1	129·4	192·7	250·3	275
V. Mining Pension Insurance ... ..	75	143·2	148·6	167·7	215
	1,312·7	1,850·1	2,496·4	2,882·5	3,258
CONTRIBUTIONS BY THE REICH IN MILLION MARKS.					
I. Towards Maternity Benefit ... ..	—	9·4	21·4	23·6	25
II. Towards Invalidity Insurance ... ..	58·5	95·6	161·5	184·5	237
III. From Customs receipts towards invalidity insurance organisation ... ..	—	—	—	40·0	40
Total contributions ... ..	1,371·2	1,955·1	2,679·3	3,130·6	3,560

\* = Minimum.



(a) Under sickness insurance it is to be noted that the receipts of the public offices and of the Mining offices include voluntary contributions, while the receipts of the private offices are represented by the contributions of the compulsorily insured only; on an average these represent 60 per cent. of the total receipts of these offices. The classes of persons who are legally subject to sickness insurance are now practically the same as before the war, but the number of members of the public offices has increased by 3,000,000, the larger receipts are also accounted for by the rise in wages, as the latter form the basis upon which the contribution is calculated. The following is the development of the membership of the public offices :—

1914	1924	1925	1926
15,600,000	17,300,000	18,300,000	18,400,000

(b) The contributions under invalidity insurance include the voluntary payments. The number of pensioners has more than trebled chiefly owing to the effects of the war, partly also to rationalisation and to the less favourable condition of the labour market which has no room for older workmen. The recipients of benefit at present consist of 1,800,000 invalids, 320,000 widows and 800,000 orphans, as against 1,100,000 invalids, 12,000 widows and 83,000 orphans in 1913. The resources of this branch of insurance amounting to over Mks.2,000,000,000 (£100,000,000) were almost completely destroyed by inflation. The average invalidity pension for the whole of the Reich now amounts to Mks.30 per month, in the country to Mks.25, and in industry to Mks.33 to Mks.35.

(c) The number of insured employes increased from 1,500,000 in 1913 to 2,800,000 in 1927, which is partly explained by the rise in the total number of persons engaged in business from 24,000,000 in 1907 (census) to 32,000,000 in 1925 within Germany's present frontiers.

(d) The number of manual workers employed in German mining at the beginning of 1927 amounted to 750,000 and of non-manual to 50,000. Miners' insurance is in a particularly difficult position in Germany, because the number of pensioners is exceptionally high in proportion to the number of members, viz., 1 to 3 of manual workers as against 1 to 5 in ordinary invalidity insurance. The rationalisation of mining is decreasing the number of miners and increasing the pensioners. The contribution to the pension fund is on an average 10-11 per cent. of the wage of manual and 12-13 per cent. of the salary of non-manual workers.

## II. Changes.

A few alterations in social insurance which were introduced during 1927 were mentioned on pages 166 and 167 of last year's report, and the inauguration of unemployment insurance is dealt with above.

On the 1st January, 1928, a law came into force providing for the sickness insurance of seamen.

By a law of December, 22nd, 1927, four additional classes were formed in the insurance of employes (invalidity and old age), enabling them to pay higher voluntary contributions and thus obtain correspondingly greater benefits. These contributions are as follows :—

Class G. ... ..	Mks.25 per month.
„ H. ... ..	Mks.30 „
„ J. ... ..	Mks.40 „
„ K ... ..	Mks.50 „

On March 29th, 1928, a law was passed providing for certain increases as from July 1st, 1928, in pensions which are then payable and in respect of which contributions were made before October 1st, 1921. This law applies to invalidity insurance, employes' insurance and miners' insurance. It is estimated that this will cause an increased annual expenditure of Mks.100,000,000 per annum for invalidity and Mks.10,000,000 per annum for

employés' insurance. The Reich will bear the former and the insurance organisation the latter. Through this measure invalid pensions in the towns will be increased by Mks. 6·8 a month and the allowance for children will be increased from Mks. 7·50 to Mks. 10 per month for each child.

On the same date another law was passed which provides facilities for those who have been employed in a non-insurable occupation and leave it without receiving a pension or similar benefit, to make up arrears of contributions, and thus become entitled to pension under invalidity, employés' or miners insurance.

**Strikes and Lockouts.**—During the second quarter of 1927 the number and effect of strikes was much greater than during the first three months but, although the number of lock-outs had also risen considerably, the number of persons affected and the days lost were less. The chief subject in dispute which caused the lock-outs in the first quarter was working time, while in the second differences about wages predominated, and this applied to an even greater extent to the strikes. In the first quarter 9,380 workmen struck for higher wages, in the second 56,098.

The workers were on the whole successful in obtaining the objects for which they struck, the lock-outs imposed by the employers, on the other hand, were for the most part ineffective.

The number of strikes and lock-outs during the third quarter was less than in the second as regards number, undertakings affected and workers involved, but the working days lost rose from 1,085,816 to 1,179,148. The lock-outs were caused by differences as to working hours in the iron industry and by wages disputes in the textile industry. Strikes and lock-outs were both partially successful, but the employers did not gain anything by the lock-outs in the textile industry.

According to the statistics of the General Federation of German Trades Unions, the unions affiliated to it during 1927 took action on 14,367 occasions with the object of obtaining better working conditions; 14,932,149 persons were involved. In only 1,387 cases was work stopped, involving 632,322 workers; of this number 311,208 were locked out. As a result wage increases amounting to Mks. 22,443,944 per week were obtained, in addition to other improvements in working conditions. On an average the foregoing represent a weekly wage increase of Mks. 2·22 per week for each person involved.

Labour unrest spread during the last quarter of 1927 and the first quarter of 1928, but the official statistics appear too late for inclusion in this report and it is, therefore, only possible to refer to one or two of the more important events. On the 17th October, 1927, the lignite miners of the Central German and East Elbian Districts went on strike as a result of wage disputes. About 65,000 men were involved. The strike ended on October 24th with the grant of a not inconsiderable increase of wages to the miners.

In October, too, there were numerous other strikes of varying size, thus in Berlin, on the underground railways, in the brewing

industry, the wood industry and a number of other smaller occupations. In western Germany a strike broke out among the canal shipping personnel in November, which involved the cessation of work in all the important Rhine harbours of that area. Also in November the cigar manufacturers throughout Germany locked out their operatives to the number of about 110,000 as the result of earlier local strikes which the employers regarded as breaches of the tariff agreement.

During the first quarter of 1928 the two outstanding strikes among many lesser ones were the one in the central German metal industry affecting about 50,000 hands and lasting from January 17th to February 24th, and the one of the Berlin tool-makers from February 27th to March 14th. Only 1,700 men were actually on strike, but in view of their importance in the manufacturing process, their absence entailed the idleness of some 70,000 others. The first was terminated by a binding decision of the Ministry of Labour awarding the men a certain increase in wages, the second was also brought to an end by a compulsory award which mentioned certain minimum rates, but in the main provided for employers and employed to arrive at a separate arrangement in each concern.

The fact that two such strikes, which might have been of long duration and have inflicted serious damage on the economic life of the country, were ended by binding decisions of the Minister of Labour draws attention to the German machinery for the settlement of labour disputes. Without going into details it may be pointed out that while in the initial stages of a dispute both parties can either negotiate among themselves or with the assistance of the official arbitrators, once a deadlock is reached the Minister of Labour can, if he considers that the circumstances warrant it, declare his own or the arbitrator's award to be binding. This power cannot, of course, limit the number of disputes or the quantity of persons involved, but it has undoubtedly very much shortened the duration of strikes and lock-outs. The two chief complaints against it are that it lessens the feeling of responsibility among employers and employed in regard to controversial matters, and that it is too one-sidedly in favour of the workers in that, while not giving them all they ask, it always gives them something. The effect of the first is said to be that it leads to frivolous disputes, as both parties know that they can ultimately leave the task of settlement to the Minister and of the second that it is gradually placing an unbearable burden upon employers. However, up to the present it has certainly been very beneficial for the nation as a whole.

It is noteworthy as a symptom of the labour unrest, which was anticipated in the autumn of 1927 and which has actually set in, that various employers' organisations at that time commenced to collect funds to assist their members in fighting labour demands.

## APPENDIX I.

TRADE (IN VALUES) WITH FOREIGN COUNTRIES DURING 1926 AND 1927,  
EXCLUDING REPARATION DELIVERIES.

(In million Mks.)

	1927		1926	
	Import.	Export.	Import.	Export.
Total import and export (including gold and silver bullion and specie) ...	14,381·2	10,242·7	10,616·7	9,819·4
<i>Merchandise—</i>				
I. Europe ... ..	7,483·4	7,414·9	5,107·1	6,896·2
Of which—				
Heligoland ... ..	0·0	2·4	0·0	2·1
Baden Customs Enclave... ..	0·4	0·6	0·3	0·6
Saar Area ... ..	230·3	80·8	139·0	54·2
Albania ... ..	0·0	1·1	0·0	3·9
Belgium ... ..	454·8	301·3	295·4	276·7
British possessions in Mediterranean ... ..	2·2	5·1	2·0	5·1
Bulgaria ... ..	48·7	31·0	35·0	29·4
Denmark ... ..	345·2	377·9	294·4	375·4
Danzig ... ..	20·3	82·7	21·9	69·1
Estonia ... ..	27·7	22·9	22·5	26·3
Finland ... ..	111·5	154·1	80·5	150·1
France, excluding Alsace				
Lorraine ... ..	595·8	113·3	297·4	237·2
Alsace Lorraine ... ..	182·8	83·9	80·2	32·2
Greece ... ..	75·6	55·2	53·5	47·0
Great Britain ... ..	937·8	1,178·8	576·4	1,162·5
Irish Free State ... ..	3·7	18·1	1·1	14·9
Italy ... ..	524·8	385·6	387·6	416·2
Jugo-Slavia ... ..	73·0	72·5	81·0	81·4
Latvia ... ..	53·4	52·5	48·4	61·5
Lithuania ... ..	32·9	32·1	22·6	28·7
Luxembourg ... ..	75·2	78·0	48·0	64·2
Memel District ... ..	25·6	13·2	26·6	13·2
Netherlands ... ..	696·9	1,120·8	546·9	1,126·8
Norway ... ..	110·2	159·3	82·3	145·7
Austria ... ..	208·6	366·4	116·4	310·4
Eastern Poland ... ..	180·8	216·9	144·9	123·1
Polish Upper Silesia ... ..	72·0	84·7	58·9	53·1
Western Poland ... ..	92·6	46·5	78·8	15·6
Portugal ... ..	28·5	56·3	19·2	60·7
Roumania... ..	243·3	147·6	153·8	121·3
Russia* ... ..	432·8	329·6	323·3	265·7
Sweden ... ..	379·2	409·3	233·6	400·4
Switzerland ... ..	335·8	491·2	218·3	422·0
Spain ... ..	241·7	179·0	143·7	171·9
Czechoslovakia ... ..	559·2	522·5	386·8	422·5
Hungary ... ..	80·1	141·7	86·4	108·1

\*Including " Russia in Asia."

## APPENDIX I—continued.

	1927		1926	
	Import.	Export.	Import.	Export.
II. Africa ... ..	609·4	246·5	439·4	241·4
Of which—				
Abyssinia ... ..	3·1	0·5	1·4	0·5
Egypt ... ..	81·7	60·4	52·0	69·8
British East Africa ... ..	26·3	8·2	23·8	6·5
British South Africa ... ..	146·4	101·0	87·3	83·6
British West Africa ... ..	182·3	30·6	143·8	22·9
Mandated territory of				
East Africa	3·5	3·7	3·4	2·4
Do. South West Africa	0·5	5·5	2·8	9·0
Do. Cameroon	4·6	2·5	3·4	2·0
Do. Togo	1·0	0·4	1·3	0·5
Algeria ... ..	31·3	0·7	15·1	22·9
Tunis ... ..	12·5	1·5	4·6	0·7
French Possessions in				
Morocco ... ..	10·0	1·5	4·6	0·8
Do. do. West Africa	42·7	1·8	42·3	2·2
Madagascar ... ..	7·5	0·5	4·3	0·4
Belgian Congo ... ..	34·4	4·9	35·9	5·0
Liberia ... ..	2·2	1·8	2·7	1·4
Portuguese Possessions in				
East Africa	3·6	7·3	3·0	5·5
Do. do. West Africa	7·5	5·7	7·7	5·3
Canary Islands ... ..	8·3	8·0	—	—
III. Asia ... ..	1,412·2	820·0	1,125·5	923·5
Of which—				
British India ... ..	526·1	235·4	436·8	244·2
British Malaya ... ..	21·4	17·3	23·3	19·5
Ceylon ... ..	35·9	7·0	37·3	6·9
China ... ..	265·1	121·0	196·3	151·5
French Possessions in				
India ... ..	1·8	0·9	2·7	0·6
Japan ... ..	27·7	174·7	18·5	236·8
Dutch East Indies ... ..	407·2	137·5	311·8	138·2
Palestine ... ..	1·5	8·4	0·5	10·5
Persia ... ..	26·1	8·4	15·9	8·2
Philippines ... ..	12·2	14·9	10·9	12·4
Siam ... ..	18·2	11·4	14·2	10·7
Turkey ... ..	63·2	67·5	54·7	75·4
Remainder of Asia ... ..	5·8	15·6	2·6	8·6
IV. America ... ..	4,272·6	1,646·9	3,007·1	1,610·7
Of which—				
Argentina ... ..	1,070·7	297·9	611·1	273·4
Bolivia ... ..	15·4	8·2	8·0	8·6
Brazil ... ..	191·5	161·6	153·3	189·0
Canada ... ..	385·9	63·1	264·2	63·3
Chile ... ..	97·3	61·8	45·5	70·3
Columbia ... ..	25·0	63·6	30·5	56·4
Costa Rica ... ..	21·0	5·9	21·8	3·9
Cuba ... ..	10·2	32·1	8·8	28·9
Dominican Republic ... ..	10·5	5·7	6·1	3·8
Ecuador ... ..	4·5	5·2	4·4	4·3

APPENDIX I—*continued.*

	1927		1926	
	Import.	Export.	Import.	Export.
Guatemala ... ..	69·9	11·1	63·0	11·3
Honduras ... ..	0·7	1·3	0·4	1·8
Mexico ... ..	75·0	53·8	47·6	54·8
Newfoundland ... ..	68·0	3·9	19·3	3·6
Nicaragua ... ..	3·3	2·5	3·1	2·1
Panama ... ..	0·9	3·3	0·4	3·1
Paraguay ... ..	2·2	2·9	2·1	2·6
Peru ... ..	14·8	22·9	5·8	20·1
Haiti ... ..	4·6	1·9	2·7	2·3
Salvador ... ..	24·2	3·5	22·9	3·6
Uruguay ... ..	50·6	31·4	28·5	28·7
Venezuela ... ..	50·7	23·2	48·0	27·8
U.S.A. ... ..	2,072·9	776·2	1,602·9	744·1
Remainder of America ... ..	2·8	3·9	6·7	2·9
V. Australasia ... ..	356·5	82·8	315·5	69·2
Of which—				
Commonwealth of				
Australia	321·9	72·6	292·9	61·4
New Zealand ... ..	21·7	8·3	13·7	7·0
South Sea Mandated				
territory ... ..	0·0	0·3	0·4	0·1
Samoa ... ..	1·7	0·1	1·0	0·0
Remainder of Australasia	11·2	1·5	7·5	0·7
Total merchandise ... ..	14,142·9	10,220·8	10,001·4	9,783·2
Gold and silver bullion and specie ... ..	238·3	21·9	615·3	36·2

APPENDIX II.

IMPORTS BY COUNTRIES OF ORIGIN OF TWELVE CHIEF CLASSES OF GOODS. (In million Mks.).

Countries	Total imports, 1927.	Fodder and grain for fodder.	Bread cereals and flour.	Cotton.	Wool.	Oil fruits and seeds.	Milk, butter, cheese.	Timber.	Raw hides and skins, except for furs.	Fruit and southern fruit.	Iron ore.	Raw copper.	Cotton yarns.	Total.	Per cent.
Total imports ... ..	14,142.9	948.6	858.1	832.6	760.1	673.2	496.6	453.0	422.4	402.7	363.6	355.6	304.9	6,871.7	48.6
Per cent. of total imports ...	100	6.7	6.1	5.9	5.4	4.8	3.5	3.2	3.0	2.8	2.6	2.5	2.1	48.6	
U.S.A. ... ..	2,072.9	124.2	233.9	668.8	4.4	—	1.2	39.1	13.5	56.9	—	228.7	—	1,370.7	66.1
Argentina ... ..	1,070.7	328.3	195.3	4.3	128.1	112.9	—	—	97.4	—	—	—	—	866.3	80.9
Great Britain ... ..	937.8	11.8	—	6.1	70.1	—	3.3	—	30.1	—	—	13.4	176.6	311.4	33.2
France, including Alsace															
Lorraine ... ..	778.5	8.7	—	7.5	71.0	—	6.4	5.5	29.3	24.0	35.0	2.6	43.4	233.4	30.0
Netherlands ... ..	696.9	13.4	2.5	5.1	3.7	2.6	181.1	2.3	11.7	11.4	—	4.5	—	238.3	34.2
Czechoslovakia ... ..	559.2	31.6	—	3.6	8.1	—	—	82.2	6.6	7.3	—	3.5	25.1	168.0	30.0
Belgium and Luxembourg...	529.9	—	—	1.6	63.4	—	3.7	—	4.0	5.0	1.6	10.8	5.5	95.6	18.0
British India ... ..	526.1	15.6	—	50.5	—	121.5	—	1.8	32.2	—	—	—	—	221.6	42.1
Italy ... ..	524.8	13.3	—	2.9	4.2	—	2.9	—	18.8	93.0	—	1.3	—	136.4	26.0
Russia ... ..	432.8	55.9	64.6	—	2.2	—	19.9	14.9	3.3	—	3.2	1.2	—	165.2	38.2
Dutch East Indies ... ..	407.2	4.4	—	—	—	86.4	—	—	4.1	—	—	—	—	94.9	23.3
Canada ... ..	385.9	79.2	277.7	—	—	—	—	—	—	—	—	1.9	—	358.8	93.0
Sweden ... ..	379.2	4.2	—	—	1.1	—	25.7	18.7	10.2	—	212.7	5.3	—	277.9	73.3
Poland ... ..	345.4	24.9	2.5	—	2.5	3.3	16.5	125.2	4.4	—	1.8	—	—	181.1	52.4
Denmark ... ..	345.2	10.4	—	—	—	—	124.7	—	10.8	—	—	1.4	—	147.3	42.7
Switzerland ... ..	335.8	4.3	—	2.1	8.0	—	29.8	—	7.3	3.6	—	2.5	27.6	85.2	25.4
Commonwealth of Australia	321.9	1.7	61.3	—	211.4	—	1.7	—	7.0	2.7	—	—	—	285.8	88.8
China ... ..	265.1	—	—	4.8	1.6	141.2	—	—	9.0	—	—	—	—	156.6	59.1
Spain and Canary Islands...	249.9	—	—	—	4.3	—	—	—	10.2	67.6	63.6	14.8	—	160.5	64.2
Roumania ... ..	243.3	154.2	4.8	—	—	1.7	—	19.9	—	4.7	—	—	—	185.3	76.2
Saar Area ... ..	230.3	—	—	—	—	—	—	—	1.7	—	—	—	—	1.7	0.7
Austria ... ..	208.6	—	—	1.3	1.4	—	—	41.1	3.0	1.3	1.4	1.6	7.7	58.8	28.2

APPENDIX II—continued.

Countries	Total imports, 1927.	Fodder and grain for fodder.	Bread cereals and flour.	Cotton.	Wool.	Oil fruits and seeds.	Milk, butter, cheese.	Timber.	Raw hides and skins, except for furs.	Fruit and southern fruit.	Iron ore.	Raw copper.	Cotton yarns.	Total.	Per cent.
Brazil ... ..	191.5	6.1	—	1.7	3.0	9.4	—	—	29.5	—	—	—	—	49.7	26.0
British West Africa ... ..	182.3	—	—	—	—	96.8	—	1.6	—	—	—	—	—	98.4	54.0
British South Africa ... ..	146.4	6.6	—	—	110.2	—	—	—	8.9	—	—	—	—	125.7	85.9
Finland ... ..	111.5	—	—	—	—	—	17.0	53.9	6.0	2.1	—	—	—	79.0	70.9
Norway ... ..	110.2	—	—	—	—	—	—	—	5.0	—	5.2	—	—	10.2	9.3
Chile ... ..	97.3	9.7	—	—	—	—	—	—	—	—	—	45.3	—	55.0	56.5
Egypt ... ..	81.7	—	—	57.7	—	6.5	—	—	2.6	—	—	—	—	66.8	81.8
Hungary ... ..	80.1	3.5	5.5	—	6.1	—	—	1.1	—	3.5	—	—	—	19.7	24.6
Greece ... ..	75.6	—	—	—	—	—	—	—	1.5	15.2	—	—	—	16.7	22.1
Mexico ... ..	75.0	—	—	3.9	—	—	—	—	—	—	—	—	—	3.9	5.2
Jugo-Slavia ... ..	73.0	5.8	—	—	—	—	—	6.0	5.6	9.2	—	9.0	—	35.6	48.8
Total... ..	13,072.0	917.8	848.1	821.9	704.8	582.3	433.9	413.3	373.7	307.5	324.5	347.8	285.9	6,361.5	48.7
Per cent. of total imports ...	92.4	96.8	98.8	98.7	92.7	86.5	87.4	91.2	88.5	76.4	89.2	97.7	93.8	92.6	—



APPENDIX III.

CHIEF IMPORTS FROM TEN CHIEF SOURCES OF SUPPLY, SHOWING PERCENTAGE OF TOTAL IMPORTS OF MERCHANDISE DURING 1927.

Class of goods.	In Million Mks.	Class of goods.	In Million Mks.
U.S.A.		GREAT BRITAIN.	
Raw cotton ... ..	668·8	Cotton yarns ... ..	176·6
Crude copper ... ..	228·7	Woollen yarns ... ..	92·8
Wheat ... ..	184·6	Raw wool ... ..	70·1
Mineral oils ... ..	127·9	Coal ... ..	63·9
Lard, Oleo margarine... ..	125·5	Fur skins ... ..	50·3
Barley ... ..	98·1	Cotton fabrics ... ..	47·1
Fruit ... ..	49·9	Fish and fish preserves ... ..	45·6
Timber ... ..	39·1	Woollen fabrics ... ..	31·8
Rye ... ..	37·5	Hides and skins, except for furs ... ..	28·1
Motor vehicles, including motor cycles ... ..	35·7	Textile machines ... ..	23·5
Resin, copal, shellac, rubber ... ..	22·7	Platinum, iridium, osmium, etc. ... ..	22·6
Per cent. of total imports from U.S.A. ... ..	78·1	Water craft ... ..	20·6
ARGENTINA.		Furs and fur goods ... ..	17·2
Maize, Dari ... ..	229·9	Crude copper ... ..	13·4
Wheat ... ..	172·8	Crude tin ... ..	13·3
Raw wool ... ..	128·1	Per cent. of total imports from Great Britain ... ..	76·4
Oil fruits and seeds ... ..	112·9	FRANCE (including ALSACE-LORRAINE).	
Meat, bacon and meat sausages ... ..	108·7	Woollen yarn ... ..	97·7
Oxen and calf skins ... ..	94·7	Cotton fabrics ... ..	79·7
Barley ... ..	47·9	Raw wool ... ..	71·0
Oats ... ..	27·0	Iron ore ... ..	35·1
Rye ... ..	22·2	Raw hides and skins, except for furs ... ..	29·3
Tanning material ... ..	19·5	Leather ... ..	26·8
Per cent. of total imports from Argentina ... ..	90·0	Fruit ... ..	22·6

APPENDIX III—continued.

Class of goods.	In Million Mks.	Class of goods.	In Million Mks.
FRANCE (including ALSACE-LORRAINE.)		CZECHOSLOVAKIA.	
Wine and must ... ..	21·8	Cotton yarn ... ..	25·1
Bar and figured iron ... ..	20·7	Cotton fabrics ... ..	23·4
Fabrics and artificial silk ... ..	19·2	Hops ... ..	22·2
Seeds, except oil-seeds ... ..	14·3	Barley ... ..	21·9
Kitchen vegetables ... ..	13·8	Maize ... ..	20·8
Per cent. of total imports from France ... ..	58·1	Yarns of flax, hemp, jute, etc. ... ..	19·1
NETHERLANDS.		Sugar ... ..	14·2
Butter ... ..	108·4	Wood for wood pulp ... ..	12·9
Eggs ... ..	72·5	Feathers and bristles ... ..	12·5
Cheese ... ..	64·9	Glass and glass ware ... ..	10·5
Kitchen vegetables ... ..	51·3	Leather ... ..	9·0
Meat, bacon, meat sausages ... ..	46·2	Raw wool ... ..	8·1
Potatoes ... ..	27·7	Cellulose, etc. ... ..	8·1
Fish and fish preserves ... ..	21·1	Per cent. of total imports from Czechoslovakia ... ..	67·3
Pig iron... ..	19·3	BELGIUM AND LUXEMBOURG.	
Vegetable oils and fats ... ..	18·5	Raw wool ... ..	63·4
Artificial silk and floss silk yarns ... ..	15·4	Woollen yarn ... ..	48·1
Fruit ... ..	11·2	Bar and figured iron ... ..	30·4
Per cent. of total imports from Netherlands ... ..	65·5	Ground basic slag ... ..	29·0
CZECHOSLOVAKIA.		Yarns of flax, hemp, jute, etc. ... ..	24·2
Timber ... ..	82·2	Crude zinc ... ..	23·5
Woollen yarn ... ..	33·7	Leather ... ..	21·1
Lignite ... ..	27·4	Eggs ... ..	17·2
Boots, shoes, saddlery, and leather goods ... ..	25·2	Billets, iron semi-manufactures ... ..	16·9
		Artificial silk and floss silk yarn ... ..	16·2

## APPENDIX III—continued.

Class of goods.	In Million Mks.	Class of goods.	In Million Mks.
BELGIUM and LUXEMBOURG.		ITALY.	
Coal-tar and derivatives ... ..	12·5	Flax, hemp, jute, etc. ... ..	32·8
Flax, jute, hemp, etc....	12·3	Fruit ... ..	30·4
Crude copper ... ..	10·8	Vegetables ... ..	20·6
Pig iron... ..	10·7	Eggs ... ..	16·5
Potatoes ... ..	9·8	Potatoes ... ..	18·1
Furs and fur goods ... ..	8·8	Oxen and calf skins ... ..	15·6
Goods of basic metals, except iron goods ...	8·5	Cotton yarn ... ..	12·2
Raw lead ... ..	7·4	Motor vehicles, motor cycles ... ..	9·7
Per cent. of total imports from Belgium and Luxembourg ... ..	70·0	Per cent. of total imports from Italy ... ..	76·3
BRITISH INDIA.		RUSSIA.	
Oil fruits and seeds ... ..	121·5	Raw fur skins ... ..	54·2
Flax, hemp, jute, etc....	82·2	Platinum, iridium, osmium, etc. ... ..	48·7
Rice ... ..	81·8	Eggs ... ..	48·7
Caoutchouc, gutta-percha, balata ... ..	53·0	Wheat ... ..	39·1
Raw cotton ... ..	50·5	Barley ... ..	29·4
Oxen and calf skins ... ..	22·6	Rye ... ..	25·5
Resin, copal, shellac, rubber ... ..	17·8	Mineral oils ... ..	25·4
Per cent. of total imports from British India ...	81·6	Butter ... ..	19·9
ITALY.		Timber ... ..	14·9
Raw silk and floss silk ... ..	135·7	Feathers and bristles ... ..	10·8
Southern fruit ... ..	62·6	Furs and fur goods ... ..	10·7
Artificial silk and floss silk yarns ... ..	46·1	Oil cake ... ..	10·6
		Flax, hemp, jute, etc....	9·0
		Per cent. of total imports from Russia ... ..	80·2

## APPENDIX IV.

## SUMMARY OF BALANCE SHEETS OF TEN LEADING GERMAN SHIPPING COMPANIES.

			Hamburg- America Line.	North German Lloyd.	Hamburg- South America.	Hansa.	Woermann.
Share capital ... ..	1927	Mks.	161,370,000	128,906,000	40,974,000	32,000,000	8,500,000
	1926	"	131,370,000	128,906,000	30,640,000	32,000,000	4,000,000
Legal reserve ... ..	1927	"	16,923,000	17,000,000	4,992,000	3,200,000	1,400,000
	1926	"	13,457,000	17,000,000	4,750,000	3,050,000	1,400,000
Long term credits ... ..	1927	"	56,290,000	97,014,000	4,500,000	15,635,000	3,366,000
	1926	"	44,100,000	36,102,000	—	14,015,000	3,366,000
Creditors ... ..	1927	"	20,399,000	27,116,000	7,598,000	9,321,000	3,001,000
	1926	"	20,886,000	11,362,000	5,841,000	—	3,144,000
Voyages not completed ... ..	1927	"	36,508,000	44,875,000	14,517,000	—	481,000
	1926	"	29,152,000	37,159,000	14,336,000	9,234,000	428,000
Book value of sea-going vessels ... ..	1927	"	228,341,000 <sup>(1)</sup>	156,000,000	52,943,000	34,770,000	12,046,000
	1926	"	176,066,000 <sup>(1)</sup>	129,897,000	41,489,000	31,940,000	11,655,000
Sea-going tonnage ... ..	1927	g.r.t.	798,019	649,835	180,619	244,522	49,999
	1926	"	690,090	557,360	147,835	226,941	45,900
Specialised ton value ... ..	1927	Mks.	245 <sup>(2)</sup>	240	294	142	240
	1926	"	246	233	280	141	253
Advance payments on new constructions	1927	"	?	63,819,000	7,802,000	8,403,000	3,776,000
	1926	"	?	1,556,000	?	4,183,000	—
Tonnage of vessels under construction ...	1927	g.r.t.	149,300	138,250	14,139	32,000	9,000
	1926	"	82,550	186,000	40,000	48,000	—

Cash in hand and at the Bank ...	1927	Mks.	29,594,000	55,213,000	613,000	5,698,000	1,048,000
	1926	..	23,349,000	68,448,000	3,853,000	10,163,000	787,000
Securities and participations in other concerns ...	1927	..	24,412,000	9,573,000	5,533,000	2,240,000	212,000
	1926	..	20,219,000	5,766,000	5,563,000	2,559,000	254,000
Debtors ...	1927	..	10,278,000	46,327,000	2,562,000	6,925,000	1,656,000
	1926	..	16,155,000	38,354,000	5,399,000	5,772,000	907,000
Gross profits ...	1927	..	49,462,000	39,443,000	6,109,000	10,857,000	2,904,000
	1926	..	32,295,000	30,836,000	6,681,000	4,405,000	2,409,000
Gross profits ...	1927	Mks per ton	82	60	34 <sup>(5)</sup>	44	58
	1926	..	47	55	38 <sup>(5)</sup>	19	53
Expenses (taxes, social expenses, interest)	1927	Marks	16,819,000	12,741,000	3,578,000 <sup>(6)</sup>	2,136,000 <sup>(6)</sup>	1,204,000
	1926	..	11,917,000	11,317,000	3,568,000 <sup>(7)</sup>	1,560,000 <sup>(6)</sup>	1,097,000
Amounts written off on the fleets ...	1927	..	19,944,000	13,181,000	4,429,000	5,918,000	1,153,000
	1926	..	14,100,000	12,321,000	?	1,969,000	1,060,000
Amounts written off in percentage of value of fleet ...	1927	%	8	7·8	7·8	14·5	8·7
	1926	%	7·4	8·5	?	6	8
Nett profits ...	1927	Mks.	12,074,000	11,725,000	2,536,000	2,893,000	579,000
	1926	..	5,768,000	7,407,000	2,117,000	960,000	284,000
Dividends ...	1927	%	8	8	8	10	7
	1926	%	6	6	8	6	6

(1) = Including small craft and advance payments on vessels under construction.

(2) = After deducting 35 million Mks. as advance payment on vessels under construction.

(3) = Cash at Bank booked under "sundry debtors."

(4) = Including 417,259 Mks. written off, which had previously been booked off.

(5) = The result seems low, as amounts written off for depreciation had previously been booked off.

(6) = 1806 expenses, 1,055 taxes, 717 social expenses.

(7) = 1,716 expenses, 1,179 taxes, 673 social expenses.

(8) = 962 expenses, 652 taxes, 522 social expenses.

(9) = 728 expenses, 428 taxes, 404 social expenses.

(10) = 168 expenses, 42 taxes, 79 social expenses, 233 interest.

(11) = 130 Expenses, 14 taxes, 70 social expenses, 238 interest.

(12) = 21 Expenses, 14 social expenses, 14 taxes.

(13) = 16 Expenses, 13 social expenses, 12 taxes.

(14) = 26 Expenses, 16 taxes.

(15) = 338 expenses, 82 social expenses, 88 taxes, 26 interest.

(16) = 269 expenses, 86 social expenses, 17 taxes, 79 interest.

(17) = Shown under the heading "debtors."

SUMMARY OF BALANCE SHEETS OF TEN LEADING GERMAN SHIPPING COMPANIES—*continued.*

			East Africa Line.	Flensburg Dampfer Co.	Ozean Line.	Flensburg Reederei v. 1869.	Oldenburg Portugies.
Share capital ... ..	1927	Mks.	8,500,000	1,800,000	1,200,000	500,000	3,600,000
	1926	"	4,000,000	1,800,000	1,200,000	245,000	3,600,000
Legal reserve ... ..	1927	"	1,400,000	360,000	38,000	130,000	367,000
	1926	"	1,400,000	360,000	10,000	?	367,000
Long term credits ... ..	1927	"	3,366,000	2,568,000	152,000	—	—
	1926	"	3,366,000	3,004,000	215,000	—	—
Creditors ... ..	1927	"	1,475,000	926,000	55,000	57,000	1,303,000
	1926	"	2,676,000	932,000	79,000	?	790,000
Voyages not completed ... ..	1927	"	352,000	312,000	119,000	—	324,000
	1926	"	264,000	197,000	78,000	?	142,000
Book value of sea-going vessels ... ..	1927	"	11,590,000	5,743,000	500,000	280,000	5,764,000
	1926	"	11,084,000	6,037,000	530,000	300,000	4,370,000
Sea-going tonnage ... ..	1927	g.r.t.	50,553	16,677	2,746	?	29,531
	1926	"	47,395	16,677	2,746	?	?
Specialised ton value ... ..	1927	Mks.	228	343	146	?	196
	1926	"	234	360	194	?	?
Advance payments on new constructions	1927	"	3,267,000	—	—	—	—
	1926	"	—	—	—	—	—
Tonnage of vessels under construction ... ..	1927	g.r.t.	9,000	—	—	2,600 d.w.	3,100 d.w.
	1926	"	—	—	—	—	—

Cash in hand and at the Bank ...	1927	Mks.	1,082,000	303,000	105,000	(17)	6,000 (3)
	1926	..	1,224,000	218,000	158,000	(17)	2,000 (3)
Securities and participations in other concerns ...	1927		76,000	210,000	501,000	—	55,000
	1926		76,000	210,000	501,000	—	55,000
Debtors ...	1927		944,000	508,000	559,000	451,000	564,000
	1926		903,000	590,000	445,000	?	1,122,000
Gross profits ...	1927		2,524,000	1,139,000	205,000	107,000	1,246,000 (4)
	1926	..	2,374,000	776,000	130,000	?	603,000
Gross profits ...	1927	Mks per ton	49	70	74	?	42 (4)
	1926	..	50	46	47	?	?
Expenses (taxes, social expenses, interest)	1927	Mks.	933,000	522,000 (10)	49,000(12)	42,000 (14)	534,000 (15)
	1926	..	1,136,000	452,000 (11)	41,000(13)	?	431,000 (16)
Amounts written off on the fleets ...	1927	..	1,022,000	469,000	30,000	20,000	417,000
	1926	..	985,000	252,000	30,000	?	?
Amounts written off in percentage of value of fleet ...	1927	%	8	8	6	7	7.25
	1926	%	7.5	4.25	6	?	?
Nett profits ...	1927	Mks.	579,000	150,000	99,000	46,000	296,000
	1926	..	284,000	7,000	50,000	—	182,000
Dividends ...	1927	%	7	8	8	10	8
	1926	%	6	4	4	—	6

(1) = Including small craft and advance payments on vessels under construction.

(2) = After deducting 35 million Mks. as advance payment on vessels under construction.

(3) = Cash at Bank booked under "sundry debtors."

(4) = Including 417,259 Mks. written off, which had previously been booked off.

(5) = The result seems low, as amounts written off for depreciation had previously been booked off.

(6) = 1806 expenses, 1,055 taxes, 717 social expenses.

(7) = 1,716 expenses, 1,179 taxes, 673 social expenses.

(8) = 962 expenses, 652 taxes, 522 social expenses.

(9) = 728 expenses, 428 taxes, 404 social expenses.

(10) = 168 expenses, 42 taxes, 79 social expenses, 233 interest.

(11) = 130 Expenses, 14 taxes, 70 social expenses, 238 interest.

(12) = 21 Expenses, 14 social expenses, 14 taxes.

(13) = 16 Expenses, 13 social expenses, 12 taxes.

(14) = 26 Expenses, 16 taxes.

(15) = 338 expenses, 82 social expenses, 88 taxes, 26 interest.

(16) = 269 expenses, 86 social expenses, 17 taxes, 79 interest.

(17) = Shown under the heading "debtors."

## APPENDIX V.

EXPORTS OF COAL FROM GERMANY.<sup>1</sup>

Countries of destination <sup>2</sup>	1926 tons.	1927 tons.	+ Increase - Decrease as compared with 1926.
Netherlands ... ..	10,239,688	6,591,139	-3,648,549
France and Alsace Lorraine ...	8,466,655(c)	5,642,679	-2,823,976
Belgium ... ..	5,479,151	5,423,388	- 55,763
United Kingdom including N. Ireland ... ..	1,728,966	43,677	-1,685,289
Italy ... ..	4,349,038	4,162,183	- 186,855
Algeria ... ..	919,692	329,206	- 590,486
Czechoslovakia ... ..	872,735	1,170,970	+ 298,235
Sweden ... ..	821,712	914,807	+ 93,095
Jugo-Slavia ... ..	494,244	22,221	- 472,023
Denmark ... ..	402,701	113,873	- 288,828
Switzerland ... ..	401,835	480,445	+ 78,610
Austria ... ..	378,779	359,392	- 19,387
Argentine ... ..	349,018	174,366	- 174,652
Spain ... ..	299,549(b)	80,700	- 218,849
Portugal ... ..	262,199	83,073	- 179,126
Saar Area ... ..	210,693	179,252	- 31,441
Norway ... ..	206,559	55,373	- 151,186
U.S.S.R. ... ..	180,303	23,663	- 156,640
Egypt ... ..	168,685	142,572	- 26,113
U.S.A. ... ..	120,688	8,200	- 112,488
Greece ... ..	114,562	18,082	- 96,480
Finland ... ..	91,296	46,698	- 44,598
Irish Free State ... ..	87,415	3,513	- 83,902
British Possessions in the Medit- erranean ... ..	52,678	79,712	+ 27,034
Lithuania ... ..	44,007	37,659	- 6,348
Dutch East Indies ... ..	40,683	72,144	+ 31,461
Luxembourg ... ..	38,537	46,144	+ 7,607
Latvia ... ..	35,996	40,755	+ 4,759
Esthonia ... ..	19,269	14,425	- 4,844
Uruguay ... ..	16,448	(a)	(a)
Tunis ... ..	15,367	28,515	+ 13,148
Memel ... ..	15,354	25,468	+ 10,114
Danzig ... ..	14,416	19,293	+ 4,877
Hungary ... ..	13,776	3,249	- 10,527
Brazil ... ..	11,285	4,382	- 6,903
French Morocco ... ..	10,330	51,604	+ 41,274
Australia ... ..	8,628	—	- 8,628
Polish Upper Silesia ... ..	8,415	8,695	+ 279
Eastern Poland ... ..	15	15	—
Western Poland ... ..	80	—	- 80
Chile ... ..	7,298	2,018	- 5,280
Canary Islands ... ..	(included with Spain)	55,748	(a)
Ceylon ... ..	—	31,416	+ 31,416
Turkey ... ..	3,793	5,812	+ 2,019
Total (all destinations) ...	38,034,890	26,878,047	-11,156,843

<sup>1</sup>Not including lignite (brown coal).<sup>2</sup>All destinations include reparation deliveries.

(a) Not available. (b) Including Canary Islands.

(c) Including Reparation deliveries to Algeria.



APPENDIX VI.  
COAL PRODUCTION.

1927				Tons.
January	...	...	...	13,355,360
February	...	...	...	12,742,699
March	...	...	...	14,046,337
April	...	...	...	11,794,320
May	...	...	...	12,297,382
June	...	...	...	11,820,352
July	...	...	...	12,635,000
August	...	...	...	12,997,304
September	...	...	...	12,710,654
October	...	...	...	13,094,299
November	...	...	...	12,864,491
December	...	...	...	13,238,400
Total	...	...	...	153,596,598
1928				
January	...	...	...	13,420,540
February	...	...	...	12,926,086
March	...	...	...	14,117,639
April	...	...	...	11,720,000

APPENDIX VII.

GERMAN AGRICULTURAL PRODUCTION, 1924-1927.

	Harvest year, 1924-25	Harvest year, 1925-26	Harvest year, 1926-27
A. Vegetable Products :—	Receipts in 1,000 Mks.		
I. Cereals—			
1. Rye ... ..	891,349	979,578	1,030,270
2. Wheat ... ..	465,545	688,843	585,062
3. Spelt ... ..	19,361	23,688	23,630
4. Barley (estimated value) ... ..	428,486	404,656	416,235
5. Oats ... ..	176,831	186,676	191,386
6. Buckwheat " " ... ..	3,248	1,820	2,461
Total of cereals	1,984,820	2,285,261	2,249,044
II. Pulse ... ..	60,448	62,576	65,407
III. Roots—			
1. Potatoes ... ..	354,969	403,855	249,247
2. Sugar beet roots ... ..	304,158	244,665	349,682
3. Sugar beet and turnip ... ..	8,626	13,768	16,181
4. Other roots for sale ... ..	28,928	24,467	45,656
Total of roots	696,681	686,755	660,766
IV. Vegetables and plants for use in commerce ... ..			
1. Vegetables (estimated value) ... ..	500,000	500,000	500,000
2. Oil fruits (rape seed) ... ..	13,863	17,941	11,846
3. Plants for spinning materials ... ..	8,804	7,959	8,023
4. Tobacco ... ..	16,834	10,980	16,688
5. Hops ... ..	31,262	46,213	23,413
6. Chicory ... ..	10,409	11,390	9,380

APPENDIX VII—*continued.*

GERMAN AGRICULTURAL PRODUCTION, 1924-1927.

	Harvest year, 1924-25	Harvest year, 1925-26	Harvest year, 1926-27
	Receipts in 1,000 Mks.		
Total of vegetables and plants for use in commerce and industry ... ..	581,172	594,483	571,350
V. Hay and straw (estimated value) ... ..	270,000	270,000	270,000
VI. Fruit and wine " " ... ..	394,567	433,829	386,586
VII. Subsidiary agricultural industries—			
1. Agricultural distilleries ... ..	39,600	81,000	86,400
2. Starch factories ... ..	21,536	23,828	21,278
3. Drying-kilns ... ..	9,600	9,535	9,865
Total of subsidiary agricultural industries ... ..	70,736	114,363	117,543
A. I-VII. Total of vegetable products ... ..	4,058,424	4,447,267	4,320,696
B. Animal products :—			
I. Slaughtered animals—			
1. Oxen ... ..	1,176,489	1,384,159	1,388,574
2. Pigs ... ..	2,082,660	2,810,523	2,580,148
3. Sheep ... ..	61,142	78,241	77,515
4. Goats ... ..	18,213	22,589	26,161
5. Horses ... ..	17,882	23,137	25,314
6. Poultry ... ..	645,683	525,960	432,994
Total of slaughtered animals ... ..	4,002,069	4,844,609	4,530,706
II. Milk—			
1. From cows ... ..	3,254,200	3,184,326	2,961,828
2. „ goats ... ..	311,930	279,741	237,033
	3,566,130	3,464,067	3,198,861

APPENDIX VII—*continued.*

GERMAN AGRICULTURAL PRODUCTION, 1924-1927.

	Harvest year, 1924-25	Harvest year, 1925-26	Harvest year, 1926-27
III. Miscellaneous animal products—	Receipts in 1,000 M ks.		
1. Eggs ... ..	322,804	319,529	322,660
2. Honey ... ..	17,912	17,912	17,912
3. Wax ... ..	2,380	2,380	2,380
4. Wool ... ..	60,054	37,939	37,775
Total of miscellaneous animal products ... ..	413,150	377,760	380,727
IV. Increase or decrease of live-stock compared with preceding year ...	+350,000	-100,153	+116,366
B. I-IV. Total of animal products ... ..	8,331,349	8,586,283	8,226,660
A + B. Total value of agricultural products ... ..	12,389,773	13,033,550	12,547,356

REPORTS by H.M. Trade Commissioners, Commercial Diplomatic and Consular Officers on commercial and financial conditions in the following countries, issued, or in course of preparation, by the Department of Overseas Trade :—

A.—During the year 1927.

Argentina ... ..	2s. 6d. (2s. 7d.)	Netherlands ... ..	2s. 6d. (2s. 7d.)
Belgium ... ..	4s. 6d. (4s. 8d.)	Netherlands East Indies	3s. 0d. (3s. 2d.)
Brazil ... ..	1s. 6d. (1s. 7d.)	New Zealand ... ..	2s. 0d. (2s. 1d.)
Canada ... ..	2s. 6d. (2s. 7d.)	Norway ... ..	2s. 0d. (2s. 1d.)
Canary Islands ... ..	1s. 0d. (1s. 1d.)	Palestine ... ..	1s. 0d. (1s. 0½d.)
China ... ..	1s. 6d. (1s. 7d.)	Panama and Costa Rica	1s. 6d. (1s. 7d.)
Czechoslovakia ... ..	1s. 6d. (1s. 7d.)	Peru ... ..	2s. 0d. (2s. 1d.)
Denmark ... ..	1s. 6d. (1s. 7d.)	Poland ... ..	1s. 6d. (1s. 7d.)
East Africa ... ..	2s. 0d. (2s. 1d.)	Portuguese East Africa	1s. 6d. (1s. 7d.)
Estonia ... ..	1s. 0d. (1s. 0½d.)	Roumania ... ..	1s. 0d. (1s. 0½d.)
Egypt ... ..	2s. 0d. (2s. 1d.)	Siam ... ..	1s. 6d. (1s. 7d.)
Finland ... ..	1s. 0d. (1s. 0½d.)	Switzerland ... ..	1s. 6d. (1s. 7d.)
France ... ..	7s. 6d. (7s. 9d.)	Turkey ... ..	1s. 0d. (1s. 0½d.)
Germany ... ..	3s. 6d. (3s. 8d.)	United States ... ..	3s. 0d. (3s. 2d.)
Greece ... ..	1s. 6d. (1s. 7d.)	Report on the Japanese	
Italy ... ..	3s. 6d. (3s. 8d.)	Cotton Industry ... ..	3s. 0d. (3s. 2d.)
Latvia ... ..	9d. (9½d.)		
Morocco, Algeria, Tunisia, Tripoli and Cyrenaica ... ..	4s. 6d. (4s. 8d.)		

B.—During the year 1928.

Australia ... ..	3s. 0d. (3s. 2d.)	Jugo-Slavia ... ..	1s. 6d. (1s. 7d.)
Austria ... ..	1s. 6d. (1s. 7d.)	Lithuania ... ..	9d. (9½d.)
Belgium ... ..	4s. 0d. (4s. 2d.)	Mexico ... ..	2s. 0d. (2s. 1d.)
Bulgaria ... ..	(In preparation)	Netherlands ... ..	3s. 0d. (3s. 2d.)
Chile ... ..	3s. 6d. (3s. 8d.)	Nicaragua ... ..	6d. (6½)
Cuba ... ..	1s. 0d. (1s. 0½d.)	Persia ... ..	1s. 6d. (1s. 7d.)
Egypt ... ..	1s. 6d. (1s. 7d.)	Poland ... ..	1s. 6d. (1s. 7d.)
France ... ..	(In preparation)	Portugal ... ..	1s. 6d. (1s. 7d.)
Germany ... ..	(See Cover)	Roumania ... ..	2s. 0d. (2s. 1d.)
Greece ... ..	(In preparation)	South Africa... ..	(In preparation)
Honduras and El Salvador ... ..	1s. 6d. (1s. 7d.)	Spain ... ..	(In preparation)
Hungary ... ..	1s. 6d. (1s. 7d.)	Sweden ... ..	1s. 6d. (1s. 7d.)
India ... ..	4s. 0d. (4s. 2d.)	Syria ... ..	(In preparation)
Italy ... ..	3s. 6d. (3s. 8d.)	Turkey ... ..	1s. 0d. (1s. 0½d.)
Japan ... ..	(In preparation)	Uruguay ... ..	1s. 0d. (1s. 0½d.)
		Venezuela ... ..	9d. (9½d.)

Annual subscription for the above reports, including postage to any part of the world, £3.

(The above publications can be obtained from the addresses given on the title-page of this Report. All prices are net, and those in parentheses include postage.)

# CUSTOMS

REGULATIONS

AND

PROCEDURE

IN GREAT BRITAIN AND NORTHERN IRELAND



A general survey and summary of the existing Customs regulations and procedure has long been needed by all engaged in overseas trade.

A handbook has now been drawn up in which the whole subject is dealt with in a clear and concise manner. It is fully indexed and will be of invaluable assistance to all importers and exporters.

*Bound in Boards. . . . . Royal 8vo.*

Price 1s. 6d. Post Free 1s. 9d.

"It is assured of a warm welcome by its straight-forward language and its evident appreciation that every Transport man is not a qualified lawyer . . . . . the book can be strongly recommended to all actively engaged in the transport of goods, whether as shipper, manufacturer, or merchant."

*Modern Transport.*

**HIS MAJESTY'S STATIONERY OFFICE**

LONDON: Adastral House, Kingsway, W.C.2

EDINBURGH: 120, George Street; MANCHESTER: York Street;

CARDIFF: 1, St. Andrew's Cres.; BELFAST: 15, Donegall Square West;

or through any Bookseller.

DEPARTMENT OF OVERSEAS TRADE.

Report  
ON THE  
Economic Conditions  
IN THE  
UNION OF  
SOUTH AFRICA

Dated June, 1928.

By N. ELMSLIE,

H.M. Senior Trade Commissioner in South Africa.



LONDON :

PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses :  
Adastral House, Kingsway, London, W.C.2 ; 120, George Street, Edinburgh ;  
York Street, Manchester ; 1, St. Andrew's Crescent, Cardiff ;  
15, Donegall Square West, Belfast ;  
or through any Bookseller.

1928.

*Price 2s. Net.*

## DEPARTMENT OF OVERSEAS TRADE.

### COMMERCIAL REPRESENTATION ABROAD.

To foster British overseas trade, the Department has developed and controls the following Services of Commercial Intelligence Officers:—

#### 1. IN THE EMPIRE.

##### *The Trade Commissioner and Imperial Trade Correspondent Services.*

At the present time there are 13 Trade Commissioners' Offices. These are situated, four in Canada (Montreal, Toronto, Vancouver, Winnipeg), two in South Africa (Johannesburg, Cape Town); two in Australia (Melbourne, Sydney); two in India (Calcutta and Bombay—to cover also Ceylon); and one each in New Zealand (Wellington), British East Africa (Nairobi) and British West Indies (Trinidad).

The Trade Commissioners in the Dominions have the assistance of Imperial Trade Correspondents at a number of important centres.

In various parts of the Empire in which at present there are no commissioners, there are correspondents with whom the Department deals direct.

The Department is represented in South Africa by Mr. N. Elmslie, H.M. Senior Trade Commissioner, Cape Town, and Mr. J. W. Brigden, H. M. Trade Commissioner, Johannesburg.

#### 2. IN FOREIGN COUNTRIES.

##### *(a) The Commercial Diplomatic Service attached to the British Diplomatic Missions.*

This service consists of between thirty and forty posts in all, and the officers of the service are stationed in all the more important foreign markets of the world. The members of the Commercial Diplomatic Service are styled "Commercial Counsellors" in the highest grade, and "Commercial Secretaries" in the two lower grades. They are members of the staff of the British Embassy or Legation in which they serve.

The Commercial Diplomatic Officer has general supervision over the commercial work of the consular officers in his area, and, with the co-operation of these two services, a complete network of Government commercial representatives is thrown over foreign countries.

##### *(b) The British Consular Service.*

Particular attention has been given to the commercial side of consular work since the re-organisation of the service. In certain countries where no Commercial Diplomatic Officer is stationed the senior Consular Officer undertakes duties of a similar character.

Members of British firms are urged to call upon the Department's representative abroad when they visit an overseas country. It is also important that they should make a point of their representatives abroad keeping in close touch with the Department's officers.

#### NOTE.

*It should be understood that the views expressed in annual reports are the views of the officers themselves, and are not necessarily in all respects the views of the Department.*



## TABLE OF CONTENTS.

	PAGE
I.—GENERAL REVIEW :—	
Inflow of capital ... ..	6
Exports... ..	6
Outlook for Export Trade ... ..	7
Imports ... ..	8
Imports from the United Kingdom ... ..	8
II.—FINANCE :—	
Public Finance... ..	10
Railway Finance ... ..	11
Public Debt ... ..	12
Insolvencies ... ..	13
III.—TRADE :—	
Import Trade—	
Volume and nature of Imports ... ..	13
Sources of Imports ... ..	15
Trade with the United Kingdom ... ..	15
Trade with the United States ... ..	16
Trade with the Continent of Europe ... ..	17
Trade with Japan ... ..	18
Export Trade—	
Volume and Nature of Exports ... ..	19
Possibility of Expansion of Exports ... ..	20
Distribution of Exports ... ..	21
IV.—PRODUCTION :—	
Agricultural and Pastoral—	
Wool ... ..	23
Mohair ... ..	24
Hides and Skins ... ..	25
Meat ... ..	25
Ostrich Feathers ... ..	26
Maize... ..	26
Wheat ... ..	27
Wattle Bark and Extract ... ..	27
Sugar... ..	27
Fresh Fruits ... ..	27
Dried Fruits ... ..	29
Wines ... ..	29
Cotton ... ..	30
Mining Industry—	
Gold ... ..	30
Diamonds ... ..	32
Coal ... ..	33
Other Metals, Minerals and Ores ... ..	33

	PAGE
IV.—PRODUCTION ( <i>continued</i> ):—	
Manufacturing Industries—	
Bakeries, Bread and Biscuit Factories ... ..	37
Printing and Bookbinding... ..	37
Clothing and Textile Industries ... ..	37
Explosives and Matches ... ..	38
Tobacco, Cigarettes, etc. ... ..	38
Candles and Soap ... ..	38
Boots and Shoes ... ..	38
Cement ... ..	39
Sweets ... ..	39
Jams ... ..	39
Engineering Industries ... ..	39
Consumption of Imported Materials ... ..	40
APPENDICES :—	
I.—Analysis of Import Trade ... ..	41
II.—Trade and Conditions in Southern Rhodesia ... ..	57

**REPORT**  
ON THE  
**ECONOMIC CONDITIONS**  
IN THE  
**UNION OF SOUTH AFRICA.**

*Dated June, 1928.*

---

**I. GENERAL REVIEW.**

The last report in this series on the Economic Conditions in the Union of South Africa was written by my predecessor in July, 1924. The four years that have since passed have been years of considerable prosperity during which there has been no serious check to the steady development and progress of the country. The financial position has been uniformly good, revenue has come in well and a large surplus of revenue over expenditure has been shown in each year, while insolvencies have been much reduced both in number and in total liabilities. The trade position has been equally satisfactory, both imports and exports have shown large and consistent yearly growth, progress has been made in the development of manufacturing industries and no serious labour troubles have interfered with the country's welfare.

A review is required of the course of trade during the four years that have passed since the preparation of the last report, but in addition the very considerable changes that have taken place in the volume, nature and distribution of the trade make necessary an inquiry into the economic position of the country, its production and its industrial development, with particular reference to the possibility of a continuance or increase of the present high level of overseas trade and to the prospect of a larger share of it being obtained by the United Kingdom. Many of the factors which affect the balance of trade in older or more fully developed lands either do not apply to South Africa or have a contrary effect. Gold is a commodity produced for export, investment of capital from other countries far exceeds investment of South African funds abroad, necessitating large annual payments in interest and dividends, tourist traffic is still comparatively small and probably yields far less revenue than the expenditure abroad of South African residents who visit other countries for business or pleasure, and the balance of payments for shipping, banking, insurance and other services is adverse. These items constitute large annual "invisible imports" whose magnitude it is difficult to estimate but which cannot be less than £20 million sterling per annum. Import trade, with which this report is primarily concerned, must therefore be governed mainly, if not wholly, by the volume and value of exports and by the inflow of capital for development or

other purposes, and an estimate of its probable future course can only be based on an investigation of production for export and the nature and extent of probable development.

**Inflow of Capital.**—Some aspects of this question are referred to in the separate section on Finance. The average borrowings of the Union Government from overseas during the past few years have been about £6 million sterling per annum. This amount actually covers the greater part of all public borrowing since the Provincial Governments are not permitted to borrow from any source other than the Union Treasury, who have also hitherto raised all monies required for the railways, harbours, the grain elevator system, the electricity commission and suchlike purposes. Municipalities have from time to time borrowed from overseas but the total annual amount has not been large. There is general agreement that the public debt has grown too rapidly of late years, and an effort will probably be made to curtail borrowing, but the Government have commitments which will necessitate the provision of further capital and the diminution of borrowing is not likely to be sudden or considerable. Capital is also brought into the country by settlers and by commercial bodies interested in industrial and other ventures. These amounts are probably not large, but they are likely to increase and their increase will compensate for any decrease in borrowing on public account. On balance the inflow of capital is not likely to vary greatly from its present amount during the next few years.

**Exports.**—Export trade is examined in detail in a separate section of this report, and it will be seen that there has been a steady and substantial expansion during the past few years. It will also be seen that this growth has been general and has not been due to any change in the nature of the trade or the relative magnitude of exports of commodities of various classes. The conclusion drawn from analysis of the records of the three latest years, that two-thirds of the value of all exports are due to direct products of the mining industry, is not inconsistent with the results of previous years. In 1922, when the gold mining industry was gravely disorganised through labour disturbances on the Rand, the proportion did not fall far below this average figure, and in 1913, when the gold mining industry was prosperous and in full operation and the demand for diamonds was strong, it did not far exceed it. It is also worthy of note that all mine products other than gold and diamonds contribute together a very small proportion of the export values and that the rate of growth has hitherto been slow.

The remaining third of the value of all exports will be seen to be due largely to three products, wool, maize and hides and skins, and here also reference to the records of previous years shows that conditions have not changed greatly. All the minor products

together constitute just about the same proportion of the total as they have done for many years past.

**Outlook for Export Trade.**—The prospect of an increase in the value of the country's export trade, or indeed of its continuance on the present level, depends on the volume of production for export and on the course of prices of the commodities concerned. The latter factor is only to a limited extent under the control of the people of the country and cannot usefully be discussed. Production is, however, the more important factor and is considered in detail in a separate section of this report. It will be seen that the output of gold, the most important export commodity, is already on a high level and that the industry is fully developed. No large increase in production can be expected and a decrease is generally looked for in the near future, the date on which decrease will commence and the rate at which it will proceed being dependent on labour supply, wage rates and prices of supplies. All these factors are affected, if not governed, by matters of policy in which other important sections of the community are also interested and in which conflict of interests may prejudice this important industry. The value of exports of diamonds is not dependent on production but on the buying power and demand of the world's markets, export is already on a very high level and no considerable increase can reasonably be expected, while a fall in demand would inevitably follow economic or financial disturbances in the few important buying countries. All other mine products together contribute only a small proportion of the value of exports. Expansion is possible as the mineral wealth of the country is great, but hitherto the rate of growth has been very slow and there is no reason to anticipate any considerable change during the next few years.

Of commodities other than mine products, the outlook for wool, the most important, is excellent. Production is increasing through growth in the sheep flocks and improvement in the weight of the average fleece, quality is also improving, and although wool prices are at present high further improvement is possible through improvement in quality and in classing and packing. The value of this export is likely to rise appreciably. Maize, the next most important product, is a very variable factor, increased production can be obtained through cultivation of wider areas, improved methods of cultivation and higher yields per acre. Improvement in these matters is, however, slow and average exports are not likely to increase rapidly. In minor products higher returns are likely to be obtained from several export lines, particularly fresh fruits, sugar and wines, but the total increase is not likely to be considerable during the next few years.

Manufactured goods cannot at present be considered as possible contributors of any consequence to export values.

The general conclusion is that, unless any economic or industrial disturbance occurs and provided that the gold mining industry

is not faced with any change in working conditions that would raise working costs materially, the value of exports is likely at least to continue on its present level and probably to continue to increase. Decrease in the production of gold which is probable in the not distant future can be compensated by increases in other mine products and in pastoral and agricultural products provided that the rate of change is slow.

The present year has opened exceedingly well. Trade conditions generally are good, the season has been favourable for production and the level of both import and export trade during the first six months has been above that of last year. If the second half-year is equally satisfactory the value of exports should exceed the highest figure yet recorded and the value of imports should be proportionately high.

**Imports.**—Since production and export are found to be on a sound basis with a reasonable probability of continuance on the present level and a prospect of increase in the immediate future, imports also may be expected to maintain their present volume and to improve at an equal pace. The detailed analysis of imports which is made in other sections of this report makes it appear probable that a slow change may be expected in the character of the import trade. The increase in local production of certain classes of manufactured goods which is being actively fostered by the industrial policy of the Government will reduce importation in these lines, but the industrial expansion will itself create a larger demand for raw and semi-manufactured materials, for industrial plant, machinery and supplies and for fully manufactured goods of descriptions not made within the country, for which demand will increase owing to the higher spending power of the people in receipt of higher wages consequent on the growth of industries. This change will affect adversely certain manufacturers in Great Britain whose products will no longer be required or will be required in smaller volume, but other manufacturers will derive advantage from the larger demand for their products and the total effect on British trade need not be adverse. It does, however, behove manufacturers of all classes of goods to keep in close touch with the market and to be prepared to alter their selling and advertising policy to suit the changing conditions.

**Imports from the United Kingdom.**—The position of trade between the United Kingdom and the Union as disclosed in the section of this report on Import Trade and the analysis given in Appendix I is most disquieting. The fall in the percentage of imports of United Kingdom origin from 56·4 per cent. in 1922 to 44·8 per cent. in 1927 has been so continuous and so large that inquiry into its cause is essential. It is no doubt due to a combination of factors, many of which are beyond the control of British manufacturers and exporters, and it has been in fact

attributed to several different causes. One that is frequently quoted is the development of local industries and the consequent smaller import of manufactured goods and larger import of raw materials. This may be a contributory cause but that it is not the main reason is clear from the fact that the decline in the British share of trade is visible not only in the total but in practically all the classes into which imports are separated in the trade returns and in the great majority of individual headings, including some such as cotton piece-goods in which there is at present no local production. Another reputed cause is the withdrawal of the general preferential rebate of customs duty on imports of United Kingdom origin by the Customs Act of 1925. This also is no doubt a contributory cause but that it also cannot be the main cause is shown by the fact that the decline is serious in several lines on which the rebate was actually increased in 1925, cotton piece-goods again providing an example, whereas the former proportion has been maintained and even increased in lines from which preference has been withdrawn, such as most of the items included in the class fancy goods, sports goods, toys, &c. A third reputed cause is the greatly increased proportion of direct Government imports that have been obtained from countries other than the United Kingdom. This also has no doubt been a small contributory factor since prior to 1925 a very high proportion of Government orders were placed with British firms and there has since been a heavy reduction. But the total volume of Government imports is too small for this change to have had so large an effect and if commercial imports only are examined it will be found that the proportion obtained from the United Kingdom has fallen consistently from 54·22 per cent. in 1922 to 44·82 per cent. in 1927, the latter figure being nearly the same as the proportion of Government imports drawn from the same source in that year, namely, 44·30 per cent.

It is obvious then that the main cause has still to be found and there can be no doubt that it is price. The South African market is essentially one in which cost is the main consideration, quality and other factors being in a large proportion of the trade of less consequence than they are in some other markets. During the past five years British prices generally have been high in relation to those quoted by competing nations, but since the facts are well known and the causes have been widely discussed, and since there is a good prospect of conditions improving, there is little to be gained by further discussion here.

There is, however, another most important factor to which attention must be called. Complaint is constantly heard from all sections of the community that British manufactured goods of certain descriptions are unobtainable or difficult to procure suitable for South African requirements. A Trade Commissioner no doubt hears so much of the difficulties encountered by traders and

consumers who desire to buy from the country that he represents, and so little of the efficient service rendered, which is apt to be taken for granted, that it is difficult to form a true estimate of the adequacy of the sales service rendered. Many British firms have very complete and highly efficient selling organisations in South Africa and there has been a notable increase during the past five years in the number of visits paid to the country by directors and export managers of firms interested in its trade. In spite of this, however, the number of complaints received indicates that there is still room for improvement and that trade is still being lost which could be retained by more efficient service. Much could be done by skilful propaganda on behalf of British trade and by educating the buyer in the economy of paying for higher quality and durability, but what is wanted above all is closer study of the tastes, habits and needs of the market and better salesmanship, better service and better advertising.

## II. FINANCE.

**Public Finance.**—The provisional returns of the revenue and expenditure of the Union Government during the financial year 1927-28 and the audited figures for previous years are as under :—

	Total Revenue.	Total Expenditure.	Surplus.
1923-24	£ 24,252,888	£ 24,026,903	£ 225,985
1924-25	25,335,543	24,527,753	807,789
1925-26	26,986,778	26,315,220	671,558
1926-27	28,577,004	27,361,597	1,215,407
1927-28	29,672,000	27,922,000	1,750,000

It will be seen that expenditure has been rising consistently during the past five years. Increases have occurred in the amounts voted for the majority of the services, consequent on the general growth and development of the country and on the extension of Government activities, the most important increases being in subsidies to Provincial Governments, mainly on account of education, in the service and redemption of public debt, in pensions and in the post office vote. The accounts of the South African railways and harbours are kept separately and all receipts and expenditure on railway account and payments in respect of interest and redemption of loans raised for railway and harbour purposes, are excluded from the totals recorded above.

The parallel increase in revenue received is also due for the most part to a general development of the business of the country and to the very favourable economic conditions that have prevailed. Increases are recorded under a number of revenue headings, by far the largest being the growth in the yield of import duties which expanded between 1923-24 and 1927-28 by about



£2,300,000 and of income taxes which increased in the same period by about £1,530,000. The total revenue from taxation was £21,028,922 in 1926-27, as compared with £16,853,095 in 1923-24.

This increase in the tax revenue has been obtained with very little alteration in the tax rates, adjustments have been made in most years, particularly in the rates of import duties but generally speaking the increases have been balanced by decreases and the average rate of tax has increased but little. The two exceptions to this statement are the alteration in the rate of income tax on mining and other companies in 1925, which materially increased the yield of the tax and the withdrawal in the same year of the preferential rates of import duty previously accorded to a wide range of goods when imported from sources within the British Empire, which change increased the yield of the import duties by an amount estimated at about £400,000 per annum. This, however, is not the whole burden of direct taxation, the Provincial Government also levy direct taxes to supplement the subsidies received from the central Government, the amount so raised during the financial year 1926-27 being approximately £4 million sterling, making the total tax revenue approximately £25 million sterling. The full revenue returns for 1927-28 are not yet available, but preliminary figures announced by the Minister of Finance show large increases under certain headings, and it seems probable that the total tax revenue collected by the Union and Provincial Governments in the year will approach £26 million sterling, equal to £15 6s. per head of the European population of about 1,700,000, a very heavy burden on a developing country.

**Railway Finance.**—The accounts of the South African railways and harbours, with which are included the cost of running certain Government-owned steamships and of the grain elevator system, are approximately equal in magnitude to the accounts of the central Government. In the financial year 1926-27 the total revenue, including sums received as interest and miscellaneous receipts amounting to £1,010,470, was £26,897,518, while expenditure was made up of working expenses and depreciation £20,355,673, interest and general charges £5,888,655 and contributions to reduction of capital, betterment fund, and pensions and superannuation funds £812,000, leaving a deficit for the year of £158,811. Final figures for the year 1927-28 are not yet available, but the Minister of Finance in his budget speech gave revised estimates of expenditure as £29,364,349 and receipts as £29,257,084; he has since announced that the year will end with a small surplus. The operating ratio for 1926-27 was 80·68 per cent., this ratio has been rising for some years past.

The capital account is very heavy and has been increasing rapidly in recent years; the Minister of Finance gave a provisional total as at March 31st, 1928, of £147,000,000, on which the interest charges amount to about £5,670,000 per annum.

The cost of a railway system in a country of great distances and sparse population such as South Africa is necessarily high, and since the system is looked upon as an essential instrument for development, profits are not looked for. In pursuance of the policy of using the railways for development, branch lines have been built to open up new districts which cannot for long periods pay interest on the cost of construction, and very low freight rates are charged on moving goods to the ports for shipment. Sufficient revenue to allow of this being done without incurring a loss on the whole system is obtained by charging heavy rates of freight on the movement of imported goods and on certain special traffic, and herein lies the danger to the financial equilibrium of the organisation, for the most remunerative traffic is that which is dependent on the great mining industry, and any considerable reduction of this industry's scale of operations would necessitate a radical revision of all scales of charges if heavy deficits are to be avoided, a revision which would be much to the disadvantage of every other productive industry in the country.

**Public Debt.**—The public debt of the Union Government is heavy and has been increasing consistently during recent years. The record for the last six years is shown in the table below :—

**PUBLIC DEBT.**

At March 31st.	Gross Debt. Funded and Floating.	Sinking Fund. Nominal Value.
1923 ... ..	199,685,867	15,193,205
1924 ... ..	208,232,528	14,312,271
1925 ... ..	214,332,683	15,458,247
1926 ... ..	221,956,431	17,130,985
1927 ... ..	231,475,947	18,650,717
1928 ... ..	238,905,000	20,695,000
	Net Debt.	Increase.
At March 31st.	Funded and Floating.	During year.
1923 ... ..	184,492,662	—
1924 ... ..	193,920,257	9,427,595
1925 ... ..	198,874,436	4,954,179
1926 ... ..	204,825,446	5,951,010
1927 ... ..	212,825,230	7,999,784
1928 ... ..	218,210,000	5,384,770

The average rate of increase during this period has been £7,843,826 gross or £6,743,467 net, and the average rate of interest during the financial year 1926-27 was 4·142 per cent.; this rate is tending to rise owing to the higher rates that have to be paid on fresh loans raised for new capital expenditure or for conversion.

The total interest payable on the whole debt outstanding on the 31st March, 1927, was £9,586,954. Of the capital or total debt at the same date 63·85 per cent. was external and 36·15 per cent. internal.

The actual expenditure on loan services has been considerably greater than is shown in the table above. During the last four years for which audited figures are available the amounts were

£10,617,206, £11,330,001, £12,309,115 and £12,920,075, and according to the estimate given by the Minister of Finance in his budget speech it was £11,689,000 in 1927-28, the large difference was accounted for by the payment into capital account of considerable sums derived from special sources such as receipts from mining leases, all such payments being available for expenditure on development work.

The rapid increase in the net public debt, which has averaged over £6,000,000 per annum since the date of Union, 1910, is looked on with considerable misgiving, and it is generally considered that capital expenditure will have to be curtailed in the near future.

**Insolvencies.**—The number of insolvencies and the total liabilities declared by insolvents is still high, but the position has improved very greatly from what it was a few years ago, and taking into consideration the greatly increased volume of trade and the higher levels of value, it cannot now be considered much higher than in the period prior to 1914.

	No. of Insolvencies.	Amount of Liabilities. £
Average for 1911-14 ... ..	954	815,367
"    1921-23 ... ..	2,293	5,963,914
"    year 1924 ... ..	1,941	4,092,820
"    1925-27 ... ..	1,302	2,399,700

### III. TRADE.

#### IMPORT TRADE.

**Volume and Nature of Imports.**—The volume of imports has shown a most remarkable expansion during the past few years, a striking testimony to the prosperous condition of the country and the rapidity of its development. The extent of the growth can be seen from the following table. The figures have been taken from the Annual Statements of Trade and Shipping, and many of them have since been slightly amended:—

#### IMPORTS INTO UNION OF SOUTH AFRICA.

	Commercial Imports.	Government Imports.	Total Imports, Including specie.
1922* ... ..	£ 47,227,885	£ 4,185,565	£ 51,557,371
1923* ... ..	54,544,390	3,270,050	57,836,761
1924 ... ..	59,621,002	6,194,515	65,894,781
1925 ... ..	63,223,986	4,704,813	67,937,517
1926 ... ..	67,938,337	5,220,717	73,319,702
1927 ... ..	70,658,547	3,296,761	74,013,836

It will be seen that the value of the commercial imports increased by nearly 50 per cent. between 1923 and 1927, and since prices

\* Including imports in transit to other States from overseas in these years.

have fallen considerably within this period the actual increase in volume must have exceeded 50 per cent. considerably. The apparent diminution in Government imports is largely due to the adoption of a policy of purchasing as far as possible from local manufacturers or from local merchant stocks and does not necessarily imply that total Government purchases have been reduced. The values quoted in this table, and all others quoted for imports in this report, are those used in the compilation of the Annual Statement of Trade, namely, f.o.b. prices for all goods other than those subject to an *ad valorem* import duty, for which the accepted "current domestic value" is used.

A more valuable picture of the nature of this increase can be obtained by examination of the growth in each of the more important classes of goods specified in the trade returns. The following statement shows the percentage increase of the 1927 figures over those for 1923 in each of the groups in which imports in 1927 were valued at over £1 million sterling, the groups being placed in order of the 1927 values:—

PERCENTAGE INCREASES.

Class.	Increase in 1927 over 1923.
Textiles ... ..	7½
Metals and metal manufactures ... ..	50
Foodstuffs ... ..	4
Machinery ... ..	80
Apparel ... ..	1
Vehicles ... ..	110
Oils, waxes, paints, varnish ... ..	27½
Leather, rubber and manufactures ... ..	30
Jewellery, fancy, toys, sports ... ..	25
Miscellaneous ... ..	10
Wood unmanufactured ... ..	12½
Chemicals ... ..	1
Paper ... ..	30
Books, stationery ... ..	6

Only one class of any consequence showed a decrease, drugs and apothecary ware 1½ per cent. The increase in the value of imports of vehicles is very striking, but this feature is not unexpected and similar growth has occurred in several countries. The most remarkable entry is that of machinery, the high rate of increase bearing witness to the rapid development that has taken place. The low percentage for textiles is largely due to price reductions, which factor also probably accounts for the very small increase in apparel although import in this class has also been considerably affected by the growth of local production. The stationary condition of trade in the chemicals and drugs classes must presumably be explained also by price reductions, as here there is no local production worth mention. Details as to the growth of imports in many of the more important lines will be found in the analysis of the import trade in Appendix I.

**Sources of Imports.**—Alongside this rapid expansion of the import trade there has been a considerable, and from the British point of view disturbing, change in the distribution among countries of supply. The percentage figures during the last six years are shown in the following table :—

PERCENTAGE OF TOTAL IMPORTS OBTAINED FROM VARIOUS SOURCES.

	1922	1923	1924	1925	1926	1927
United Kingdom*... ..	56·4	53·7	51·5	50·0	48·8	44·8
Canada ... ..	2·5	3·2	3·3	3·2	2·8	2·7
India ... ..	3·7	4·0	3·3	4·5	3·6	3·3
Australia ... ..	2·7	3·6	3·4	3·6	2·6	2·7
<b>Total Empire ... ..</b>	<b>68·4</b>	<b>68·2</b>	<b>65·3</b>	<b>64·5</b>	<b>62·3</b>	<b>59·8</b>
Belgium ... ..	1·5	1·5	1·6	1·3	1·7	2·0
France ... ..	1·7	1·6	1·7	1·7	2·0	2·4
Germany ... ..	5·3	4·7	5·4	5·6	6·2	7·2
Holland ... ..	1·0	1·0	1·2	1·4	1·5	1·4
Italy ... ..	·7	·7	·9	·9	1·1	1·2
Sweden ... ..	1·8	2·0	2·0	1·4	1·6	1·8
Japan ... ..	1·2	·9	1·0	1·2	1·5	1·4
United States ... ..	11·3	12·4	13·9	14·7	15·6	15·3
<b>Total foreign ... ..</b>	<b>31·6</b>	<b>31·8</b>	<b>34·7</b>	<b>35·5</b>	<b>37·7</b>	<b>40·2</b>

As will be seen the percentage obtained from the United Kingdom has fallen consistently and rapidly while the percentages from other sources have remained steady or have increased. The rise in the percentage from the whole Empire other than the United Kingdom, from 12 per cent. to 15 per cent., is mainly due to increased trading with Rhodesia and South-West Africa. The percentages from most European countries and from the United States have shown remarkable growth. Trade with these countries will be dealt with separately.

**Trade with the United Kingdom.**—Although the percentage of total imports obtained from the United Kingdom fell consistently, the actual value of merchandise and specie imported increased year by year from £29,080,026 in 1922 to £35,502,589 in 1926, after which it fell heavily to £33,129,593 in 1927. This first actual decrease was possibly largely the after effect of the coal stoppage, but as the percentage was low in every month throughout the year and showed no signs of improvement in the later months, it does not seem probable that this is the whole or the main cause. It would be comforting to be able to contend that the change is due to alteration in the nature of the trade, as for example to the growth of local industries and the consequent increase in importation of raw materials which cannot be obtained from the United Kingdom, and decrease in the importation of manufactured goods. Some change in this direction has taken place and has no doubt had its

\* Great Britain and Northern Ireland in 1924 and subsequent years.

effect, but if this were the whole or the main cause, the loss would be chiefly apparent in certain groups of imports, which is not the case. Examination of the percentage of trade supplied from the United Kingdom in each of the main classes separately entered in the trade returns shows that the United Kingdom proportion has fallen during the last five years in every important class except vehicles, in which it has improved from 19·9 per cent. in 1923 to 23·75 per cent. in 1927, and jewellery, fancy goods, toys, sports, &c., in which it has improved in the same period from 48 per cent. to 59·1 per cent. In some of the large and important classes in which the United Kingdom position should be strong the fall has been serious, as for example in textiles 68·2 per cent. in 1923 and 58·8 per cent. in 1927, apparel 85·8 per cent. and 77·2 per cent., machinery 57 per cent. and 54 per cent., metals and metalwares 67·4 per cent. and 59·9 per cent., earthenware and stoneware 75·6 per cent. and 66·7 per cent., chemicals 63·6 per cent. and 42·1 per cent.

More detailed examination by individual lines does not make the position look much more hopeful and reference to the Analysis of Import Trade in Appendix I will show that ground has been lost in the case of almost every individual line in which British trade has been traditionally strong. Improvement is shown in a few cases, but these are mostly lines of which the United Kingdom normally supplies only a small part or lines of minor consequence.

It is obviously most important not only to recognise that British goods are slowly being displaced in this market but to understand why this is happening and to take what steps are possible to improve the position.

**Trade with the United States of America.**—The value of imports from the United States has very nearly doubled since 1922, the rate of growth having been about £1,100,000 per annum. It is, however, easier to ascertain where the increase has taken place by comparing 1927 with 1923, for which year a more detailed classification is available. During this period the actual increase\* has been £4,319,096, and of this amount more than half, namely, £2,227,097, has been due to motor vehicles alone. Other items that have shown large increases\* are agricultural machinery £169,268, motor and cycle tyres and tubes £120,194, cotton piece-goods £118,416, mining machinery £84,886, windmills £67,351, and men's and women's wearing apparel £55,636. Many other lines such as films, typewriters, mechanics' tools, &c., have shown a normal growth in proportion to the increased size of the market. Imports of hosiery have not increased and the increase in electrical machinery, plant and fittings is small in proportion to the increase in trade. In general, competition from the United States does not appear to be growing, and the strength of their trade lies in a limited range of mass-produced articles and in certain special

\* On commercial account.

machinery and appliances. The only important exceptions to this general statement are cotton piece-goods and wearing apparel.

**Trade with Countries on the Continent of Europe.—**  
*Germany.*—Although imports from Germany amount at present to less than half the value of those from the United States, her competition is in a sense more serious as it is spread over a much wider range of trade and appears in many lines in which United Kingdom production is vitally interested. The total value of imports of German origin in 1922 was £2,731,211 and by 1927 this had grown to £5,334,273, of which £782,148 was for Government account. German imports are less easily described than those from the United States as they do not include so many items of large magnitude. The only class in which they are of outstanding importance is railway material of which in 1927 Germany supplied £547,702 on commercial account, including £376,028 for locomotives, and £720,143 on Government account, including £242,468 for locomotives. Other lines on commercial account which reached a high figure were:—

	£
Woollen blankets ... ..	69,007
Cotton piece goods ... ..	109,634
Haberdashery, Millinery, etc. ... ..	156,771
Glass bottles and jars ... ..	83,083
Enamelled ware... ..	57,277
Pianos ... ..	124,665
Toys ... ..	73,126
Agricultural machinery ... ..	99,025
Electrical plant and material ... ..	149,376
Industrial machinery ... ..	73,366
Wrought iron and steel pipes... ..	121,717
Iron and steel plate ... ..	62,636
Wire netting ... ..	136,697

Germany supplies low quality goods at very low prices which are well suited to the South African market as its demand is generally for cheap goods irrespective of quality, but she is also well able to supply lines of superior quality at prices below those that can be offered by British firms, and she frequently uses the sales organisation built up to market the cheap bulk lines to introduce better and more competitive goods. Her sales organisation is usually very efficient.

*Belgium.*—Belgian trade has also approximately doubled in value since 1922, amounting to £1,518,788 in 1927, of which £261,086 was on Government account, and here also railway material constituted a large proportion, £143,824 on commercial account and £242,631 for Government. In this case, however, the goods supplied were largely wagons and trucks, rails and sleepers. Belgium also supplies\* a large amount of iron and steel products at low prices, such as fencing standards, posts and droppers £198,203, and iron and steel bar, bolt and rod £51,696. The only

\* On commercial account.

other important lines were cotton blankets £124,806, and cotton piece-goods £88,278.

*France.*—Imports from France again have more than doubled in value since 1922, the total for 1927 being £1,763,479, the portion of this supplier to the Government, £69,735, consisting almost wholly of railway material. Of commercial imports the most important section was in textiles and apparel of the kinds in which France has specialised, haberdashery, millinery, &c., £208,922, silk piece-goods £163,545, women's apparel £145,992, and woollen piece-goods £97,790. She also supplied crude glycerine to the value of £113,971, motor vehicles £65,362 and a small amount of iron and steel goods, although in this class her competitive power does not appear to be increasing.

*Holland.*—Imports from Holland also have more than doubled since 1922. The total value for 1927, £1,068,139, was almost wholly on commercial account, the largest items being food products and textiles and apparel, each of which constituted a full quarter of the whole, condensed milk £148,340, cotton piece-goods £80,485 and superphosphates £117,720 being the largest individual items.

*Italy.*—Imports from Italy, although still comparatively small, have increased nearly two and a half fold since 1922. The 1927 total, £869,244, consisted largely of a few important lines of which felt hats £86,083, cotton blankets and Kalfir sheets £159,477, cotton piece-goods £90,065 and motor vehicles £148,981 on commercial account were the most important. Italian competition is also becoming more noticeable in a number of minor lines.

*Other European Countries.*—Imports from other European countries are still small, the biggest being from Sweden which, however, consists mainly of timber, rough or manufactured. Almost without exception, however, they are increasing their share of the trade, and competition is becoming stronger. Paper and paper products from Norway and Sweden, iron and steel and engineering products from Sweden, textiles, china and earthenware and glass from Czechoslovakia and other lines are arriving in increasing volume, and the trade connections of all these countries are becoming more firmly established.

**Trade with Japan.**—Imports from Japan have not increased to the same extent as those from European countries, the 1927 total being £1,046,943, as against £628,747 in 1922. She has lost much trade in a wide variety of lines in which the quality of goods was not suited to the market or in which trouble was experienced over deliveries. On the other hand trade in a few lines has increased greatly and business is tending to be limited to a few important classes of goods,\* such as silk piece-goods, £502,926 in 1927, cotton piece-goods £215,607 and hosiery, underclothing (cotton) £109,163.

---

\* On commercial account.



## EXPORT TRADE.

**Volume and Nature of Exports.**—The volume of the exports from the Union of South Africa on the basis adopted in the compilation of the Annual Statement of Trade and Shipping has shown a material advance during the past six years. The basis adopted is that of total exports, including all merchandise and specie shipped from the Union or removed over the land borders, together with the value of bunker coal and ships' stores. This total is not entirely satisfactory for the purpose of this report, a more useful figure being that of all exports of South Africa produce not including bunkers' or ships' stores and not including any re-exports, but including export of specie of South African origin which for this purpose must be considered merchandise. The two totals for each of the last six years are as under :—

	Total Exports.	Exports of South African origin.
	£	£
1922 ... ..	62,417,601*	57,025,785*
1923 ... ..	78,557,845*	73,209,637*
1924 ... ..	80,237,741*	75,846,823*
1925 ... ..	89,437,219	84,468,886
1926 ... ..	86,041,148†	80,651,515
1927 ... ..	96,325,821†	90,471,809

The low total for 1922 was due mainly to the small production of gold consequent on the strike on the Rand, and the setback in 1926 was mainly due to the failure of the maize crop and to low prices for wool.

Examination of the nature of the exports can be made most conveniently by separation into two groups, mine products and other, and by further separating the larger items in each group.

EXPORTS OF SOUTH AFRICAN PRODUCE.  
(Value in £).

	1925	1926	1927
Gold in bar or coin ... ..	41,202,576	43,163,040	44,751,936
Diamonds ... ..	8,605,525	10,732,810	12,285,095
Coal ... ..	1,071,393	1,418,908	1,063,200
All other metals, minerals and ores	1,313,645	1,322,663	1,441,337
<b>All mine products ... ..</b>	<b>52,193,139</b>	<b>56,637,421</b>	<b>59,541,568</b>
Wool, in grease or scoured... ..	15,095,446	12,645,851	17,117,948
Maize, in grain or meal ... ..	6,489,225	1,114,748	1,679,863
Hides and skins, all kinds ... ..	2,821,636	2,565,617	3,718,113
All other goods ... ..	7,869,440	7,686,878	8,414,317
<b>All other than mine products</b>	<b>32,275,747</b>	<b>24,013,094</b>	<b>30,930,241</b>

\* Exclusive of the gold premium realized.

† Exclusive of ship's stores taken by South African vessels.

Angora hair, wattle bark and extract, sugar and fruits, fresh and dried, make up nearly half of the total of "all other goods" in the second group, the remainder consisting chiefly of a large number of minor agricultural, pastoral and fishery products. All manufactured goods are included under this heading, but the export of manufactured goods, excluding from the description raw products which have undergone processes necessary to their handling and transport which cannot conveniently be performed elsewhere, such as the extraction of sugar from cane, the grinding of wattle bark, the drying of fruits, &c., is of very small magnitude and is almost wholly limited to South West Africa and Rhodesia, which being in a customs Union afford a most favourable market.

It will be seen that approximately two-thirds of the value of the exports consists of mine products and approximately half of gold, and further that the overseas trade of the country is dependent on a very narrow range of industries whose welfare is obviously of vital consequence.

The increase in the value of exports is due entirely to gold, diamonds, wool and hides and skins; shipments of maize are a very variable factor and cannot be relied on to produce a substantial contribution in any one year, although on an average they furnish a useful addition.

**Possibility of Expansion of Exports.**—All the industries that contribute to export trade or may be considered likely to become important contributors are examined in detail in the section of this report that deals with production. Gold mining may develop further but a large proportion of the existing mines are working on a very narrow margin of profit and increased output from new or developing mines is likely to be offset by the closing of others, and it is generally considered that the industry has reached its maximum development and is likely to remain stationary or to decline slowly. The possibility of a rapid decline through disturbance of its economic balance cannot be overlooked. Diamond production depends on other than South African factors, export is already at a high level as compared with previous years, and no considerable expansion can reasonably be hoped for. Coal trade has shown no signs of development and in the present state of the world's markets an increase does not seem possible. There are undoubtedly possibilities of increased trade in other minerals and metals, but growth has hitherto been very slow and the difficulties to be overcome are great. Unexpected developments leading to rapid expansion are, of course, always possible, but at the time of writing there does not seem to be any reason to anticipate any material change in the near future.

Wool already contributes a full half of the total value of the exports of goods other than mine products and appears likely to

increase in importance. The flocks are increasing in number and their grade is improving both in weight of the average fleece and in quality of wool. The total value of the clip may increase considerably during the next few years. Maize is too uncertain a product to be relied on, but the returns of the last few years point to an increasing average crop and if better methods of cultivation lead to a higher yield per acre the surplus available for export may rise on average. Hides and skins are not likely to yield a much larger total unless through a further advance in prices. Increased export may be expected in several of the minor products, fruits in particular, both fresh and dried, may show rapid growth, and sugar will probably increase somewhat, although the high cost of production in South Africa and strong competition from other countries make any large increase unlikely. Some items, at present quite small, such as wine, eggs and cotton, may also become important in future, and the possibility cannot be overlooked of the country embarking on the large scale production of lines that are important in the world's commerce, but which are not, at present, produced on an export scale, such as dairy produce and pork products.

Manufactured goods cannot at present be considered to be produced for export, and unless the conditions under which manufacture is undertaken are drastically altered there would seem to be no hope of finding trade from this direction.

**Distribution of Exports.**—The cause and effect of distribution of exports by country of destination is a peculiarly difficult one in a country like the Union of South Africa, so large a proportion of whose exports consists of gold and diamonds the movements of which are not subject to ordinary commercial considerations. The greater part of the diamonds are consigned to London and are shown in the trade returns as exports to the United Kingdom, but they are not entered in the United Kingdom returns as imports and are, in fact, re-shipped without a customs entry to the Continent for cutting. Until the opening of the gold refinery on the Rand all the gold produced was shipped to London for refining, but during the past four years a large and increasing proportion has been shipped as coin or refined bars to other destinations. These gold movements are negotiated through London and are governed by exchange conditions which have little or no relation to the ordinary commercial transactions between the Union of South Africa and the countries of consignment concerned. These transactions form so large a proportion of the country's total export trade that the details as to destination of other exports are robbed of most of their interest. The proportion of the total exports sent to the more important destinations during the past four years is as under :—

## PERCENTAGE OF EXPORTS TO COUNTRIES OF CONSIGNMENT.

	1924	1925	1926	1927
United Kingdom ... ..	61·32	55·07	64·11	54·32
India ... ..	18·09	15·83	12·15	7·99
Australia ... ..	·23	5·58	·67	·23
Southern Rhodesia ... ..	1·97	1·78	2·77	2·88
South West Africa ... ..	1·36	1·40	1·63	1·58
<b>Total Empire ... ..</b>	<b>84·77</b>	<b>81·59</b>	<b>83·89</b>	<b>71·02</b>
Belgium ... ..	2·06	1·87	1·71	1·84
France ... ..	3·58	4·28	3·94	5·22
Germany ... ..	3·82	4·34	3·06	4·56
Holland ... ..	2·10	2·64	1·82	2·03
Italy ... ..	·83	1·11	1·05	1·06
Japan ... ..	·18	·18	·19	·21
United States ... ..	1·59	2·41	2·35	1·71
<b>Total Foreign ... ..</b>	<b>15·23</b>	<b>18·41</b>	<b>16·11</b>	<b>28·98</b>

The exports to India are mainly gold, trade in other commodities being quite small, the unusually large proportion to Australia in 1925 was also due to shipment of gold bar and coin to the value of about £4 $\frac{3}{4}$  million sterling. The high percentages shown for Southern Rhodesia and South West Africa are due to re-export to these countries of imported goods, these now forming considerably more than half of the trade. Exports to countries on the Continent of Europe consist largely of wool, Germany and Holland are also large buyers of wattle bark and extract, and France is also an important buyer of hides and the largest customer for preserved cray-fish. The United States is a rather irregular buyer of wool and an important customer for skins, certain minerals and Angora hair. The United Kingdom ranks as one of the largest, if not the largest, buyer under every heading of trade, and is practically the only customer for many commodities of lesser importance, such as sugar, fresh and dried fruits and eggs.

It is perhaps a matter of some interest to note the distribution of exports of all goods, other than gold and diamonds, as this figure gives a truer picture of the value of any country as a customer of the producer in South Africa. In the last four years the United Kingdom has taken the following percentages of all such goods:—1924, 51·0 per cent.; 1925, 47·9 per cent.; 1926, 43·5 per cent.; 1927, 43·5 per cent. The fall in the percentage is due to increased direct purchase, particularly of wool, hides and skins, and wattle bark and extract by countries on the Continent of Europe.

## IV. PRODUCTION.

## AGRICULTURAL AND PASTORAL.

**Wool.**—Very remarkable progress has been made during the past five years in the breeding of woolled sheep, which is by far the most important of the agricultural and pastoral industries of the Union. The census of flocks which is taken annually has not hitherto been wholly reliable owing to many farmers failing to distinguish correctly in their returns between woolled and non-woolled sheep. A more detailed classification is now being asked for and reliable returns will be available in future. The census returns as at the 31st August in each of the last five years for which particulars are available are as under :—

							No. of woolled sheep.
1922	...	...	...	...	...	...	23,447,662
1923	...	...	...	...	...	...	25,676,345
1924	...	...	...	...	...	...	26,936,897
1925	...	...	...	...	...	...	32,005,627
1926	...	...	...	...	...	...	35,269,228

During the past two years a prolonged and very serious drought, which has affected the important sheep carrying country of the Karroo and the Cape Midlands, is reported to have caused the loss of great numbers of small stock. No exact estimate of these losses is available, but the flocks of woolled sheep in the middle of 1927, nine months before the drought broke, were estimated at about 33½ million, and at the Congress of the Cape Provincial Agricultural Association in September, 1927, the retiring President stated that the loss of sheep in the Cape Province had been estimated to be about 10 million. This estimate does not imply a diminution in the flocks of this magnitude, as it would include the normal wastage and the loss of the natural increase. Allowing for the known increase of flocks in other districts, it is probably not inconsistent with the estimate of total flocks given above. Reports of the serious decrease in the flocks in the Union are, moreover, not borne out by the known production of wool during the last two seasons, to which reference will be made later and which, as will be seen, shows no decrease.

The very rapid increase in flocks during the period under review is due to three main causes. The great advance that has been made in the netting of farms with jackal-proof fencing and the consequent abandonment of the former system of kraaling has increased the carrying capacity of the land and has had a most beneficial effect on the welfare of the flocks. Increased numbers of sheep are being run in districts which until recently were considered suitable only for cattle, and woolled sheep are being substituted for large numbers of the less profitable non-woolled varieties, the flocks of which decreased during the year 1924-25 alone by 1½ million head. Now that the drought has broken in

the Cape Province, and with the probable further extension of sheep farming in districts farther north, there is every probability that the woolled sheep flocks will show further large increases during the next few years.

No exact figures of the total production of wool are obtainable. The Census Office collects returns of the weight of wool shorn but does not obtain particulars of the weight obtained from slaughtered sheep or those that have died of disease. The production of shorn wool in the latest years for which returns have been published was as under:—

				lbs.
Year ended 31st August, 1923	...	...	...	137,217,585
" " " 1924	...	...	...	147,865,493
" " " 1925	...	...	...	156,969,334
" " " 1926	...	...	...	167,921,510

Estimates of the total production can be made from the returns of the weights exported; it must, however, be borne in mind that exports do not correctly represent production in any single season owing to the varying date on which shipment of the new clip commences and to the carrying over of wool in seasons when prices are low. A proportion is also consumed locally but, as this is small in relation to the output and is comparatively uniform in quantity, it does not greatly affect the estimate. Figures in recent years are as under:—

WOOL EXPORTED.

Calendar year.				In the grease.	Average price per lb.	Scoured.
				lbs.	pence.	lbs.
1922	...	...	...	198,568,272	11·93	11,214,872
1923	...	...	...	155,735,351	17·20	8,665,616
1924	...	...	...	166,041,376	20·57	8,553,777
1925	...	...	...	200,668,066	16·61	7,947,802
1926	...	...	...	205,654,361	13·93	6,041,133
1927	...	...	...	253,866,456	15·47	6,467,918

Provisional figures are available of the shipments during the 1927-28 shipping season from Durban and East London, the two ports most largely concerned in this trade, which indicate that a greater weight of wool was shipped than in the previous season. It is therefore apparent that no falling off in production has occurred such as might have been expected if the long drought had seriously diminished the flocks of the Union.

**Mohair.**—The industry of mohair production is of very small consequence in comparison with that of the production of wool and appears to be in a stagnant condition, if not actually decreasing. Some renewal of interest in the product has, however, been apparent recently and as it is one of the few pastoral products that

make a material contribution to export trade it should be mentioned. The statistics published by the Census Department are somewhat difficult to reconcile with the export figures, probably owing to the impossibility of obtaining true returns of Angora goats as distinguished from other goats, of which large numbers are kept. The census returns show a steady decrease in the flocks during recent years, from 2,271,167 at 31st August, 1923, to 1,825,189 at 31st August, 1926, and as Angora goats are mainly kept in the Cape Province in the districts that have suffered most severely from the recent long drought, it is probable that there has been a further considerable decrease during the last two years.

Production of mohair is also shown by the census returns to have diminished both in total and in yield per goat, from 9,454,549 lbs. in 1923 to 7,879,633 lbs. in 1926. The export returns also show a decrease from 13,666,125 lbs. in 1924 to 10,681,290 lbs. in 1927. The average price per lb., which fell from 20 pence in 1924 to 16 pence in 1926, rose again in 1927 to 18·15 pence.

**Hides and Skins.**—Hides and skins constitute the most important contribution of the pastoral industry to the export trade after wool, and in spite of the increased consumption of the growing local tanning and leather industries the quantity available for export appears to be increasing. The quantity exported in 1927 of hides, sheepskins and goatskins constituted a new record. Supply is, of course, dependent on the number of livestock carried in the country; the figures for the sheep flocks have already been quoted, the flocks of goats other than Angora appear to be well maintained, although there may be a temporary decrease consequent on the recent drought, and the cattle herds have shown a yearly increase from 9,315,182 at August 31st, 1923, to 10,337,174 at August 31st, 1926, since which date no information has been available. The exceptionally high exports during 1927 were, no doubt, induced by rising prices, but as prices at the time of writing remain at a high level and do not appear likely to fall, export will, no doubt, continue on a large scale, and this trade may be confidently relied upon to furnish exports to the value of £3½ to £4 million sterling per annum.

**Meat.**—There is unfortunately but little present hope of any export trade being developed in meat or meat products. An export of some magnitude was built up between 1916 and 1920 but this disappeared as soon as normal trading conditions were re-established in other meat producing countries. An attempt was later made to open up a trade with certain countries in Europe that exhibited a preference for lean meats such as could be supplied from South Africa, but after attaining a maximum of 34 million lbs., valued at £403,098 in 1926, this trade vanished and may

now be considered ended. In spite of the existence of herds of cattle numbering over 10 million it appears that there is no market for the grade of beef produced in South Africa, and that no export trade can be developed until the quality of the cattle is greatly improved, a process which at the best will take many years. No trade worth consideration has ever been attempted in mutton, pork, or salted, cured or preserved meats.

**Ostrich Feathers.**—The trade in ostrich feathers, once worth £3 million sterling per annum, has been declining for a number of years and reached a new low level of £43,621 in 1927 after having been £71,922 in 1926, £203,976 in 1925, and an average of £350,000 to £450,000 between 1921 and 1924. The probability of a revival of the demand for feathers appears remote and very little hope is entertained of a sustained recovery. Ostrich farmers are slowly taking to other branches of farming and the birds are being slaughtered for their skins and meat. The number of birds in the Union decreased between 1913 and 1926 by about 80 per cent., and at 31st August, 1926, was 162,732.

**Maize.**—Maize is by far the most important agricultural crop of the Union both in the extent of the industry and in its contribution to export trade. The most important producing districts are in the Orange Free State and the Transvaal, although both the Cape Province and Natal contribute a proportion averaging about 8 per cent. and 6 per cent. respectively. Unfortunately the crop is subject to very wide fluctuations through climatic conditions, as late rains greatly restrict the area planted and deficient rainfall in the growing season seriously reduces the yield per morgen. During recent years the yield has varied from under 10 million bags of 200 lbs. in 1921-22, and under 11 million bags in 1925-26 to over 24 million bags in 1924-25. The estimates of production in each of the last two years, final returns not being yet available, are over 19 million bags. Local consumption averages between 11 and 13 million bags and is tending to increase, so that in an average or good year a considerable surplus is available for export. The yield per morgen (somewhat over 2 acres) is extremely low and compares most unfavourably with yields in other maize producing countries. In unfavourable years it is as little as four bags per morgen and in the exceptionally good season of 1924-25 only reached  $7\frac{1}{2}$  bags per morgen. Cultivation methods are, however, improving and there is every reason to hope that yields per morgen will improve, leading to larger production and a larger surplus for export. The area harvested in recent years has varied between about  $1\frac{3}{4}$  million morgen in unfavourable seasons to about  $2\frac{1}{2}$  million morgen in good years. Exports, which are made either in grain or in meal, have averaged during the last six years about  $3\frac{1}{3}$  million bags of grain and  $\frac{2}{3}$  million bags of meal per annum.



**Wheat.**—Climatic conditions in South Africa are generally unfavourable for wheat production, and although there is a fair production it is insufficient for the country's needs. The average production during the last six years has been somewhat over 2 million bags of 200 lbs. per annum, about two-thirds of the demand, and it is considered unlikely that production will ever become sufficient to make the country self-supplying. The cost of production is high, the fertility of the soil in districts where the rainfall is suitable is low and the yield per acre is small, varying between 4½ and 6 bags of 200 lbs. per morgen. The south-western districts of the Cape Province produce from 75 per cent. to 80 per cent. of the crop, the remainder coming from the Orange Free State and the Transvaal.

**Wattle Bark and Extract.**—The export of wattle bark and extract appears to be a fairly stable trade, worth on an average rather more than £1 million sterling per annum. No statistics of production are available but exports average about the equivalent of 150,000-155,000 short tons of bark.

**Sugar.**—Sugar is cultivated in Natal on a scale sufficiently extensive to supply the whole needs of the country and leave a surplus available for export. This surplus has been in recent years 60,000 short tons in 1925, 65,000 tons in 1926, 60,000 tons in 1927 and is estimated to be about 100,000 tons for 1928. Producers in Natal suffer from the great disadvantage that the only varieties of cane that they have hitherto been able to cultivate continuously yield a crop only every second year, which naturally increases costs, and it is asserted that the surplus sugar exported yields, at the present low world's price, little or no profit, or is produced at a loss. There has been considerable internal friction in the industry during recent years through conflict of the interests of producers, millers and merchants, but following on intervention by the Union Government Board of Trade and Industries, who prepared a very full and able report on the condition of the industry some two years ago, agreement has been reached and the industry reorganised and placed on a sound basis. Much research is being undertaken on the growing of better yielding varieties of cane and on other technical problems of the industry, and if results can be obtained that lead to a lowering of production costs there is good prospect of a further considerable expansion of the industry, since much land suitable for cane growing is still available. While no important increase in the contribution of this industry to export trade can be looked for in the immediate future, there is a good prospect of its becoming a more important factor ultimately.

**Fresh Fruits.**—Fresh fruits of all kinds are exported in large and increasing quantities from South Africa, and the most

optimistic views have been expressed by responsible men during the last few years as to the certain rapid expansion of the trade. The rate of progress has, however, been far below the forecasts that have been freely made. It is generally admitted that South Africa can produce a wide variety of fruits in unlimited quantity and of high quality, and very large capital has been expended during the last ten years on planting orchards, citrus groves and vineyards. The slow progress during the past three years has been due to a variety of factors, which must be considered separately.

Climatic conditions are an ever present difficulty in South Africa, and it is only on rare occasions that a favourable season is experienced in all parts of the territory. The past four years have, however, been exceptionally bad, a prolonged drought has afflicted the greater part of the Cape Province and the rains in the Transvaal have been irregular and late, causing the dropping of a large part of the crop soon after it set. Unfortunately trouble of this description must be expected in some districts of this large country in most years, but usually a bad season in one part is compensated by favourable conditions in others and it is only rarely that the climatic conditions are unfavourable so universally and for so prolonged a period.

Transport from the point of production to the consuming market presents a series of problems to which a large amount of research is being devoted. Speed is all important, especially with deciduous and soft fruits, and proper control of temperature and ventilation, suitable transport facilities and well-equipped cool stores for holding stocks at collecting and transshipment points are all essential. Careful attention is being paid to all these matters, the South African railways have put on service large numbers of insulated trucks specially designed for fruit traffic and are providing modern cool stores at the ports, and the recently concluded freight agreement with the Union Castle Co. ensures adequate insulated space for sea transport. There is, therefore, every reason to hope that the serious losses that have occurred in past years will in future be avoided.

Much thought is also being devoted to the problems of marketing. The Control Board, which has powers to regulate shipment and arrange the channels through which fruit is to be sold, has been considering various proposals for undertaking direct distribution or co-operating with the fruit distributing trade, and much will depend on the efficiency of the organisation that they ultimately set up. At present the market for South African fruit is almost wholly in Great Britain but endeavours are being made to find other outlets, especially on the Continent of Europe, in India and in South America. Sea transport is the greatest difficulty to be overcome in most of these directions, but import

restrictions and customs duties also constitute serious problems in some countries from which considerable demand is hoped for.

The remaining problem is that of the production of the right quality of fruit to find a ready sale at remunerative prices, for there can be no doubt that in the past much has been exported that was unsuitable. The biggest possibility of expansion appears to be in the export of oranges. In December, 1925, the number of trees planted was about  $2\frac{1}{2}$  million, and in that month the Minister of Agriculture stated that he anticipated that the volume of export would approach six million cases by 1930. Export has, however, grown only from 660,000 cases in 1925 to an estimated 800,000 in 1928, and it seems unlikely that this slow development can have been wholly due to drought. A year later, when the trees planted had increased to  $3\frac{1}{2}$  million, Professor Clark Powell expressed the opinion that fully one-third of the orange trees of the Union would eventually be found worthless or very inferior, and Mr. Marshall, Citrus Adviser to the Rhodesian Agricultural Department, stated that in his opinion from 60 to 70 per cent. of the oranges produced in South Africa were unsuitable for export. This position has been recognised and the groves are being yearly improved, but it is obvious that the rate of increase is going to be slower than was anticipated. The position in deciduous fruits is not so serious although here also a large proportion of the many millions of trees planted is of varieties that do not carry well or are not best suited to the taste of the consuming market. Exports showed a steady growth until 1925, when about  $1\frac{1}{2}$  million cases were shipped; since that year there has been a falling off in quantity exported, probably due chiefly to unfavourable seasons. The other large section of the trade is the shipment of grapes, which has shown a continuous growth during the last eight years to a maximum of nearly  $\frac{1}{2}$  million cases in 1927.

To sum up, much is expected of this trade and much care is being devoted to its development on sound lines, and there is every reason to hope that it will show steady expansion in the future and will eventually contribute a much larger proportion of the country's exports.

**Dried Fruits.**—Dried fruits ought to be produced to great advantage in South Africa, where the climatic and other conditions are entirely suitable. Unfortunately the industry has not progressed and seems unable to hold its own in the export trade with producers in other countries. Export attained its maximum in 1922 at about 7,000 short tons but it has since steadily fallen to 3,500 short tons in 1927, the lowest figure during the past seven years. No early recovery to an important total seems probable.

**Wines.**—The wine industry has made a negligible contribution to export trade for many years past, but the possibilities are so great that mention of the industry cannot be omitted. The

decay of the industry was due to the primitive conditions under which wines were made by the majority of wine farmers and to their complete lack of knowledge of what was required to establish their product on consuming markets. The possibilities and necessities of the trade were appreciated by some of the more enterprising wine farmers who, through a strong Co-operative Wine Growers' Association, have been working for some years past to put the industry on a sound financial basis to improve methods of wine production and to build up a good marketing organisation. This spade work has been largely completed and the results are just beginning to become apparent. The quantity exported increased from 168,856 gallons in 1926 to 378,836 gallons in 1927. It is not possible to forecast what the growth is likely to be, but it is possible that there will be a rapid increase in the exports in the near future and that this trade will shortly be one of considerable consequence.

**Cotton.**—Great hopes were entertained a few years ago that cotton growing could be undertaken on a large scale in the Union, and large sums of money were invested in the enterprise. There is no doubt that large areas are suited to the production of this crop, but climatic conditions are frequently unfavourable and costs of growing and picking appear to be high. Since the heavy fall in the price of raw cotton large losses have been made and the areas planted have been greatly reduced. Much attention is being paid by the Agricultural Department to research in this industry, and although much success has been attained in the development of strains better suited to the local conditions and in the improvement of the cotton produced, there does not at present seem to be much likelihood of the industry expanding. Exports fell from 8,080,399 lbs. in 1926 to 4,641,167 in 1927.

#### MINING INDUSTRY.

**Gold.**—Of all the industries of South Africa gold mining is by far the most important. It distributes enormous sums as wages and salaries, over £18,900,000 in 1926, directly and indirectly it constitutes the biggest local market for South African primary products, it supports and provides a market for locally manufactured goods and indeed is in some cases the sole reason for their existence, it makes an important contribution to the Union Government and Provincial revenues and it supplies nearly half the total value of the exports. From all points of view it is of such outstanding importance that interference with its welfare or diminution of its scale of operations would have an immediate and serious effect on the economic position of the country. The magnitude of the industry is well shown in the following table of working results :—

## GOLD OUTPUT OF LARGE MINES ON WITWATERSRAND.

Year.				Ore Treated. Tons of 2,000 lbs.	Cost per ton.	Profit per ton.
					s. d.	s. d.
1923	...	...	...	26,765,126	20 0	10 3
1924	...	...	...	28,527,010	19 7	10 11
1925	...	...	...	28,659,217	19 2	8 5
1926	...	...	...	29,742,630	19 0	8 7
1927	...	...	...	29,133,717	19 7	8 8

## Gold Recovered.

Year.				Total.	dwt. per ton.	Value per ton.
				£		s. d.
1923	...	...	...	40,446,239	6·65	30 3
1924	...	...	...	43,495,614	6·53	30 6
1925	...	...	...	39,596,401	6·50	27 7
1926	...	...	...	40,978,750	6·49	27 7
1927	...	...	...	41,113,439	—	28 3

It will be noted that the average value of gold recovered per ton of ore is low. This figure naturally varies considerably, but of the 38 large mines operating on the Witwatersrand none reach, and but few approach, 40s. per ton, and a considerable number, accounting together for about 20 per cent. of the ore raised, yield under 20s. per ton and return a net revenue of less than 1s. per ton of ore. Obviously a comparatively small increase in working costs would make it unprofitable to continue operating these mines.

Much has been written and said of the precarious position of the industry and an early and rapid decrease in the scale of its operations has been freely prophesied. It is, however, by no means certain that this is inevitable. The industry has been built up on, and its continuance depends on, highly skilful and efficient organisation which makes large scale treatment of low grade ores possible, and the utmost economy is essential throughout the whole process. Large bodies of low grade ores remain and if no alteration of conditions takes place, which would have the effect of raising costs or preventing the full scale operations of treatment plants, it should be possible to maintain the present level of yields for some years or at worst the rate of decrease should be slow.

One most important factor in obtaining economy in operations is the maintenance of full scale running of the treatment plants, as any check has an immediate effect on costs. In view of the very large bodies of ore that have to be broken and handled an ample

labour force is essential, and shortage of native labour has during recent years been the most serious difficulty of the industry. Somewhat more than half of the necessary labour force is obtained from sources within the Union, but this source of supply is not wholly satisfactory as not only does the Union native usually engage himself for a comparatively short period only, with consequent lowering of efficiency, but in good seasons the natives in many districts prefer to remain in their reserves and cultivate their own crops. Large numbers are also required for agricultural and industrial work. The other important source of supply is Portuguese East Africa. Boys from this territory have a greater aptitude for underground work and are prepared to engage for longer periods and are consequently of greater average efficiency. Engagements from here have been permitted in recent years up to a maximum of about 75,000 and during 1927, owing to difficulty of obtaining sufficient labour, additional recruitment was permitted. The abrogation of the Convention between the Union Government and Portugal threatened the continuance of this labour supply, but the new Convention that is now being negotiated promises a satisfactory adjustment. The terms of the draft Convention published do not permit recruitment of as large a force as was engaged during 1927, but a reasonable supply is assured and better terms may ultimately be obtained. The other important factor in operating cost is the price of wages and supplies. Cost of living and wholesale prices have not fallen in South Africa during recent years to the same extent as in many other countries, and in some directions prices have tended to rise. The adoption of any policy or the creation of conditions that would tend to increase further these costs would have a serious effect on this important industry.

On the whole there is no reason to anticipate any early or rapid decline in the output of gold, but it cannot be overlooked that the industry works on very narrow margins and that factors exist that if not wisely and skilfully handled may not only check any possible expansion but lead to an early and rapid decline.

**Diamonds.**—The diamond mining industry is peculiar in that it depends to a much larger extent than other industries on marketing rather than on production. Marketing is managed by a powerful Diamond Syndicate which enters into agreements with the large producers in the Union and South West Africa under which the production of each is limited to a stated proportion of the annual demand. By this system production is regulated and adjusted to the varying consuming power of the world's markets and prices are maintained at a stable level. This system can only function if there is no large or fluctuating free production and for many years it operated satisfactorily, as the free production, which was mainly that from the alluvial diggings in the

Union, was comparatively regular and was not too large a proportion of the whole. The discovery of the extensive alluvial deposits at Lichtenburg in 1926, however, disturbed the balance of the system. The output of alluvial diamonds rose from a quarter of a million carats, which was the annual average for the years 1923-25, to over 800,000 carats in 1926 and 2,318,407 carats in 1927. This enormous increase created a situation of serious embarrassment and great difficulty, and the industry might have been damaged irreparably if the Syndicate had not bought these free diamonds in and held them off the market.

The position has now greatly improved as the output from the proclaimed diggings has greatly diminished and the Government has taken powers under the Diamond Act of 1927 to limit alluvial production, which will permit control of the market to be regained. It is impossible to forecast the future value of the contribution of this industry to export trade, as this depends not on any conditions in South Africa but on the prosperity and consuming demand in other countries. Exports in 1927 at 4,274,206 carats, valued at £12,285,095, were higher than in any recent year. There is no reason to anticipate any early reduction of demand, but no great increase can reasonably be expected.

**Coal.**—Coal deposits of enormous extent are known to exist in South Africa, but very little investigation has been undertaken as to their extent or value. Mines have been opened in various parts of the territory, chiefly in Natal and the Transvaal which supply all local demand and from which an export trade is being built up. The cost of production is extremely low, the pit mouth price in the Transvaal being about 5s. per short ton and in Natal about 7s. The mines are, however, far from the coast-line and transportation costs are considerable. The sales of coal for bunkering average about 2,000,000 short tons per annum and exports for some years past have been about 1,800,000 short tons per annum. There has been no visible tendency for the trade to grow.

**Other Metals, Minerals and Ores.**—Wide areas of the Union of South Africa are highly mineralised and extensive deposits of many minerals and ores are known which have considerable commercial value. Inadequate means of access, high cost of transportation and other difficulties have, however, checked development, and although a number of deposits have been and are being worked the total contribution of mining operations other than those already mentioned to the export trade of the country is comparatively small and shows no signs of material growth. The total value of exports of all other metals, minerals and ores was £1,322,663 in 1926 and £1,441,337 in 1927. The gold mines contribute no inconsiderable part of the total in silver and osmiridium which are recovered as by-products. Copper is the most important product; shipments have exceeded 9,000 tons in each of

the last five years and are tending to grow. Tin concentrates are shipped to a weight of about 2,000 short tons per annum, and a fair quantity of lead was shipped a few years ago until the closing down in 1925 of the one important producing mine. No great increase in production of these metals can, however, be anticipated. Great expectations were based on the discovery some four years ago of extensive bodies of platinum bearing ores. Development has been slow owing to difficulties of separation and treatment, but an output was obtained of the equivalent of about 5,000 ozs. of platinoid metals in 1926 and about 10,500 ozs. in 1927 in crude metal and concentrates. It is too early yet to venture any forecast of the growth of this industry. The only other mineral that has made any regular and important contribution to export values is asbestos. Shipments have varied greatly in quantity during recent years, from 5,000 to 12,500 short tons of all grades together, and are tending to increase slowly.

### MANUFACTURING INDUSTRIES.

An analysis of the statistics of factories and productive industries in the Union is of considerable importance in an investigation of the possibility of expansion of the country's export trade, but it is also important from the points of view of competition with imported manufactured goods and of improvement of the consuming and buying power of the people. It is a mistake to consider industrial development in a growing country such as South Africa necessarily detrimental to import trade considered as a whole. Import of goods whose manufacture is undertaken locally on a large scale is naturally reduced but the import of other classes of goods is increased, and statistics clearly show that imports have been expanding rapidly during recent years when industrial development has been most marked. It is therefore useful to consider in what lines manufacture is developing on a sound basis and in what other lines progress is probable in the near future. The policy of the Government in encouragement of industrial development must not be overlooked, and here it should be stated that the great majority of the people are in favour of assistance being given to developing industries, even at the cost of some sacrifice on the part of other interests, with the object of providing employment for the growing European population and building up a substantial body of consumers of good buying capacity to absorb a reasonable proportion of the country's agricultural produce. Until comparatively recently South Africa's producing industries were almost wholly mining and agricultural, both of which were based on European management and native labour, and these occupations, together with the complementary transportation and distributive services, did not offer sufficient employment for the increasing European population without a radical alteration of their basis, involving a gradual substitution



of European for native labour which was not considered practicable on the score of cost and for other reasons. Two other courses appeared to be open, the development of agricultural production on intensive lines by small farmers employing the minimum of native labour or the development of secondary and manufacturing industries. Unfortunately these two courses could not be followed together. The produce of an expanded agricultural industry must be marketed overseas in competition with the produce of other countries and at low prices, and success must therefore depend on cheap costs of production and low cost of living, while the successful development of industries was held to necessitate protection which must raise, or at best prevent a reduction of cost of living. Both courses have been attempted, the first somewhat experimentally and without much success, and the second on an increasing scale as experience was gained, and finally as the definite policy of the Government. Whether the adoption of this policy was in the best interests of the country and what its ultimate consequence will be it is not necessary to discuss here.

The basis for an examination of industrial progress is provided by the statistics of factories and productive industries, which are collected annually. Unfortunately the latest year for which a full report is available is 1924-25, and although a provisional summary of the figures for the following year have been issued and one or two figures for 1926-27 were announced by the Minister of Finance in his budget speech, these are not sufficiently detailed to be very helpful. The interest and utility of the census figures is also greatly diminished through their supplying details only in the case of industries in which four or more establishments are operating. For this reason no particulars are available in the case of many of the most interesting undertakings. The lack of recent information is the more to be regretted as the full adoption of the policy of protection only dates from the Customs Act of 1925, and its results can only be measured by the development that has taken place during the last three years. The total extent of the activities coming within the purview of the census can be judged from the following table:—

	No. of Establishments.	No. of Employees. All races.	Gross Value of Output.
1917-18	5,918	134,211	60,123,111
1918-19	5,968	143,088	70,934,098
1919-20	6,890	175,520	92,913,844
1920-21	7,005	179,819	98,307,910
1921-22	7,055	170,951	79,446,299
1922-23	7,029	172,047	74,486,292
1923-24	7,112	182,877	79,789,348
1924-25	7,206	191,598	84,159,604

The increase in the number of establishments is partly due to the inclusion from time to time of additional groups. It now includes all establishments engaged on any work of production or on any industrial process other than mining and quarrying provided that at least three hands are employed including the proprietor or manager, or that utilise any form of motive power other than manual labour or that employ any boiler for steam-heating purposes.

The figures given for gross value of output also require some qualification and explanation. As far as can be gathered from the particulars given in the returns, where South African produced materials are used in a dependent industry, their value is counted again. Flour valued as the output of the milling industry is included again as raw material in the returns of the baking and biscuit trade. Sugar is included as the product of the sugar mills and also as raw material in the jam, sweet and biscuit industries, leather is not only the product of the tanneries but the raw material of the boot and shoe, harness and bag making factories, &c. The total extent of this duplication cannot be estimated, but it must be very considerable. The output totals also include enormous sums that are of no interest in a consideration of either export or import trade, although they are of great importance in respect of provision of employment. The value of output of Government and Municipal workshops in 1924-25 was £14,183,857, which included £6,833,854 for railway workshops, £1,725,293 for electric power stations, £1,359,893 for waterworks and railway construction, £950,763 for telephone installation and maintenance. None of this is of interest to overseas trade except the proportion of the output of the railway workshops that represents manufacture.

The output of private establishments also includes very large amounts in respect of work that cannot contribute to export trade or compete with imports. It is impossible to estimate its amount, but the following examples will indicate its magnitude:—Output of mine workshops (almost wholly repair work) £4,224,525, building and contracting trades £5,665,437, production of electric power (private establishments only) £2,523,639, motors and cycles (assembly and repair) £684,776; many other smaller items could be quoted. Another class can be selected as the output of industries necessary to the preparation of South African raw products; this class may contribute to export trade but is performing work which must be done in the country and is not in competition with imports. Instances are sugar mills £3,892,264, butter, cheese and condensed milk factories £1,226,576, fellmongering £631,103, wattle bark grinding £470,210. A further large proportion consists of the output of industries which work mainly with locally produced materials and produce goods that are bulky or heavy in relation to their value. Such goods are normally produced in the country of consumption and can hardly be considered

competitive with imports. Instances are grain mills £9,335,739, breweries £1,364,335, brick and tile making £934,209. After allowing for these various classes of industries the value of the output of the remainder that is of interest when considering overseas trade is reduced to comparatively modest dimensions. No estimate of its amount is possible, but an examination of a few of the more important industries about which detailed information is available will give a fair indication of the nature and magnitude of the whole.

**Bakeries, Bread and Biscuit Factories.**—In 1924-25 there were 362 establishments employing 4,332 hands and producing goods valued at £3,640,652. During 1925 imports of similar goods were valued at £12,097 and exports at £3,654, all of which except £11 was consigned to destinations within Africa. The import duty on these goods is 25 per cent. Imports have been almost wholly displaced but no export trade is yet begun.

**Printing and Bookbinding.**—In 1924-25 there were 298 establishments employing 7,208 hands and producing goods valued at £3,640,652. It is not easy to select import items that will cover the same range as this industry, but under the headings Account books, delivery books, &c., labels, tickets and address tags and printed matter not elsewhere enumerated, all of which are clearly competitive, the imports in 1925 were valued at £197,727. Customs duty is 40 per cent. *ad valorem*, or 6d. per lb., whichever is the greater, maximum tariff, or 30 per cent. *ad valorem* or 4d. per lb. British preferential. Exports in the same year of printed and advertising matter, a wider class than that taken for imports, were £4,024. It is clear that the local industry has not yet wholly displaced imports and is very far from being able to export.

**Clothing and Textile Industries.**—These industries accounted for 789 establishments in 1924-25, employing 9,771 hands and producing goods valued at £2,973,862, of which £1,950,804 was the output of tailoring and clothing factories. Sufficient detail is not available as to the nature of the goods produced to specify the value of competitive goods imported, but as the value of imports of apparel of all kinds has been fairly steady at about £5 million sterling during the past five years it does not appear that imports have yet been seriously checked. The shirt and pyjama trade, the cheaper range of men's outer garments and woollen blankets are the most important products. The import trade in the woollen blankets also has not yet been affected by the start of a local industry, as the value of imports has been increasing during the past five years. The customs duties on these lines are blankets, containing less than 50 per cent. of cotton 2s. 6d. each, or 25 per cent. *ad valorem*, whichever is

the greater, men's ready-made outer garments 20 per cent. *ad valorem*, and shirts, collars, pyjamas, &c., 15 per cent. *ad valorem*, or 25 per cent. *ad valorem* if of silk, artificial silk or mixtures thereof with any other material. There was no export of wearing apparel of South African manufacture in 1925, and in 1927 exports amounted only to £671.

**Explosives and Matches.**—These were produced in 1924-25 in five factories employing 3,280 hands and producing goods valued at £2,172,491. Imports in 1925 were dynamite and blasting compounds £1,882 and wooden matches £3,577. The import duty on blasting compounds is 2*d.* per lb. and on matches on a scale equivalent to 1*s.* 9*d.* per gross of boxes each containing not more than 100 matches. Exports in 1925 were blasting compounds £13,312—practically all to the Belgian Congo and Portuguese East Africa—and matches £269. These trades are strong and well organised and should be in at least as good a position to export as any others in the country.

**Tobacco, Cigarettes, etc.**—These were produced in 1924-25 in 61 establishments employing 2,706 hands, and the gross value of output was £2,157,751. Imports in 1925 were cigarettes £25,091, manufactured tobacco £4,605. Customs duty in 1925, cigarettes 6*s.* per lb., plus 15 per cent. *ad valorem*, and manufactured tobacco 5*s.* per lb., with no excise duty on tobacco and a low excise duty on cigarettes. Exports in 1925, cigarettes £18,153 of which £14,424 was to Belgian Congo, and tobacco £15,562, mainly overseas. This also is a strong and well organised trade.

**Candles and Soap.**—These were produced in 1924-25 in 31 establishments employing 2,028 hands, the gross value of output being £1,930,602. Imports in 1925, candles £2,217, soaps, common household £26,630, soft £2,113, toilet £54,685, extracts £3,556, and other £11,231. Customs duty, candles 4*s.* 2*d.* per 100 lbs. and soap 4*s.* 2*d.* per 100 lbs., or 25 per cent. (British preferential 20 per cent.) whichever is the greater. Exports in 1925, candles £1,779, mainly to Portuguese East Africa, soap, common, £3,231, mainly to Portuguese East Africa and Belgian Congo, toilet £723, and extract and other £26. This is also a strong and well-established industry.

**Boots and Shoes.**—Production in 1924-25 was carried on in 76 factories, employing 4,420 hands and producing goods valued at £1,669,238. Imports in 1925 were leather footwear, men's, £246,227, women's £538,171, children's £52,120, infants' £30,848, slippers £21,877. Import duty is 30 per cent. *ad valorem* on all except infants' shoes on which it is 12 per cent. *ad valorem*. Exports in the same year of leather footwear of all kinds were £690. This is also a strong industry whose output has been increasing steadily for a number of years, and in consequence imports have been steadily diminishing.

**Cement.**—Factories engaged in the manufacture of cement are grouped in the census returns with those engaged in “ modelling in cement and plaster,” and no separate production figures are available. The number of factories recorded is 29, hands employed 2,889 and value of output £1,021,201. Imports in 1925 were 935,196 centals valued at £101,090, the quantity being about the average for the last five years. Import duty is 1s. 3d. (or 1s. British preferential) per 400 lbs., in addition to which heavy dumping duties have been imposed during recent years on imports from many countries. The value of exports in 1925 was £12 but in the two later years exports were made valued at about £9,000 per annum, almost wholly to the Belgian Congo.

**Sweets.**—Sweets were produced at 59 factories to the value of £999,331, giving employment to 2,269 hands. Imports in 1925 were valued at £118,394 for chocolate confectionery and £145,371 for manufactured sweets, other. Import of the first class is increasing and of the second decreasing. Import duty is 3½d. per lb., or 35 per cent. *ad valorem*, whichever is the greater, for all kinds except slab chocolate on which it is 4d. per lb., or 30 per cent. *ad valorem*. Exports of manufactured sweets in 1925 were £1,670, and are not increasing.

**Jams.**—The number of factories producing jams is recorded only with others engaged in canning fruit, the total number being 13 and the hands employed 1,161. The output of jams and jellies is, however, separately recorded as £346,924 in 1924-25. Imports in 1925 were valued at £11,178, which figure has been exceeded in each subsequent year. Import duty is 2½d. per lb., or 30 per cent. *ad valorem*, whichever is the greater. Exports in 1925 were valued at £6,584, an amount which was also considerably exceeded in 1927.

**Engineering Industries.**—Unfortunately insufficient information is available to allow of an estimate being made of the production in this important industry of goods that compete with imports or might contribute to the country's exports. The census records the existence of 166 establishments employing 6,609 hands and with a gross output valued at £2,633,324, under the heading Engineering Workshops and Foundries. This heading does not include mine, railway or tramway workshops, blacksmiths', galvanised iron and plumbing works, gate and fence works or other minor industries, but its output is known to include a very large amount of assembly, repair and maintenance work so that no estimate is possible of real production. It is, however, probable that with the exception of foundry work and the manufacture of spare parts, production was on a very small scale at the time of the compilation of the 1924-25 census, and it is certain that what production existed was largely dependent on the mining industry.

The mines have encouraged local production of such products as tube liners, rock drill and other spares, shoes and dies and various other essential supplies, and are the most important buyers of wire ropes, light rails and iron bars and angles which, until recently, have been the most important products of local industry. Considerable developments have, however, taken place recently. A bolt and nut factory with considerable output capacity is operating, the production of wire has commenced, a mill for tube production is completing and other enterprises are projected. Further engineering works that have hitherto been mainly concerned with repair work have commenced production of machinery and a blast furnace with an output capacity of 1,000 tons of pig iron per week commenced work in 1926.

Further important projects are under consideration. The Union Government have passed an Act to promote the formation of a company to undertake the production of iron and steel and the company, in which the Government will have substantial financial interest, has been registered. In connection with this project proposals have been discussed for undertaking manufacture in South Africa of a wide range of products, including locomotives, railway carriages and wagons, heavy rails, steel sheets and plates, &c., How far these projects will mature it is, of course, impossible to say, and some time must necessarily pass before the initial stage of production of pig iron and steel on a considerable scale can be achieved.

The export of metalwares, machinery and metal products of all kinds of South African origin other than the direct products of the mining industry, amounted to about £18,500 in 1927.

**Consumption of Imported Materials.**—The census statistics record that in the year 1924-25 South African industries of all kinds used imported material to the value of £23,489,996, or over one-third of the total value of all imports into the country at that time. This figure is unexpectedly high and is somewhat difficult to explain, but obviously local industrial undertakings must be considered most important consumers of imported materials.

## APPENDIX I.

## ANALYSIS OF IMPORT TRADE.

The first groups in the annual trade returns which include animals living, animal and pastoral products and agricultural and vegetable products does not account for any large proportion of total imports. Great Britain has always supplied a considerable percentage in these classes, but her share has fallen away during the last five years from over 52 per cent. to about 41½ per cent. mainly owing to increased importation of lines in which she is not interested—no individual items are large enough to be worth discussion.

The next group, foodstuffs, is an important one whose gross value approximates 7 million pounds sterling. Here also although Great Britain supplied only a small percentage, her share has fallen during the past five years from 14·2 per cent. to 13·1 per cent. The most important items as far as British export interests are concerned are as under :—

*Baking Powder.*—Imports in 1927—£76,579—almost the whole of which were derived from the United States of America. Imports from Great Britain were only £703.

*Chocolate Confectionery.*—Imports have been growing during the past four years, and in 1927 were over 2 million lbs. weight valued at £175,149. The proportion from the United Kingdom has been well maintained, and in the latest year was 59½ per cent. The chief competition is from Switzerland, Canada, Holland and Germany, the proportions contributed by each of these countries during recent years being comparatively constant.

*Other Manufactured Sweets.*—The imports in 1927 at 1,817,648 lbs. weight, valued at £115,365, were larger than in 1926, but imports are decreasing owing to the competition of local industries. United Kingdom proportion has been well maintained and was 72½ per cent. in the latest year. Competition is from the United States of America and Canada, and to a minor extent from continental countries.

*Dried and Cured Fish.*—Imports during the last four years have been fairly steady at about 3 million lbs. weight, and were valued in 1927 at £67,474. The proportion supplied from the United Kingdom has been well maintained at about 75 per cent. Competition is mainly from Holland, which supplied about one-sixth of the trade.

*Fish Preserved, other.*—Imports under this heading were high in 1927 at nearly 9½ million lbs. weight, valued at £382,105, over 1 million lbs. weight more than in any of the previous 3 years. The proportion supplied by the United Kingdom has been increasing steadily. Actual imports were of about the same value as in 1926, but the increased trade was supplied from other sources. The largest supplier was Norway with a full one-third of the total, followed by Canada with approximately the same value as from the United Kingdom, and smaller amounts from Russia, the United States of America, Portugal and many other countries.

*Condensed Milk.*—Imports during the last four years have been increasing in quantity although the value has been fairly constant at about £300,000. The proportion contributed by the United Kingdom was considerably higher in 1927 than in 1926 at about 23 per cent. The chief supplier was Holland.

*Pickles, Sauces and Condiments.*—Imports under various headings of these commodities amount in value to approximately £100,000, and show no tendency to decrease in spite of the growth of local manufacture. United Kingdom suppliers hold nearly 90 per cent. of this trade, and are maintaining their position satisfactorily.

The next class comprises *ales, wines and spirits* in which by far the largest item is *whisky*. British suppliers are holding their position satisfactorily in most items, but owing to the smaller importation of whisky which is derived almost entirely from the United Kingdom, the British percentage in the whole class is tending to fall.

The next class includes *tobacco, cigars and cigarettes*, and in this group the United Kingdom share of the trade is increasing owing to a larger importation of cigarettes. Import of cigarettes is very small in relation to local production and consumption, but it has shown a steady increase in quantity during the last four years; over 95 per cent. is supplied from the United Kingdom.

The next group comprises imports of apparel of all kinds. Imports are considerable, averaging about 6 million pounds sterling per annum, but the share contributed by the United Kingdom has fallen steadily during the past five years from about 85½ per cent. in 1923, to 77¼ per cent. in 1927, the trade lost having gone largely to the United States of America and continental countries. The total volume of trade in the class has shown but little tendency to decrease in spite of the growth of the local tailoring and clothing industries, although certain items, particularly that of second-hand apparel, have been considerably reduced.

*Men's Outer Garments.*—Imports in this class have considerably diminished owing to local competition. The value of the trade in 1927 was £1,402,402, and although the United Kingdom still supplied the great part of the trade, 82·7 per cent. in 1927, her proportion is lower than in any recent year, chiefly through increased competition from the United States of America and Germany.

*Women's Outer Garments.*—This trade is large and is increasing, local production being as yet of minor consequence. The imports in 1927 at £1,709,219 were considerably more than in any recent year. The proportion supplied from the United Kingdom has been steadily decreasing, although it was still over 81 per cent. in the latest returns. Imports from France, the United States of America and Germany have increased considerably during the same period.

*Hats and Caps.*—This is an important trade worth over £500,000 per annum and increasing. The greatest part is supplied from the United Kingdom, from which over 90 per cent. of all the imports other than felt hats are derived. In felt hats the British share has decreased from over 87 per cent. in 1922 to 62¼ per cent. in 1927, the trade lost having gone chiefly to Italy, which supplied over 27½ per cent. in 1927, and to a small extent to the United States of America.

*Hosiery.*—This again is a large and increasing trade, the total imports in 1927 being valued at about £1,885,000. Local manufacture is still quite small, but new factories have recently been started or are projected and their competition will, no doubt, be felt increasingly in future years. The proportion supplied by the United Kingdom is very satisfactory in the woollen section, in which it is over 95 per cent. and well maintained. Her proportion in the silk and artificial silk section is also being satisfactorily maintained, although here it is only 45 per cent., but much trade has been lost in the cotton section, particularly in socks and stockings in which lines the United States of America and Germany in particular have gained considerably during the past four years.

The next class covers all textiles other than apparel. This trade is worth about 12 million pounds sterling per annum, and United Kingdom suppliers have been losing ground steadily and rapidly during the past five years, the proportion having fallen from 68½ per cent. in 1923 to 58¼ per cent. in 1927.

*Jute Bags and Bagging.*—Imports of jute goods average in value about 1 million pounds sterling per annum, although they vary considerably from



year to year. This trade has passed almost wholly to India, imports from the United Kingdom having shown a progressive decrease in recent years.

*Cotton Flour Bags.*—These goods are imported to an average value of about £200,000 per annum. This trade was at one time mainly in English hands, but it also appears to be passing to Indian suppliers, who now furnish a full half of the total imports.

*Cotton Blankets and Kaffir Sheets.*—Imports in 1927 at £650,096 were higher than the two previous years. Belgium has always supplied a large proportion of the blankets, but this trade is tending to decrease through the growth of local industry, which is heavily protected. The United Kingdom has always been a large supplier of Kaffir sheeting, but her proportion of the total trade in the class reached in 1927 the lowest percentage yet recorded, at just over 40 per cent. Competition from Italy has been growing rapidly since 1923, when imports were valued at £33,535 to a new high record in 1927 of £159,477. Germany, Holland and France also supply a fair volume of the imports, but their trade does not appear to be growing.

*Woolen Blankets.*—Local manufacture has not yet affected the import trade, which has been increasing considerably in recent years, the total value in 1927 at £584,172 being the highest yet recorded. The total value of imports for the United Kingdom has not decreased, but imports from other countries have grown considerably so that her proportion of the trade has fallen from an average of 85-90 per cent., at which it stood five years ago, to just under 70 per cent. The increased competition comes from Germany, France and Italy.

*Canvas in the Piece.*—Imports were high in 1927 at £172,604. United Kingdom manufacturers supply most of the demand, and no serious loss of percentage is apparent.

*Cotton Piece Goods.*—Imports in 1927 at £3,693,989 were slightly below the average of the last five years. Prior to 1914 the United Kingdom consistently supplied over 80 per cent. of the trade in this class, and this proportion was well maintained until 1923 when nearly 85 per cent. of the imports were of United Kingdom manufacture. Since 1923, however, there has been a steady and serious loss of trade, the percentage having fallen year by year until it reached 67·49 per cent. in 1927. Prior to 1914 Germany was the second largest supplier with about 10 per cent. of the trade, but she has never recovered this position, and imports of German origin have shown no tendency to increase during the past six years, and in 1927 were at £109,634 or rather under 3 per cent., but little above the 1923 level. Imports from other continental countries have, however, shown considerable growth :—

Belgium	...	...	£88,278 or 2½ per cent. increase.
Italy	...	...	£90,065 or 2½ .. ..
Czechoslovakia	...	...	£89,102 or 2½ .. ..
Holland	...	...	£80,485 or 2½ .. ..

and have greatly improved their position. Japan has also gained a large share of the trade since 1923 when she supplied goods to the value of £15,725, increases having been recorded in each year since, until in 1927, she was responsible for imports valued at £215,107 or over 5½ per cent. of the total. The most serious competitor, however, is the United States of America, who has been increasing her shipments regularly for a number of years, and supplied in 1927 goods to the value of £440,393 or nearly 12 per cent. of the total.

*Sewing and Knitting Cottons.*—Imports of these goods amounted in 1927 to £232,226. The United Kingdom has always been the chief supplier, but in 1927 imports from France, Germany and Holland were all greatly increased, the United Kingdom proportion having fallen from over 95 per cent. to under 87 per cent.

*Carpets and Floor Rugs.*—Imports average over £200,000 per annum. The United Kingdom improved her share of the trade up to 1925, when she supplied 83½ per cent. There has been a falling-off in the past two years to about 79 per cent. in 1927. The remainder of the trade is widely distributed over a number of countries.

*Linoleums and Floor Cloths.*—Imports, after reaching an exceedingly high figure in 1926, were under the average in 1927 at £116,539. The United Kingdom still holds the great part of the trade, the United States of America with about 10 per cent. being the only other important supplier.

*Haberdashery, Millinery and Minor Articles of Attire.*—Imports of the many goods under these headings accounted for a total value of £1,371,097 in 1927, and here United Kingdom suppliers have improved their position, supplying over 52 per cent. of the total in 1927 as against just under 50 per cent. in 1923.

*Linen Piece Goods.*—In this trade also the position has not been satisfactory. Imports are not large, averaging about £50,000 per annum, but the proportion supplied from the United Kingdom has fallen steadily from over 96½ per cent. in 1922, to 81 per cent. in 1927. The trade lost has gone chiefly to Belgium and to a minor extent to France.

*Rayon (Artificial Silk Piece Goods).*—Imports of these goods are not large, but have been increasing considerably in recent years, and reached a total of £55,555 in 1927. Of this about 57 per cent. was of United Kingdom origin, the remainder coming mostly from France, Switzerland, Germany, Austria and Italy in order of quantity.

*Shawls* were imported in 1927 to the value of £118,873, a smaller total than in most recent years, imports of woollen shawls in particular having greatly diminished. The proportion from the United Kingdom has decreased in the last five years from 65 per cent. to just over 50 per cent., largely as a result of the smaller import of woollen shawls in which trade her position was always strongest. Italy, who supplies a large percentage of the cotton shawls, is the most important competitor.

*Silk Piece Goods.*—Imports were high in 1927 at £1,098,191, and the United Kingdom supplied a larger quantity than in any recent year at £289,772. Japan holds 45 per cent. of the trade, the other important suppliers being France, about 15 per cent., Switzerland 5½ per cent., and Italy 3½ per cent.

*Woollen Piece Goods.*—The position in this trade is also unsatisfactory. During the years 1911-14 the United Kingdom supplied on an average 88 per cent. of the trade, and in 1922 her proportion was over 96 per cent. of imports, valued at £657,343. Since that year the value of imports has steadily grown up to £1,318,033 in 1927, and the proportion supplied from the United Kingdom has equally steadily fallen to 83·86 per cent. Trade has been gained by a number of countries including France, with 7·4 per cent. in 1927, Holland with 2·7 per cent., Germany with 1·9 per cent., Italy with 1·7 per cent., and Czechoslovakia and Belgium with 1 per cent. each.

*Knitting and Darning Wools.*—In this trade, which was formerly almost a monopoly of British suppliers, considerable trade has been lost during the past four years, the most serious competitor being Holland, whose trade increased from £1,011 in 1924 to £17,375 or nearly 25 per cent. of the total in 1927.

*Cotton Yarns.*—Imports of cotton yarns have increased rapidly from £6,614 in 1925 to £55,851 in 1927. They are mainly of low quality for the manufacture of cotton blankets, and are supplied chiefly by Holland, Germany India and Czechoslovakia.

The next class is the important one of machinery, in which imports have been growing rapidly, from £3,555,231 in 1923 to £6,397,871 in 1927. The percentage of the class supplied from the United Kingdom has fluctuated, and at 54·85 per cent. in 1927 was lower than in either of the two previous years but higher than in 1924.

*Dairying and Agricultural Machinery* of all kinds contributed £1,012,239 to the total in 1927, a smaller amount than in either of the two previous years. Imports from the United Kingdom at £201,458, rather less than 20 per cent., were actually smaller than in any of the previous four years and formed a much smaller proportion of the total. The United States of America is the most important supplier with nearly 45½ per cent. in 1927, followed by Canada 17½ per cent., and Germany 9½ per cent. The largest individual item in this group is that of ploughs, harrows and parts which was over 40 per cent. of the total, and of which trade the United Kingdom obtained less than 15 per cent.

*Boilers and Boiler Tubes* are still largely obtained from the United Kingdom, although in both lines competition from the Continent was much more apparent in 1927.

*Industrial Machinery* of all kinds is becoming an increasingly important import, and at £720,347 in 1927 was larger than usual. The proportion contributed by various supplying countries varies considerably from year to year, as might be expected seeing that one large contract may form no small part of the whole. The proportion supplied by the United Kingdom in 1927, viz., 67½ per cent., was smaller than in either 1926 or 1925, but larger than in any of the previous three years. The United States of America and Germany are the other chief sources of supply.

*Electrical Plant, Machinery, Fittings and Materials* of all kinds except lamps and telephone, telegraph and wireless goods, accounted for a total of £2,113,685 in 1927, the largest figure yet recorded, and nearly twice the amount of the imports five years ago. The proportion contributed by the United Kingdom, 73 per cent., is satisfactory although somewhat less than in the two previous years. The United States of America with 14 per cent., and Germany with 7 per cent. were the most important other suppliers. Of the items separately recorded that of batteries, both primary and secondary, is the least satisfactory, nearly two-thirds of the business, worth £180,000 in 1927, going to the United States of America and less than one-fifth to the United Kingdom. The position as regards motors has improved, the United Kingdom having obtained an increased share of a larger business. Transformers on the other hand have been obtained more largely from the United States of America and the Continent, the United Kingdom share in 1927 being only just over 60 per cent. British manufacturers are still supplying over 90 per cent. of the very large trade in cables and wires, although German firms are endeavouring to obtain a larger share, with some success. In heating and cooking apparatus, Canada has obtained nearly one-third of the trade, having had none three years earlier. Supplies from the United Kingdom, although not smaller in actual amount form a much reduced proportion of the larger total. Electric lamp bulbs, not included in the total given above, were imported to the value of £135,654 in 1927. The value of those obtained from the United Kingdom was smaller than in either of the two previous years, although at 43½ per cent. of the total it is still the largest contribution.

*Mining Machinery.*—Imports at £1,028,321 were higher than in any recent year, the United Kingdom contributed a larger proportion of the higher value and her percentage, although not as high as it has been in some years, was satisfactory at 58·7 per cent. The United States of America is the only important competitor at present.

*Water Pumps and Accessories.*—Imports were high at £152,227. The United States of America is obtaining an increasing share of this business, over 36 per cent. in 1927 as compared with under 30 per cent. in 1926 or previous years.

*Windmills.*—Imports were very high in 1927 at £145,883 in spite of local manufacture. The British share is under 15 per cent., the bulk of the trade going to the United States of America.

*Domestic Sewing Machines.*—Imports in 1927 were 22,029 machines valued at £117,146. The United Kingdom share of the trade has been steadily decreasing, being now only 77½ per cent. as against nearly 91 per cent. in 1923. The trade lost has gone to Germany, who supplies a much cheaper machine.

In the large group of metals and metal manufactures imports have also been increasing very rapidly in recent years. The total has risen from £7,017,073 in 1923 to £10,236,089 in 1927, and here also the proportion obtained from the United Kingdom has been steadily reduced, from 67·37 per cent. in 1923 to 59·85 per cent. in 1927. It is impossible to deal in detail with the large number of items included in the group, and a few of the more important must be selected.

*Iron and Steel, Bar, Bolt and Rod.*—Imports were of about average amount in 1927 at 615,928 centals, valued at £287,082. The proportion supplied from the United Kingdom, which averaged about 90 per cent. prior to 1914 and about 80 per cent. in the years 1922-25, fell to 66·23 per cent. in 1926 and 65·16 per cent. in 1927. The trade lost has gone to Belgium and Germany on the score of price.

*Drill Steel.*—Imports in 1927 were high at 150,142 centals, valued at £243,521, and here it is pleasing to be able to record that manufacturers in the United Kingdom have been obtaining a larger share of the trade during the last two years. In this material quality counts for more than price, and competition comes mainly from the high quality but expensive Swedish product. Germany has also supplied about one-eighth of the trade with a cheaper steel.

*Iron Pipes and Fittings.*—Imports in this group were also very large in 1927, totalling 1,256,729 centals, valued at £991,846, of which manufacturers in the United Kingdom obtained a larger share than in either of the two preceding years. There is no local production yet, but a large factory is just being equipped and when it is in operation imports will, no doubt, be materially reduced. Cast pipes, 323,862 centals, at £143,532, were obtained mainly from the United Kingdom, who supplied 86½ per cent. of the whole, a larger proportion than in any recent year. Cast fittings, 19,685 centals at £25,410, also showed a high proportion of United Kingdom goods at over 75 per cent. Wrought iron and steel pipes 851,745 centals, at £679,331, were less satisfactory. The United Kingdom supplied over 62 per cent., a better figure than in 1926 but less than in either 1925 or 1924. The proportion contributed by Germany decreased considerably, but both the United States of America and Canada supplied considerably more. The price per cental was much higher for imports from the United Kingdom than for those from any other supplier. Wrought iron and steel fittings also reveal a satisfactory position as United Kingdom manufacturers supplied 76½ per cent. of the import of 61,437 centals, valued at £143,573, the other important supplier being Germany.

*Iron and Steel Plates* were also largely imported, the figures being 493,643 centals at £182,032. The United Kingdom proportion was just over 43 per cent., the lowest figure for any recent year except 1926. Germany and Belgium obtained between them over half of the trade at low prices.

*Galvanized Sheets*, both flat and corrugated, amounting together to 1,383,561 centals, valued at £1,022,861, were obtained almost wholly from the United Kingdom.

*Tinned Sheets* were imported in somewhat smaller quantity at 153,641 centals, valued at £160,284. In this trade the United States of America has gained over one-fifth of the business during the past three years, prior to which it was virtually a monopoly of British firms. This has not been due to price, but to the American sheet being considered more suitable for use in certain processes, and especially in high speed can-making plants.

*Bolts, Nuts and Rivets* were imported in smaller quantity, probably owing to competition from the bolt and nut factory which recently commenced operations in the Transvaal. In this line United Kingdom suppliers have not

done well, their proportion having fallen from  $72\frac{1}{2}$  per cent. in 1923 to 40·8 per cent. in 1927. Germany with  $22\frac{1}{2}$  per cent. in 1927 and Belgium with  $9\frac{1}{2}$  per cent. have gained, while the proportion from the United States of America, 16 per cent., has increased slightly.

*Cutlery imports* were valued at £204,404. United Kingdom suppliers with  $63\frac{1}{2}$  per cent. obtained about the same proportion as during the past six years. Germany has lost trade, her proportion having fallen in six years from 30·4 per cent. to 20·4 per cent., while the United States of America had gained the trade lost by Germany and by other countries, and supplied nearly 15 per cent. Imports from all other countries together in 1927 formed less than 1 per cent. of the total.

*Enamelled Ware.*—Total imports at £120,500 were below the average of recent years, while imports from the United Kingdom were higher both in actual value and in percentage of the trade. There is, however, much room for further improvement. Imports from Germany, the largest supplier, were greatly reduced, but those from Poland increased.

*Railway Plant and Material.*—Imports of railway material of all kinds on commercial account and not including imports by the Government for the South African Railways, were recorded in most unusual quantity, the total value, £1,306,478, being actually greater than in the previous four years combined. The United Kingdom share of this trade, which had fallen from  $58\frac{1}{2}$  per cent. in 1923 to a little over 20 per cent. in 1926, improved again to  $33\frac{1}{4}$  per cent. This improvement was apparent not only in the total but in every class of goods separately specified and particularly in rolling stock and "other material;" the share of business obtained in rails, both light and heavy, and in locomotives is still very small. Germany obtained the largest share of the trade, especially in rails and locomotives, for which she secured business worth £376,028, more than three-quarters of the total. Belgium and France also obtained a considerable share of the trade, while the United States of America lost ground, supplying only  $6\frac{1}{2}$  per cent. of the total.

*Stoves, Ranges and Parts.*—This is a very steady trade both in value and distribution, the recorded value in 1927, £157,224, being almost the same as in 1926. The United Kingdom share, which is mainly in coal and gas ranges, was 57 per cent., rather smaller than in recent years, while the United States of America, with  $21\frac{1}{4}$  per cent., and Sweden with  $13\frac{1}{4}$  per cent., both showed increases. Imports from these countries are largely of oil stoves and heaters.

*Mechanics' Tools.*—Imports of tools have been increasing in recent years, and in 1927 at £261,046 they were considerably above the average, although below the 1926 figure. The share of business obtained by the United Kingdom is extraordinarily constant between 40 per cent. and 42 per cent. The remainder of the business goes chiefly to the United States of America, 35·1 per cent. in 1927 and Germany  $17\frac{1}{2}$  per cent.

*Fencing Wire, Plain.*—Imports, which increased rapidly up to a maximum of 281,348 centals in 1924, have since fallen considerably, and were 191,497 centals, valued at £104,760 in 1927. United Kingdom manufacturers are obtaining a decreasing share of the business, getting only one-fifth of the quantity or one-quarter by value in 1927. Germany, who supplies at much lower prices, obtains three-fifths of the trade, the remainder going to Belgium and the United States of America.

*Fencing Wire, Barbed.*—In this line imports are still increasing, and reached a new high level in 1927 at 646,574 centals, valued at £410,677, but unfortunately United Kingdom manufacturers are even less able to obtain business than in plain wire. In 1927 they obtained 10 per cent. by weight or 15 per cent. by value of the whole. Two-thirds of the trade went to Germany, who supplied wire at prices over 30 per cent. below the average British level. The remainder of the trade went to the United States of America with 10 per cent. and Belgium 6 per cent.

*Wire Netting.*—This trade again has decreased from a maximum in 1924, the recorded imports in 1927 being 225,098 centals at £202,210, and here also the British share has heavily decreased owing to cheaper German prices. From 83·8 per cent. of the trade in 1922, her proportion has fallen steadily to 30·2 per cent. in 1927. The difference in price is much smaller here than in barbed wire, the average German price in 1927 being only about 10 per cent. below the British, and in view of the higher reputation of the British product it should be possible to regain some of the lost trade.

*Wireless Apparatus.*—Importation of wireless apparatus shows no sign of recovery from the slump that followed the heavy over-importation of three or four years ago, and the value for 1927 was £45,533 as compared with £284,565 during 1924. The United Kingdom holds most of the trade, having supplied goods to the value of £37,408. Imports from the United States of America were £5,579, and from all other countries £2,546.

The value of imports of vehicles of all kinds continues to increase. The value recorded for the group in 1923 was £2,551,819, and increases have been shown in each subsequent return, the figure for 1927 being £5,387,312. Although the United Kingdom supplies only a small proportion of the imports, this is one of only two important classes of imports in which the United Kingdom share is larger than in 1923, the percentage figures being 19·89 per cent. for 1923 and 23·75 per cent. for 1927. Motor vehicles, of course, contribute by far the greater part of the total value of the class.

*Motor Cars.*—Imports of motor cars have been steadily increasing during the past five years, the actual numbers entered being 10,151, 13,476, 18,396, 18,059, and 17,025. This, however, does not include the import of chassis for equipment with locally-built bodies of which the entry during 1923-25, was 70, 11 and 22 respectively. After the opening of the assembly plants of the Ford Motor Co. and the General Motors Corporation at Port Elizabeth the import of cars in parts for local assembly was grouped with the import of chassis, raising the figures for 1926 and 1927 to 2,177 and 4,779, so that the total imports of motor cars during those years is in effect 20,236 and 21,804 respectively, the values for cars and chassis being £3,236,538 and £3,371,070. The United States of America is by far the largest supplier, and in 1927 cars of U.S.A. origin constituted over 80 per cent. of the total by both number and value. Canada was the second largest contributor and supplied 5,430 cars and chassis valued at £603,460 in 1925, but since the opening of the above-mentioned assembly plants her trade has greatly diminished. In 1927 it was 1,065 cars at £114,420, but this does not fully represent the decline, as 891 of these cars were imported during the first four months of the year, and her trade now does not exceed 20 cars per month. France has had a steady but not large share which was at its largest during 1926. It has since decreased somewhat, and is now about 20 cars valued at under £200 each per month. Italy obtained an increasing volume of trade up to 1926, when she supplied 859 cars valued at £157,258, her trade also has decreased, and during the last half of 1927 and the early months of this year her shipments averaged about 20 cars per month valued at under £200 each. No other foreign country has any regular trade, the total for all others having been 14 cars during 1927. The United Kingdom share of the trade has been fairly steady during the past three years at about 8 per cent. to 9 per cent. by number, and 10 per cent. to 11 per cent. by value. The market conditions are favourable, and if cars suited to the conditions and habits of the country can be supplied at a reasonable price, there is an excellent prospect for increasing the trade very considerably.

*Motor Trucks and Vans.*—It is becoming so usual to import chassis for motor trucks, vans and buses to be fitted with locally-built bodies that the two items must be considered together. The import has increased very rapidly and the demand is likely to continue to grow. Imports in 1923 were 299 complete vehicles (£91,344) and 443 chassis (£59,021), and in 1927 294

complete vehicles (£72,770) and 3,903 chassis (£606,487). The United Kingdom supplied in the latter year 56 vehicles valued at an average of £567 each and 325 chassis at £494 each, while the United States of America supplied 191 vehicles at £190 each and 2,950 chassis at £133 each, and Canada 41 vehicles and 532 chassis at £62 each. Other countries were not strongly represented, France having 66 vehicles and chassis at about £214 each, and Italy 29 at £179 each. It is obvious that the United States of America and Canada supply mainly light vans and the United Kingdom heavy trucks and buses. The prices of light vans are so low and price is so large a factor in the trade that it will not be easy to obtain any large share.

*Motor Cycles.*—In this business also imports have increased fast, having more than doubled within four years. Of the 1927 imports 7,132 cycles valued at £319,088, the United Kingdom supplied 6,252 at £275,651 or a full 87 per cent. The only other supplier of consequence was the United States of America who supplied 860 cycles mostly of the heavy, high-powered type. All other countries together have only supplied 21 and 20 cycles in the last two years.

*Bicycles, Tricycles, and Parts* were imported to the value of £208,475 in 1927. Of this £172,744 or nearly 85 per cent. was from the United Kingdom, the other important supplier being Germany, who has, however, been slowly increasing her share of the trade during the past four years.

The class including minerals, earthenware, glassware and cements accounted for imports valued at over £1,300,000 in 1927, and here again trade has been lost by the United Kingdom during the past five years.

*Building Cement.*—In spite of a considerable local industry there has been a fairly steady import during the past five years of about 100 million lbs. of building cement per annum. This is imported almost wholly for use at or near coastal ports as the high rates of railway freights added to customs duties and sea freights make competition impossible at any distance from the port of discharge. A fair proportion was supplied from the United Kingdom until 1926, when her share fell to 36½ per cent. There was a further fall to 12 per cent. in 1927 owing to the very low prices quoted from many European countries, and under present conditions there does not appear to be much prospect of the trade being regained.

*Chinaware and Porcelainware.*—Imports were larger than usual during 1926 and 1927 at £75,020 and £76,537. The United Kingdom held between 50 per cent. and 60 per cent. of the trade until 1926, when there was a sharp drop to 37 per cent. with a recovery to 46½ per cent. in 1927. The loss was due to the importation of large quantities of cheap goods from Germany and to a smaller extent from Czechoslovakia and Japan.

*Earthenware and Stoneware.*—Imports were smaller than usual in 1927 at £200,711. The United Kingdom share was £145,438 or 72½ per cent., fully equal to the average of recent years. Germany has been losing trade since 1922, and Czechoslovakia has been gaining at her expense.

*Glass Bottles and Jars.*—This trade has been increasing steadily, the recorded value of imports having risen from £115,513 in 1922 to £210,150 in 1927. The United Kingdom has also increased the value of her business during this period but not in proportion to the general growth, her proportion having fallen from 35½ per cent. to 28½ per cent. Germany is the largest supplier and the United States of America, Japan, and several European countries obtain a proportion.

*Plate Glass.*—Imports are fairly constant in value, and the share of trade obtained by United Kingdom manufacturers in 1927, although lower than in the two previous years was well up to the average. Belgium, Holland and France obtain a proportion.

*Window and Other Sheet Glass.*—This is a smaller trade in value than that in plate, and one in which United Kingdom manufacturers have always had a smaller share. This share was, however, lower than usual in 1927 at 33·6 per cent.

*Glasswares, Other.*—Imports in this general class are considerable and increasing, and recorded a new high total in 1927 at £148,971. The share obtained by the United Kingdom, £31,758 or 21·3 per cent. was the smallest recorded in recent years. Germany, Czechoslovakia, Belgium and the United States of America are the competitors in the order named.

The class comprising oils, waxes, resins, paints and varnish is one in which the United Kingdom share is normally small because so large a part of it consists of petroleum products, coconut oil and copra, tallow, etc., which she does not produce or cannot export. After allowing for this, however, the figures still remain unsatisfactory. The imports in the class have increased from £3,100,269 in 1923 to £3,977,389 in 1927, while the value supplied by the United Kingdom has fallen from £695,050 to £682,972.

*Lubricating Oil.*—Imports have increased somewhat since 1923 and amounted to 4,493,796 gallons, valued at £439,865, and it is pleasant to be able to record that there has been a steady growth in the quantity obtained from the United Kingdom from £12,924 or under 4 per cent. of the total in 1923 to £71,505 or 16½ per cent. of the total in 1927.

*Linseed Oil.*—Linseed oil, raw and boiled is imported in considerable quantity, the value recorded in 1927 being at £75,105. Until recently supplies came almost wholly from the United Kingdom, but during the last three years oil from Holland has been coming in increasing quantities. In 1927 Holland obtained business to the value of £5,255 or 7 per cent. of the whole.

*Paints, Pigments and Colours.*—Imports in this group have not been decreasing in spite of a beginning having been made with the development of a local industry. Imports in 1924 were valued at £332,454 and in 1927 at £371,650. A large proportion of these goods has always been obtained from the United Kingdom, but in this group also competition from other countries made itself felt as the amount of business obtained by United Kingdom manufacturers has only grown from £256,160 or 77 per cent. of the whole in 1924 to £263,273 or 71 per cent. in 1927. Distempers and colourwashes are obtained mainly from the United States of America, but all other ready-mixed paints are usually from the United Kingdom; imports from the United States of America, have, however, increased from £12,742 in 1924 to £27,127 or 17 per cent. of the whole in 1927. White lead in oil is also mainly obtained from the United Kingdom, but competition from Holland has been increasing.

*Blacking and Boot Polish and Other Polishes* were imported in 1927 to the value of £92,420 and £89,684 respectively. These are mainly of United Kingdom manufacture, and no unusual competition has to be recorded.

*Soap.*—A small import trade still remains, although the local industry is strong and well-organised. Imports of all kinds were £110,140 in 1927 as compared with £94,805 in 1924. United Kingdom manufacturers have, however, lost ground in almost every class separately specified, having obtained business to the value of £42,516 in 1927 as compared with £44,964 in 1924.

*Varnishes and Stains.*—This trade, although small, has shown considerable growth, but most of the new trade has gone to other countries. Out of imports valued at £33,435 in 1924 and £47,356 in 1927 all countries other than the United Kingdom supplied £3,500 in 1924 and £12,065 in 1927.

In the class of imports which includes all chemicals, drugs and fertilizers, trade has increased from £2,235,103 in 1923 to £2,578,390 in 1927, while imports of United Kingdom origin have decreased from £1,298,913 in 1923 to



£1,088,006. The loss of trade has been most serious in the sub-class chemicals in which the United Kingdom share of the trade has fallen within this period from 63·6 per cent. to just over 42 per cent. A fall has also occurred in the sub-class drugs and apothecary wares, but not of such serious extent, the 1923 proportion being 70·6 per cent. and 1927 67·9 per cent. In the remainder of the class trade has been fairly well held.

The sub-class chemicals consists mainly of a large number of small items that cannot be dealt with in detail but three large ones may be mentioned to which the major part of the loss is due.

*Cyanide (Sodium).*—In 1923, 6,899,011 lbs. valued at £282,706 were imported, of which 5,982,507 lbs. valued at £244,376 derived from the United Kingdom, while in 1927 out of 10,529,897 lbs. imported valued at £255,622, the United Kingdom supplied only 2,565,042 lbs. valued at £88,652.

*Crude Glycerine.*—In 1923, 5,672,884 lbs. valued at £129,466 were imported, of which the United Kingdom supplied 5,027,395 lbs. valued at £117,017, while in 1927 she supplied only 1,117,887 lbs. valued at £35,682 out of a total of 4,793,619 lbs. valued at £160,761.

*Glycerine, Distilled, in Bulk.*—Imports in 1923 were 5,011,320 lbs. valued at £155,612, of which the United Kingdom supplied 2,696,226 lbs. valued at £80,985, while in 1927 she supplied 2,135,850 lbs. valued at £99,406 out of a total of 4,288,869 lbs. valued at £198,331.

In the sub-class drugs and apothecary ware it is also difficult to specify where the loss of trade has occurred as the grouping of imports under headings is very broad and has been varied considerably since 1923. The following items are worth mentioning :—

*Druggists' Sundries (not Drugs).*—The value of imports has fallen since 1923 from £94,131 to £89,678, and the value of imports from the United Kingdom has declined from £70,079 to £63,571, whereas imports of German origin have increased from £4,988 to £7,414.

*Medicinal Preparations.*—The value of imports has increased from £156,518 in 1923 to £219,083 in 1927, while in the same period imports from the United Kingdom have risen from £115,067 or 73·5 per cent. to £153,013 or 70 per cent., those from the United States of America from £27,024 or 17·3 per cent. to £45,653 or 20·8 per cent., and those from Germany from £4,074 or 2·6 per cent. to £10,177 or 4·6 per cent. The United Kingdom has failed to retain her share of the increasing trade.

*Drugs not elsewhere included.*—It is difficult to compare imports under this heading in 1927 and 1923, as after the latter year many minor items were separately specified, but comparison can be made with imports during 1924. In this year imports were valued at £136,756, of which £97,164 or 71·05 per cent. were of United Kingdom origin, while in 1927 they were valued at £130,107, of which only £88,233 or 67·82 per cent. were derived from the United Kingdom. During this short period imports from many minor suppliers increased, but the largest increase was from Germany, £12,262 in 1924 and £20,702 in 1927.

*Fertilizers.*—Import of fertilizers has been increasing rapidly, from £168,678 in 1923 to £408,721 in 1927. The United Kingdom can supply only a small part of this trade and her proportion has been decreasing from £25,956 or 15·4 per cent. in 1923 to £39,283 or 9·6 per cent. in 1927.

*Perfumery and Toilet Preparations.* Imports in these lines have increased considerably, from a recorded value of £171,499 in 1923 to £243,600 in 1927. United Kingdom manufacturers have secured a much larger share of the increased business, their returns being 1923, £70,932 or 41·31 per cent., and 1927, £145,600 or 59·77 per cent. The chief competing countries are :—

	1923		1927	
	£	%	£	%
U.S.A. ... ..	72,423	42·23	54,650	22·43
France ... ..	25,141	14·66	37,904	15·56
Germany ... ..	1,856	1·08	4,654	1·91

In the class comprising leather, rubber, and manufactures imports have increased from £2,112,580 in 1923 to £2,723,703 in 1927. In the former year 70½ per cent. or £1,490,389 were of United Kingdom origin, while in the latter year the proportion fell to 57 per cent. or £1,553,317.

*Men's Leather Footwear.*—Imports have decreased from 593,833 pairs valued at £378,813 in 1923, to 363,699 pairs valued at £232,635 in 1927; 95 per cent. of the trade remaining is in the hands of the United Kingdom suppliers, and the only direction from which competition appears possible is Germany who at the moment supplies a very small proportion of the trade.

*Women's Leather Footwear.*—This trade, although smaller than it was prior to 1914, has not decreased so seriously. Imports in 1923 were 1,128,191 pairs, valued at £602,601, and in 1927 1,004,901 pairs, valued at £489,143. United Kingdom suppliers do not hold so large a proportion as they do of the men's trade, but no serious new competition has arisen. 84 per cent. of the imports are of United Kingdom origin, the remainder coming from various European countries.

*Leather Footwear. Children's and Infants'.*—Imports of these lines are on a much smaller scale, the values recorded in 1927 being £40,969 and £35,471 respectively. Children's shoes are being manufactured locally and imports are steadily decreasing. Infants' shoes are still mainly imported. In both classes import is almost wholly from the United Kingdom.

*Footwear other than Leather.*—Canvas walking and sporting shoes are imported in fair quantity. Rubber soled shoes have largely displaced leather soled, to the detriment of the United Kingdom trade, since the leather soled have always been supplied mainly by the United Kingdom, while she has never had so large a share of the rubber soled variety. Canada supplies a large share, the United States of America rather less than one-fifth, and European countries small amounts each.

*Leather in the Piece.*—Imports of leather of all kinds taken together have increased slightly in weight and considerably in value during the past five years, but the increase is due to larger imports of special leathers, while others have been less in demand. Imports of enamelled and patent have increased fourfold in four years owing to increased local production of women's shoes, and amounted to 190,246 lbs., valued at £76,427 in 1927. A larger proportion than formerly is obtained from the United Kingdom, but the share is still under 40 per cent. Germany is the largest supplier, and a fair amount is obtained from the United States. Imports of sole and upper leather have decreased considerably owing to increased local production, and were only 341,583 lbs., valued at £56,855 in 1927. The United Kingdom share of the trade remaining has increased and was nearly four-fifths in 1927. Import of "Other Leather in the Piece" has increased and was 707,209 lbs., valued at £110,007 in 1927, the United Kingdom share in this class also has improved and was about seven-eighths of the whole in 1927.

*Pneumatic Tyres and Tubes.*—Imports are considerable and increasing, the values for 1924 and 1927 being as under:—

		1924	1927
		£	£
Motor car tyres	... ..	355,580	807,652
"    tubes	... ..	61,024	134,264
Motor cycle tyres	... ..	8,890	18,846
"    tubes	... ..	1,946	5,755
Bicycle tyres	... ..	42,438	47,239
"    tubes	... ..	14,642	22,633
Solid tyres	... ..	20,004	30,989

The position as regards source of supply has not altered greatly. The United Kingdom supplies about one-quarter of the motor tyres and one-third of the motor tubes, rather less than formerly, trade having been gained by Canada and European countries. In motor cycle tyres and tubes the United Kingdom proportion is higher at about five-sixths of the trade, a larger share than in 1924, and in bicycle tyres and tubes better still at nine-tenths of the whole trade with no evidence of increasing competition.

The class that includes wood, cane, wicker and manufactures thereof is one in which the United Kingdom shares only to a small extent, but even in the items of wooden manufactures in which she has some interest her share of the trade has decreased considerably during the last five years. Total imports in the class in 1927 were £2,838,335, of which £859,679 consisted of manufactures.

*Brushes and Brooms* were imported to a value of £129,826 in 1927 as compared with £92,247 in 1923, and the United Kingdom supplied £71,903 or 55½ per cent. and £70,709 or 76½ per cent. As will be seen the United Kingdom supplied practically the same actual value in each year, the whole of the increased trade going to other countries, chiefly to the United States of America and Germany.

*Wooden Furniture* of all kinds is being manufactured locally to an increasing extent, and imports are consequently falling. In 1923 total imports were valued at £160,257, of which the United Kingdom supplied £82,142 or 51¼ per cent., and in 1927 at £93,233 of which the United Kingdom supplied £43,717 or 46½ per cent. Again manufacturers in the United Kingdom are obtaining a smaller share than in the past.

The class comprising books, paper and stationery is more conveniently considered as two sub-classes:—(a) Paper, and books; (b) printed matter and stationery. In the first the interest of United Kingdom manufacturers is comparatively small; total imports have grown from £963,559 in 1923 to £1,281,059 in 1927, while imports of United Kingdom origin have increased from £373,794 or 38·8 per cent. to £452,708 or 35½ per cent. In the second class, in which the United Kingdom interest is large, total imports have increased only from £992,577 in 1923 to £1,051,003 in 1927, while imports ascribed to the United Kingdom have grown from £820,871 or 82·7 per cent. to £852,159 or 81 per cent. The smallness of the increase in the latter class is due to the development of the highly protected local industry.

*Bags, Printed and Unprinted, and Cardboard Boxes, Printed and Unprinted,* are now imported in such small quantity that although imports are mainly from the United Kingdom they are of very minor interest.

*Cardboard, Linenboard and Strawboard.*—The development of the box-making industry has naturally led to increased importations of boards, the value having grown from £96,612 in 1923 to £138,059 in 1927. Imports from the United Kingdom increased in actual value, but decreased in proportion of trade from £28,713 or just under 30 per cent. in 1923 to £34,668 or just over 25 per cent. in 1927.

*Newsprint.*—Imports of newsprint, both in reel and flat, have increased considerably in quantity although the total value of the trade has not grown greatly. The recorded figures are:—

			1923	1927	1923	1927
			Centals	Centals	£	£
Newsprint in reel	...	...	218,717	320,114	183,263	216,615
.. flat	...	...	35,921	53,241	37,976	40,462

The United Kingdom has almost ceased to figure as a supplier, her share of the trade having diminished from 1923 in reel,  $8\frac{1}{2}$  per cent., and flat,  $29\frac{1}{2}$  per cent., to 1927, in reel,  $1\frac{1}{2}$  per cent., and flat,  $3\frac{1}{2}$  per cent.

*Printing Paper, Other.*—Here also imports have increased greatly with the development of the local printing industry, from 155,274 centals, valued at £267,456 in 1923, to 256,557 centals, valued at £380,277 in 1927, and here also the proportion of trade supplied from the United Kingdom has fallen, from 68·82 per cent. in 1923, to 57·20 per cent. in 1927. The trade lost has been divided among a number of European countries, chief among whom are Germany, Norway, Sweden, and Belgium, all of whom supply papers at prices much below those at which British papers are imported.

*Wallpapers.*—This trade has been very steady in volume during the last four years. It is almost wholly in the hands of British firms, although there has been a small increase in imports from Canada, and Germany has a little trade.

*Wrapping Papers.*—Imports have increased from 155,382 centals, value £187,902 in 1923 to 229,684 centals, value £236,744 in 1927. The proportion supplied from the United Kingdom has fallen from 11 per cent. to 9·3 per cent., the trade tending to go to large producers such as Sweden, Norway and particularly Canada.

*Books and Music, Printed.*—Imports have increased from £357,722 in 1923 to £435,491 in 1927. The proportion obtained from the United Kingdom has been constant at about 91 per cent. Holland and the United States supplied most of the remainder.

*Printed Matter of all kinds.*—Imports have increased from £197,207 in 1923 to £230,036 in 1927, although their character has changed somewhat owing to the growth of the South African industry. Imports from the United Kingdom have increased in actual value but decreased in proportion of the whole from £155,945 or 79 per cent. in 1923 to £159,916 or  $69\frac{1}{2}$  per cent. in 1927.

*Stationery, not elsewhere included (Paper).*—Imports were not separately recorded in 1923, but in the following year they were valued at £235,000, of which the United Kingdom supplied £203,460 or 86·5 per cent. In 1927 imports had fallen, presumably owing to competition from the local industry, to £181,611, of which the United Kingdom supplied £158,481 or 87·2 per cent. The small loss was distributed over many competitors, no one country showing any marked gain.

The somewhat mixed class that includes jewellery, timepieces, fancy goods, musical instruments, sports goods, toys, etc., is the only one that shows a substantial improvement in the trade position of the United Kingdom. Imports have risen in value from £1,406,128 in 1923 to £1,744,650 in 1927, while imports from the United Kingdom have increased from £674,502 or 48 per cent. to £1,031,024 or over 59 per cent.

*Fancy Goods.*—Imports increased from £115,147 in 1923 to £170,295 in 1927, while the share of the United Kingdom increased in both quantity and proportion from £72,067 or  $62\frac{1}{2}$  per cent. to £112,626 or nearly 66 per cent. Imports from Germany also increased considerably, while those from Japan and France decreased.

*Plate and Plated-ware.*—The value of imports has varied considerably in the last few years and is tending to decrease rather than to grow. The proportion supplied from the United Kingdom has been increasing steadily, and was nearly 96½ per cent. in 1927, with £135,604 out of a total of £140,594. The small remainder came mainly from Germany and the United States.

*Jewellery.*—The value of imports of jewellery also varies considerably from year to year, as does its source of supply; the average import is about £110,000 per annum and usually about half is obtained from the United Kingdom. The 1927 figures were:—Total imports £110,312, and from the United Kingdom £57,772 or 52¼ per cent.

*Gramophones and Records.*—Imports have increased from £128,103 in 1923 to £413,532 in 1927, of which the United Kingdom supplied £97,555 or 76 per cent. in 1923 and £381,980 or 92¼ per cent. in 1927. More than half of the remaining trade is from the United States, and most of the rest from Germany. The great increase in this one trade largely accounts for the favourable record of the class.

*Pianos.*—Imports have fallen steadily from 5,177 instruments valued at £234,565 in 1923, to 3,108 instruments valued at £152,683 in 1927. The trade with the United Kingdom has fallen even more rapidly from 250 instruments at £15,339 to 128 instruments at £6,779, and now forms only 4½ per cent. of the whole.

*Sports Goods.*—This trade is very constant, and during the last six years has only once fallen below £180,000 and only once risen above £190,000. The United Kingdom supplies 96 per cent. of the demand, no other country having any material share.

*Toys.*—This trade is also very constant in value at about £140,000 to £150,000. The United Kingdom share has improved from 31¾ per cent. of £146,770 in 1923 to 34¾ of £158,704 in 1927.

The remaining class comprises a number of miscellaneous items. Its value has increased from £1,480,210, of which the United Kingdom supplied £902,569 or 61 per cent. in 1923 to £1,548,285, of which she supplied £787,211 or under 51 per cent. in 1927. This considerable change is mainly due to a number of alterations in the classification of imports which make comparison difficult. There is no important item in which loss or gain of trade is sufficiently marked to be worth mentioning.

**Imports of Government Stores.**—All goods imported directly by the Government for its own use are separately entered in the South African Trade Returns. The total value was unusually low in 1927 at £3,296,761, almost 2 million pounds sterling below the value for the previous year. Here also the share of business obtained by the United Kingdom firms has shown a heavy decline during recent years, in 1922 and 1923 it was over 81½ per cent., but there has since been a steady fall to 44·3 per cent. in 1927. The United States obtained large business in 1924 and 1925, but in 1927 her proportion was reduced to a very low figure. Imports from Germany and Belgium have, however, shown continuous growth and together accounted for nearly one-third of the total in 1927. Much of this business is placed on long date contracts and to a considerable extent the imports in any year reflect the market conditions of the one preceding. The nature of these imports is of course very different from that of imports on commercial account, and some classes that are of first importance commercially are here of minor consequence. For example the whole imports of apparel, textiles and textile fibres only reached a value of £132,347, and it is satisfactory to note that all but £5,187 of this was supplied from the United Kingdom.

*Railway Material* forms a very large part of the direct Government imports, the total value in 1927, £1,476,080, was considerably lower than in any of the previous three years. Until five years ago the greater part of this material

was obtained from the United Kingdom, but there has been a steady reduction since, until in 1927 she supplied only £440,414 or rather under 30 per cent. of the whole. Imports from Germany and Belgium have grown greatly during the same period, from negligible amounts to £720,143 or 48½ per cent. from Germany and £242,631 or 16½ per cent. from Belgium in 1927. Details are given of imports of rails, light and heavy, iron sleepers, locomotives and rolling stock, all other material being grouped under one heading. Purchases from the United Kingdom were mainly of rolling stock, £184,275 out of a total of £430,183 and "Other Material," £215,608 out of £376,519. Purchases from Germany were large under all headings, about two-thirds of the light rails, total value £116,303, 85 per cent. of the heavy rails, total value £133,685, nearly two-thirds of a total value of £154,302 for iron sleepers, all of the locomotives, valued at £265,088, except parts from other countries to the value of £22,620, and rolling stock to the value of £108,496, and "Other Material," £84,927. Belgium supplied rolling stock to the value of £101,496, "Other Material," £66,333, and a proportion of the light and heavy rails and sleepers.

*Electrical Machinery and Plant.*—Electrical material was imported in 1927 to the value of £349,085, of which £305,926 was of United Kingdom origin. The proportion is about 87½ per cent., or considerably higher than in the case of commercial imports. Of the small remainder Germany supplied the larger part, and Switzerland most of the rest.

*Telegraph and Telephone Material.*—Imports were low in 1927 at £93,663. Of this the United Kingdom supplied £59,470 and Sweden £20,228.

## APPENDIX II.

## NOTES ON THE TRADE AND CONDITIONS IN SOUTHERN RHODESIA DURING THE YEAR 1927.

(Contributed by Mr. F. Fisher, Imperial Trade Correspondent, Bulawayo).

**General Observations.**—The past year has on the whole shown consistent progress in most lines of development. The mining industry is in a sound position, although the output of gold decreased slightly, from £2,508,527 in 1926, to £2,458,861. Other minerals, however, show increased values as will be seen from the following comparative figures:—

	1926	1927
	£	£
Asbestos ... ..	726,835	794,215
Chrome ore ... ..	420,334	490,653
Coal ... ..	399,229	419,700
Mica ... ..	22,930	52,902
Tin ... ..	4,639	6,535

Farming conditions were fairly satisfactory; the 1926-27 season was a favourable one with an abundant maize crop which allowed a substantial margin for export. The yield of tobacco increased from approximately 5,000,000 lbs. the previous year to something over 17,000,000 lbs., a not unmixed blessing as, up to the present the market has unfortunately not been able to absorb the whole of the crop, of which possibly half still remains unsold. The Union of South Africa took 7,439,000 lbs., value £578,000, as against 2,629,000 lbs. in 1926, valued at £167,000—while 8,161,000 lbs., value £671,000 were exported to the United Kingdom which in 1926 only took 1,417,000 lbs., value £138,000.

The cattle market was in a depressed condition owing largely to the embargo placed on the exportation of beasts under 1,250 lbs. live weight to the Union of South Africa, this restriction resulting in a decreased exportation to the Union, from 61,816 head, value £294,003 in 1926, to 23,530 head, value £126,550 in 1927. On the other hand exportations of slaughter stock to the Belgian Congo have increased over 100 per cent., from 6,225, value £32,315, in 1926, to 13,834, value £69,455, in 1927.

The building trade has been and still is very actively employed, due in great measure to heavy expenditure on Public Works out of loan money; at the same time a very large number of houses and business premises was erected during the year, and yet in many towns dwelling houses are practically unobtainable and rents are consequently abnormally high.

The revenue of the Rhodesia Railways showed satisfactory progress, the total earnings in South Africa approximating £4,908,000 against £4,248,610 in the previous year. Practically all classes of traffic earned considerable increases.

As a natural consequence of the foregoing, trade during the year has been buoyant, and merchants, both wholesale and retail, have little or no cause for grumbling; in fact both in Bulawayo and in Salisbury the general feeling is one of optimism tempered by some misgivings owing to the non-sale of last year's tobacco crop and possible delays in realising on the 1927-28 production. The full effects of the hold-up of large quantities of tobacco in English warehouses will probably be felt more acutely when the next planting season commences; merchants, especially those dealing in agricultural machinery and implements, will then be called upon to decide as to how much further they can go in the matter of extending old and granting new credits.

**Imports.**—The total value of importations into the Colony during 1927 was £7,574,312 as compared with £6,349,799 in 1926, these totals being made up as follows:—

	1926	1927
	£	£
Ordinary merchandise, including railway material ... ..	6,193,868	7,331,247
Government stores ... ..	88,276	148,697
Specie ... ..	67,655	94,368
	<u>6,349,799</u>	<u>7,574,312</u>

Taking the first item only, the following statement gives the principal countries of origin (other than South African) :—

	1926	1927
	£	£
United Kingdom... ..	3,050,451	3,487,834
Canada ... ..	194,064	262,087
India ... ..	212,876	190,525
Australia ... ..	37,904	49,100
United States of America ... ..	808,306	1,018,057
Germany ... ..	143,405	213,188
Belgium ... ..	72,892	107,569
Sweden ... ..	67,880	101,234
Italy ... ..	58,893	92,892
Japan ... ..	52,075	76,841
Holland ... ..	35,602	65,981
France ... ..	52,899	69,148

The importations of Ordinary Merchandise (including railway material) show a total increase of £1,137,379, as compared with 1926, the following being a summary under the various Customs Tariff classes of goods, all of which show substantial increases :—

Class.	Description.	1926	1927
		£	£
1	Foodstuffs ... ..	596,349	643,517
	Animals, agricultural and pastoral products	79,633	80,673
2	Ales, spirits, wines and beverages ... ..	138,277	163,200
3	Tobaccos ... ..	158,501	189,073
4	Fibres, yarns, textiles and apparel ... ..	1,266,327	1,487,081
5	Motor vehicles and parts, including motor cycles ... ..	314,405	482,272
	Metals, metal manufactures and machinery	1,937,268	2,228,317
6	Minerals, earthenware, glassware and cement	68,172	104,952
7	Oils, resins, paints and varnishes ... ..	354,483	411,898
8	Drugs, chemicals and fertilizers ... ..	289,205	333,600
9	Motor tyres and tubes (car and cycle) ... ..	62,884	92,295
	Leather, rubber and manufactures thereof, other ... ..	143,023	168,529
10	Wood, cane, wicker and manufactures thereof ... ..	213,973	270,529
11	Books, paper and stationery ... ..	116,203	155,087
12	Jewellery, timepieces, fancy goods and musical instruments ... ..	116,274	131,513
13	Miscellaneous articles ... ..	338,891	388,711
		<u>6,193,868</u>	<u>7,331,247</u>



It is interesting to note that the number of motor cars imported increased from 1,399 in 1926, value £209,980, to 1,833 in 1927, value £291,945, the principal countries of origin being :—

	1926		1927	
	No.	Value.	No.	Value.
United Kingdom ... ..	98	£ 18,180	291	£ 55,035
Canada... ..	602	70,577	645	76,131
Italy ... ..	23	3,018	31	5,438
United States of America ... ..	660	115,959	858	153,949

showing an increase of approximately 300 per cent. in both number and value of United Kingdom cars compared with 30 per cent. and 33 per cent. respectively for those from the United States. It is to be feared that a considerable number of cars were imported and sold on the instalment system in anticipation of the large profits expected from the enormously increased tobacco crop, which expectations have not yet been realised for the reasons mentioned above.

There was a marked increase in the importation of fertilizers, from 10,067 short tons, value £106,700, in 1926, to 13,594 tons, value £146,702, in 1927.

**Exports.**—The grand total of exports from the Colony during 1927, excluding specie, was £7,337,915, as compared with £6,505,269 in 1926, the main heads being :—

	1926	1927
	£	£
South African produce ... ..	5,444,902	6,249,435
Imported goods re-exported ... ..	1,039,534	1,018,979
Articles through the Post ... ..	4,635	4,400
To other South African Governments ... ..	16,198	65,101

The most notable increases were maize, from £247,346 to £304,148, and unmanufactured tobacco, from £328,906 to £1,253,631.

REPORTS by H.M. Trade Commissioners, Commercial Diplomatic and Consular Officers on commercial and financial conditions in the following countries, issued, or in course of preparation, by the Department of Overseas Trade :—

A.—During the year 1927.

Argentina ... ..	2s. 6d. (2s. 7d.)	Netherlands ... ..	2s. 6d. (2s. 7d.)
Belgium ... ..	4s. 6d. (4s. 8d.)	Netherlands East Indies	3s. 0d. (3s. 2d.)
Brazil ... ..	1s. 6d. (1s. 7d.)	New Zealand ... ..	2s. 0d. (2s. 1d.)
Canada ... ..	2s. 6d. (2s. 7d.)	Norway ... ..	2s. 0d. (2s. 1d.)
Canary Islands ... ..	1s. 0d. (1s. 1d.)	Palestine ... ..	1s. 0d. (1s. 0½d.)
China ... ..	1s. 6d. (1s. 7d.)	Panama and Costa Rica	1s. 6d. (1s. 7d.)
Czechoslovakia ... ..	1s. 6d. (1s. 7d.)	Peru ... ..	2s. 0d. (2s. 1d.)
Denmark ... ..	1s. 6d. (1s. 7d.)	Poland ... ..	1s. 6d. (1s. 7d.)
East Africa ... ..	2s. 0d. (2s. 1d.)	Portuguese East Africa	1s. 6d. (1s. 7d.)
Estonia ... ..	1s. 0d. (1s. 0½d.)	Roumania ... ..	1s. 0d. (1s. 0½d.)
Egypt ... ..	2s. 0d. (2s. 1d.)	Siam ... ..	1s. 6d. (1s. 7d.)
Finland ... ..	1s. 0d. (1s. 0½d.)	Switzerland ... ..	1s. 6d. (1s. 7d.)
France ... ..	7s. 6d. (7s. 9d.)	Turkey ... ..	1s. 0d. (1s. 0½d.)
Germany ... ..	3s. 6d. (3s. 8d.)	United States ... ..	3s. 0d. (3s. 2d.)
Greece ... ..	1s. 6d. (1s. 7d.)	Report on the Japanese	
Italy ... ..	3s. 6d. (3s. 8d.)	Cotton Industry ... ..	3s. 0d. (3s. 2d.)
Latvia ... ..	9d. (9½d.)		
Morocco, Algeria, Tunisia,			
Tripoli and Cyrenaica	4s. 6d. (4s. 8d.)		

B.—During the year 1928.

Australia ... ..	3s. 0d. (3s. 2d.)	Jugo-Slavia ... ..	1s. 6d. (1s. 7d.)
Austria ... ..	1s. 6d. (1s. 7d.)	Lithuania ... ..	9d. (9½d.)
Belgium ... ..	4s. 0d. (4s. 2d.)	Mexico ... ..	2s. 0d. (2s. 1d.)
Bulgaria ... ..	(In preparation.)	Netherlands ... ..	3s. 0d. (3s. 2d.)
Chile ... ..	3s. 6d. (3s. 8d.)	Nicaragua ... ..	6d. (6½d.)
Cuba ... ..	1s. 0d. (1s. 0½d.)	Persia ... ..	1s. 6d. (1s. 7d.)
Egypt ... ..	1s. 6d. (1s. 7d.)	Poland ... ..	1s. 6d. (1s. 7d.)
France ... ..	(In preparation.)	Portugal ... ..	1s. 6d. (1s. 7d.)
Germany ... ..	3s. 6d. (3s. 8d.)	Roumania ... ..	2s. 0d. (2s. 1d.)
Greece ... ..	(In preparation.)	South Africa ... ..	(See Cover.)
Honduras and El		Spain... ..	1s. 6d. (1s. 7d.)
Salvador ... ..	1s. 6d. (1s. 7d.)	Sweden ... ..	1s. 6d. (1s. 7d.)
Hungary ... ..	1s. 6d. (1s. 7d.)	Syria... ..	1s. 0d. (1s. 0½d.)
India ... ..	4s. 0d. (4s. 2d.)	Turkey ... ..	1s. 0d. (1s. 0½d.)
Italy ... ..	3s. 6d. (3s. 8d.)	Uruguay ... ..	1s. 0d. (1s. 0½d.)
Japan ... ..	(In preparation.)	Venezuela ... ..	9d. (9½d.)

Annual subscription for the above reports, including postage to any part of the world, £3.

(The above publications can be obtained from the addresses given on the title-page of this Report. All prices are net, and those in parentheses include postage.)

DEPARTMENT OF OVERSEAS TRADE.

3

**Report**  
ON  
**Economic Conditions**  
IN  
**JAPAN**

To 30th June, 1928.

By **G. B. SANSOM, C.M.G.,**

Commercial Counsellor, His Majesty's Embassy, Tokyo.

AND

**H. A. MACRAE, M.A.,**

Acting Commercial Secretary, His Majesty's Embassy, Tokyo.



LONDON :

PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE.

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:  
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh;  
York Street, Manchester; 1, St. Andrew's Crescent, Cardiff;  
15, Donegall Square West, Belfast;  
or through any Bookseller.

1928.

Price 3s. 0d. Net

## DEPARTMENT OF OVERSEAS TRADE.

### COMMERCIAL REPRESENTATION ABROAD.

To foster British overseas trade, the Department has developed and controls the following Services of Commercial Intelligence Officers :—

#### 1. IN THE EMPIRE.

##### *The Trade Commissioner and Imperial Trade Correspondent Services.*

At the present time there are 13 Trade Commissioners' Offices. These are situated, four in Canada (Montreal, Toronto, Vancouver, Winnipeg), two in South Africa (Cape Town, Johannesburg); two in Australia (Sydney, Melbourne); two in India (Calcutta and Bombay—to cover also Ceylon); and one each in New Zealand (Wellington), British East Africa (Nairobi) and British West Indies (Trinidad).

The Trade Commissioners in the Dominions have the assistance of Imperial Trade Correspondents at a number of important centres.

In various parts of the Empire in which at present there are no commissioners, there are correspondents with whom the Department deals direct.

#### 2. IN FOREIGN COUNTRIES.

##### (a) *The Commercial Diplomatic Service attached to the British Diplomatic Missions.*

This service consists of between thirty and forty posts in all, and the officers of the service are stationed in all the more important foreign markets of the world. The members of the Commercial Diplomatic Service are styled "Commercial Counsellors" in the highest grade, and "Commercial Secretaries" in the two lower grades. They are members of the staff of the British Embassy or Legation in which they serve.

The Commercial Diplomatic Officer has general supervision over the commercial work of the consular officers in his area, and, with the co-operation of these two services, a complete network of Government commercial representatives is thrown over foreign countries.

The Department is represented in Japan by Mr. G. B. Sansom, C.M.G., Commercial Counsellor, and Mr. H. A. Macrae, M.A., Commercial Secretary, His Majesty's Embassy, Tokyo.

##### (b) *The British Consular Service.*

Particular attention has been given to the commercial side of consular work since the re-organisation of the service. In certain countries where no Commercial Diplomatic Officer is stationed the senior Consular Officer undertakes duties of a similar character.

Members of British firms are urged to call upon the Department's representative abroad when they visit an overseas country. It is also important that they should make a point of their representatives abroad keeping in close touch with the Department's officers.

#### NOTE.

*It should be understood that the views expressed in annual reports are the views of the officers themselves, and are not necessarily in all respects the views of the Department.*

## TABLE OF CONTENTS.

	PAGE
COMMERCIAL SUMMARY WITH STATISTICAL TABLES OF FOREIGN TRADE ... ..	4
I.—INTRODUCTORY ... ..	7
II.—GENERAL ECONOMIC SITUATION :—	
Industries ... ..	8
The Financial Crisis and Moratorium of 1927 ... ..	11
Present Conditions ... ..	18
III.—FOREIGN TRADE :—	
General ... ..	31
Imports—	
Foodstuffs ... ..	34
Chemicals and Fertilisers ... ..	37
Mineral Oils ... ..	38
Lumber ... ..	40
Wood Pulp ... ..	40
Iron and Steel ... ..	41
Machinery ... ..	46
Motor vehicles ... ..	48
Wool and Woollens ... ..	51
Cotton tissues ... ..	54
Artificial silk ... ..	55
Radio apparatus ... ..	56
Cinematograph films... ..	57
Exports—	
Raw silk ... ..	57
Silk textiles ... ..	59
Cotton yarns and textiles ... ..	61
Distribution of Trade by Countries—	
British Trade with Japan ... ..	63
IV.—TRANSPORT AND COMMUNICATIONS :—	
Land transport ... ..	64
Air transport ... ..	65
Shipping ... ..	67
Radio ... ..	70
Telegraphs and telephones ... ..	70
V.—POST EARTHQUAKE RECONSTRUCTION ... ..	70
VI.—TREATIES, TARIFFS AND LEGISLATION ... ..	71
ANNEXES :—	
I.—Trade of Formosa ... ..	77
II.— „ Korea ... ..	87
APPENDICES :—	
I.—Exports, 1926, 1927, and 1st Quarter, 1928 ... ..	96
II.—Imports „ „ „ „ ... ..	98



*Principal Imports, 1927.—*

	(Values) Thousands of yen.
Raw cotton ... ..	624,596
Timber ... ..	103,758
Wool ... ..	101,671
Oil cake ... ..	98,882
Iron (bar, rod, plate, sheet and tube) ... ..	89,054
Rice and paddy ... ..	78,978
Machinery ... ..	78,381
Sugar ... ..	75,799
Wheat ... ..	53,925
Beans and peas ... ..	52,907
Woollen and worsted yarns ... ..	43,555
Crude rubber ... ..	34,707
Woollen tissues ... ..	34,672
Ammonium sulphate ... ..	32,750

*Imports from Great Britain and Ireland.—*

Year	Yen.
1925 ... ..	227,292,002
1926 ... ..	170,274,500
1927 ... ..	153,271,946

*Imports from other principal sources.*

	1925	1926	1927
	Yen.	Yen.	Yen.
U.S.A. ... ..	664,992,279	680,185,761	673,685,906
British India ... ..	573,563,812	391,136,194	270,592,276
China ... ..	214,657,519	239,410,462	226,034,359
Kwantung Leased Territory	176,596,197	157,033,706	132,447,855
Germany ... ..	123,819,262	145,220,980	131,390,530
Australia ... ..	149,969,468	128,396,266	122,840,338
Dutch East Indies ... ..	103,372,892	103,077,496	103,775,236

*For further details of imports see Appendices.*

*Total Exports from Japan.—*

Year.	Values. Yen.
1925 ... ..	2,305,589,807
1926 ... ..	2,044,727,891
1927 ... ..	1,992,317,165

*Principal Exports, 1927.—*

	Thousands of yen.
Raw silk ... ..	743,424
Cotton tissues ... ..	383,849
Silk tissues ... ..	139,615
Cotton yarns ... ..	38,794
Pottery ... ..	30,495
Knitted goods ... ..	29,057
Sugar, refined ... ..	28,920
Coal ... ..	25,507
Marine products ... ..	22,297
Tinned and bottled foods ... ..	19,850
Paper ... ..	19,291
Timber ... ..	15,951
Waste and floss silk ... ..	11,700
Tea ... ..	10,897

*Exports to Great Britain and Ireland.—*

						Yen.
1925	...	...	...	...	...	59,716,478
1926	...	...	...	...	...	59,493,735
1927	...	...	...	...	...	64,929,713

*Exports to other Principal Destinations.*

	1925	1926	1927
	Yen.	Yen.	Yen.
U.S.A. ... ..	1,006,252,759	860,880,579	833,804,256
China ... ..	468,438,956	421,861,235	334,183,608
British India ... ..	173,413,207	155,951,539	167,580,191
Kwantung Leased Territory	101,647,368	99,606,771	91,270,539
Dutch East Indies ... ..	85,556,831	74,754,266	82,581,214
Hongkong ... ..	73,629,010	52,973,011	66,528,996
France ... ..	58,854,954	42,411,882	54,045,068
Australia ... ..	47,495,813	51,611,323	50,566,046
Straits Settlements ... ..	44,904,882	41,497,276	36,657,948
Philippine Islands ... ..	29,305,856	27,821,068	32,834,201
Egypt ... ..	25,265,661	23,098,253	29,006,068
Canada ... ..	20,838,296	24,753,778	27,401,680

*For further details of exports see Appendices.*



**REPORT**  
ON  
**ECONOMIC CONDITIONS IN JAPAN,**  
*To 30th June, 1928.*

---

**I. INTRODUCTORY.**

It is now 60 years since the Restoration of 1868, a turning point in Japan's political history, and it therefore seems appropriate to include in this report a short examination of economic progress in Japan since that time.

By external circumstances and by the ambitious temperament of her own people, Japan has been obliged to attempt to compress into a few decades an economic development which most other industrialised countries have spread over at least a century. This late and concentrated development has been of advantage to her in some respects, because she has been able to profit by knowledge gained by her rivals in long and often painful processes of trial and error. In other respects it has operated to her disadvantage, because there is certain necessary knowledge which can be acquired only by experience. The economic history of Japan in the past few years provides a striking illustration of this truth. Where the prime essentials are energy and technical knowledge she has made rapid progress, as is evident to anybody who compares the volume and range of her manufactures to-day and 20 years ago. But where advance depends not only upon the skill and knowledge of the leaders, but also upon such imponderable elements as the commercial and financial experience of the community as a whole, success has not been so uniform; and this is only too plainly apparent from the series of financial upheavals which have marked the period from 1920 to the present time. In the following pages there will be found on the one hand evidence of a development of trade and industry which is really remarkable when one considers how limited are Japan's natural resources; and, on the other hand, an account of financial difficulties which, though in part attributable to causes beyond her control, appear on the whole to be due to the fact that the financial organisation of the country is not properly adjusted to its general economic and political condition. In other words, the attempt to equip with a complex mechanism of banking and credit a community in full transition from agriculture to industry, and lacking a prolonged mercantile tradition, has, despite the admitted ability and enterprise of Japan's leading financiers and bankers, not proved entirely successful. Even when one makes allowance for abnormal conditions, it must be admitted that the machine has of late too frequently failed to function. In 1920 two important banks failed, several large firms had to suspend business, share and produce

exchanges closed for weeks, and the Government had to advance a sum of 246 million yen in relief. In 1922 there were serious failures of stock and produce brokers, and several small banks failed. In 1923 the effects of the earthquake, supervening upon an already weak condition, made it necessary to declare a moratorium. In 1925 an important firm failed and showed a loss of 30 million yen. In 1927 there occurred a financial crisis of the first magnitude. Fortunately an increasingly large number of Japanese are alive to the defects in their system which have been thus revealed, and they can be trusted to continue their efforts to remedy them. Meanwhile, present conditions as described below will, it is thought, be best understood if they are studied in the light of the foregoing general observations.

## II. GENERAL ECONOMIC SITUATION.

### 1. INDUSTRIES.

The industrial problem which Japan set herself in 1868 was an extremely difficult one. Poorly equipped with natural material resources—for she has but few minerals and these mostly in insufficient quantities, while her agricultural products are limited in many respects—she had to increase her production, both of foodstuffs and manufactures, not only to satisfy an increasing domestic consumption but also to obtain a surplus wherewith to purchase from abroad the machinery and raw materials required for further industrialisation. Helped largely in the beginning by cheapness of labour and by the sale of her one abundant natural product, silk, she was able to build up certain staple industries which now produce a considerable income in her foreign trade, and she has gone a long way in the process of making herself independent of foreign countries in respect of manufactured goods. Her industries fall into two fairly well-defined groups—the textile group, which supplies both home and foreign markets and constitutes the chief source of income in foreign trade, and the group which, though its products are exported to a greater or less extent, is at present primarily devoted to manufacturing for home requirements. This second group is, of course, of particular interest to other countries, since, making due allowance for increased consumption at home, it tends always to displace imports.

Taking first the textile group, the following figures will convey an impression of the recent increase of production.

**Silk.**—The number of operatives in silk filatures has increased from 5,029 in 1914 to 29,075 in 1925 and 30,276 in 1927, while the production of raw silk has increased in the same period from 1,650,000 lbs. to about 10,000,000 lbs. This increase is reflected in export returns, which show that Japan now sends abroad each year about 750 million yen worth of raw and waste silk and about 140 million yen worth of silk textiles.

**Cotton.**—(1) *Spinning.*—The present average working spindleage is about 5 million, as against  $2\frac{1}{2}$  million in 1914; while the annual production of cotton yarn is now over  $2\frac{1}{2}$  million bales, as against 1.6 million bales in 1914. Present capacity is in excess of demand, and output restrictions are in force.

(2) *Weaving.*—Convenient statistics are not available to show increase in output, but figures supplied by the Ministry of Commerce and Industry show that the production has far more than doubled since 1914. Some isolated figures for past years will bear this out.

Production of	1922	1926
	(Million yards)	
Grey shirtings ... ..	212.8	560.8
Grey satins ... ..	29.3	161.6
Other grey ... ..	700	1,200

(3) *Cotton hosiery manufacture* has made similar rapid strides.

**Wool.**—The woollen industry has not arrived at the same point of development as the others in this group, for considerable quantities of yarns and textiles are imported annually. But there has been a marked change in its character in recent years, as the following figures prove:—

	<i>Imports: Bulk percentages.</i>		
	1925	1926	1927
Wool ... ..	37	45	48
Tops ... ..	13	12	6
Yarns ... ..	23	22	22
Woollen manufactures ... ..	24	20	22

(*Note.*—The percentages in each column total slightly less than 100, owing to the omission of fractions).

It is evident that the tendency is for Japan to import raw wool, as she does raw cotton, and to carry out further manufacturing processes herself. There is already a small export of woollen tissues and the quantity of cloths made in Japan has much improved of late.

Turning now to the second group of manufacturing industries, it is noticeable that those which have made the greatest progress are those which involve the treatment of raw materials in bulk, such as sugar refining, flour milling and the production of heavy chemicals. A few selected examples will illustrate the growth of these industries:—

**Sugar.**—The total production of refined sugar by Japanese refineries has increased from  $4\frac{1}{2}$  million piculs in 1914 to 12 million piculs in 1927.

**Flour.**—The wheat flour milled in Japan has increased from 60 million kwan in 1914 to some 200 million kwan in 1926.

**Cement.**—The production in 1914 was under  $4\frac{1}{2}$  million barrels, in 1926 it was  $17\frac{3}{4}$  million barrels.

**Paper.**—In 1914 the production of paper (exclusive of Japanese-style paper) was 208 million lb., in 1926 it was 1,110 million lb.

**Chemicals.**—This industry has made striking advances in output, and to-day produces a number of chemicals which were a few years ago not manufactured at all, or manufactured in negligible quantities, as the following figures show:—

	1914	1926
	(Million lbs.)	
Sulphuric acid ... ..	252	1,049
Hydrochloric acid ... ..	8	40
Nitric acid ... ..	1	17
Sodium sulphate ... ..	5½	60
Sodium sulphide ... ..	—	24
Soda ash ... ..	½	38
Caustic soda ... ..	10	56
Aluminium sulphate ... ..	—	35
Acetic acid ... ..	2	10

In this category may be included chemical fertilisers, such as sulphate of ammonia (39 million kwan produced in 1926 as against 10 million in 1916), and superphosphate of lime (209 million kwan produced in 1926, as against 112 million in 1916).

**Metals and Machinery.**—The metal industries, generally speaking, have not advanced at the same speed. As regards the production of iron and steel, the rate of development is limited by the inadequacy of domestic supplies of ore and coke, while progress in the manufacture of machinery depends upon the growth of a class of technicians and skilled workmen. This must take time, and it must be remembered that Japan is only now in the third generation since the introduction of machinery. In other words, it is only in the past few years that there has grown up a generation who have been familiar with machines since childhood. While it is true that the manufacture of machinery has not kept pace with other branches of manufacture, domestic production is advancing in volume and quality to a much greater extent than is generally appreciated. This is clear from an examination of import returns, where decreases in a number of items provide evidence of increased production in Japan. Chief among these items are dynamos, electric motors, transformers and other electrical machinery; certain types of machine tools and fuel economisers. There is now a small export of machinery from Japan.

To this brief enumeration of Japan's important productive industries there should be added some mention of her hydro-electric enterprises, her shipbuilding, her shipping and her coal mining, which are of important dimensions. Reference to each of these will be found elsewhere in this report.

Taken altogether, there can be no doubt that Japan's economic development in the past decade or so has proceeded with astonishing rapidity, particularly in respect of productive capacity in

industry. Indeed, in many ways this recent development has been more remarkable, if less spectacular, than the sudden political and economic transformation which took place 60 years ago. But the very rapidity of this recent development must needs be a source of danger, while the improvisation of new industries involves a high percentage of mistakes, and these are often costly. It is therefore not surprising that, since the period of artificial prosperity from 1914 to 1919, Japan should have passed through a series of economic crises, culminating in an almost complete breakdown in 1927. This last is of such importance that it is desirable to describe it in full detail. In studying this description it should be borne in mind that two important factors are at work. In the first place, as shown above, the principal Japanese industries involve the purchase, in very large quantities and chiefly from abroad, of raw materials, such as cotton, wool and sugar. These commodities are susceptible to wide fluctuations in price, following fluctuations in supply, and their purchase and sale, perhaps more in Japan than in most countries, is complicated by a strong element of speculation. Further, there must naturally be a strong element of speculation in the promotion and extension of new manufacturing industries which characterise Japan's present stage of economic development. Consequently the industrial structure rests to a dangerous extent upon credit and upon credit which is not co-ordinated or controlled either by a cautious tradition or by a powerful central institution. Therefore any disturbance of trade attacks at once the financial system, and if the disturbance is severe the financial system breaks down, because industry cannot share in withstanding the attack.

## **2. THE FINANCIAL CRISIS AND MORATORIUM OF 1927.**

For a proper understanding of these events it is necessary to go back to the year 1920, when a severe depression in finance and industry followed upon a period of great prosperity which began whilst most other nations were at war. In the prosperous period all values were greatly inflated, and when—as international trade tended to return to normal conditions—competitive factors came into play, those values rapidly fell. But generally speaking neither the banks nor the industrial and commercial firms took any serious steps to adjust their finances to these changed conditions, and from 1920 onwards a very great number of them were virtually insolvent, because their assets had so heavily depreciated. Some concerns, and a few banks, collapsed, but most of them managed to subsist in a state of unstable equilibrium. If there was any improvement between 1920 and 1923 it was very slow, and by the summer of 1923 it could certainly not be said that Japan's financial and industrial organism had recovered its health. The earthquake of September, 1923, although it inflicted severe material damage in certain regions, was not of itself sufficient to cause a serious economic collapse, and indeed in some

respects it had the paradoxical effect of stimulating trade and industry; but it did definitely, by calling upon people's energies to meet emergency requirements, divert their attention from those fundamental problems which had been left unsolved since 1920. In this sense it is true that it was the earthquake which led to the financial crisis of 1927. Moreover, the purchase of materials for reconstruction purposes after the earthquake emphasised, though it did not produce, an important factor in Japan's economic position—her adverse balance in international trade and the depreciation of her currency in foreign exchange.

At the end of 1919 Japan was a creditor nation, and she had considerable specie holdings abroad. By the end of 1926 her position was reversed, her specie holding abroad had fallen from its maximum of 1,343 million yen to 230 million yen, the balance of visible foreign trade had been heavily adverse in each year since 1919, and the exchange value of the yen after falling from its maximum of 34·43 pence in 1920 to as low as 20·18 pence in 1925 was, despite foreign loans and pegging operations, with difficulty maintained at a few points below mint parity.

One of the measures proposed to remedy this situation was the removal of the embargo placed upon gold exports in September, 1917. It was contemplated in 1923, but the earthquake disaster caused its postponement. Ultimately, from the end of 1925, without removing the embargo, the Government took steps to support the yen exchange by shipment abroad of gold from their reserve in the Bank of Japan. Whether this was a wise measure it is difficult to say. In any case, though it improved exchange and was accompanied by a fall in prices, a number of textile and flour milling companies became at this period obviously shaky, and many other concerns were in a very doubtful position; so that the Finance Minister in office at the close of 1925, though apparently disposed to remove the gold embargo, decided that this operation could not be performed until the financial world was in a stronger condition and better able to withstand the shock. He considered it essential to "adjust" the affairs of a number of banks and companies whose liabilities were disproportionate to the true value of their assets. With this object in view he secured a reduction in the discount rate on commercial bills (actually to a point lower than that on advances secured by national bonds) and devised relief measures for those concerns which were in difficulties. These relief measures were to take the form of extending the duration of "earthquake bills." By these two methods he hoped, by the arrival of the export season in the second half of 1927, to be ready for the withdrawal of the gold embargo. These expectations, whether reasonable or not, were not realised.

The "earthquake bills" were bills designated for favourable treatment by an Imperial Ordinance of September 27th, 1923,

with the object of bringing to an end the moratorium declared after the earthquake. They were :—

(1) Bills payable in the earthquake affected region or bills drawn by or payable by persons whose place of business was in that region at the time of the earthquake, if discounted by a bank not later than September, 1923.

(2) Bills drawn in renewal of the above.

(3) Bills issued by banks on the security of the above, or on the security of deposit receipts or call loan certificates issued by banks in the affected region to other banks not later than September 1st, 1923.

The ordinance in question guaranteed the Bank of Japan against loss up to Yen 100,000,000 in the discounting of such bills. The amount of such bills discounted by the Bank of Japan up to the appointed date (March 31st, 1924), was about 430 million yen. The time limit set by the ordinance for maturity was September 30th, 1925, but it was found, as that date approached, that if the period was not extended, a number of banks and companies would be unable to meet their liabilities and would collapse. An extension of one year was made by the Diet in the spring of 1925, and a further year was granted in the spring of 1926.

According to official figures, of the original amount of 430 million yen, there was settled by December 23rd, 155 million yen, by August, 1926, 67 million yen, and by December, 1926, 1 million yen, a total of 223 million yen. So that the amount outstanding on January 1st, 1927, was 207 million yen. These figures show that settlement after the end of 1923 was slow, and that by December, 1926, it had practically ceased. It was now clear that those concerns which had not been able to settle, despite the three years' grace, must, unless further help were given to them, collapse. The Finance Minister accordingly introduced in the Diet on January 29th, 1927, two projects of law in respect of earthquake Bills, which were passed by the Lower House after heated debate, and were finally adopted by the House of Peers. Meanwhile the uncertainty as to the fate of the two measures began to affect the money market, and while they were still in committee two banks suspended business on the 15th March, three more on March 19th, five more on March 22nd. The panic among depositors affected other banks, and there was a run upon all but a few first-class Tokyo banks. But after the House of Peers had passed the two Bills on March 23rd, and the Bank of Japan had given some relief to other banks, the panic subsided; and it appeared possible that a complete financial collapse could be averted. However, this was not to be. At the end of March it became public knowledge that the Bank of Formosa would no longer support the firm of Suzuki. This was a serious matter. It had been known for years past that Suzuki's and their subsidiaries were heavily indebted to the Bank of Formosa. The amount was stated to be as much as 350,000,000 yen, nearly ten times the paid-up capital of the bank. Hitherto it had been popularly supposed that Suzuki's were safe.

because the Government and the Bank of Japan could not afford to let down a quasi-official bank (also a bank of issue) like the Bank of Formosa. The authorities decided otherwise. They would support the bank, but not the firm. They first deposited with the bank Government funds amounting to 20 million yen, but this was of no avail. The Bank of Japan refused to make advances without Government guarantee and the Government was forced to go further. On April 14th the Emperor's consent was asked to an emergency ordinance, empowering the Bank of Japan to make unsecured advances to the Bank of Formosa, under Government guarantee up to 200 million yen. The Privy Council deliberated in committee upon this measure, and rejected it on April 15th. The Cabinet would, under ordinary circumstances, have resigned, or at least sought another method for relieving the bank. They determined, however, in this case to resist the Privy Council, and returned to the charge. They exacted a full meeting of the Council in the Emperor's presence, and argued desperately in favour of the ordinance. But the Privy Councillors were stubborn, and the Cabinet were defeated. They resigned forthwith.

The reasons for this conflict between the Privy Council and the Cabinet are in some ways obscure, but there is no doubt that there was a strong sentiment against using public funds to save individual firms or individual banks from the consequences of their own folly. It was felt that in recent years Government had been too ready to come to the assistance of capitalists with money which, after all, belonged to all citizens in common. The Bank of Formosa closed its branches (its head office is in Formosa) on April 18th, and on the same day the Omi Bank, an important provincial bank, suspended payment. There were runs on numerous banks in western Japan, and panic spread among depositors in Tokyo. On April 21st the Fifteenth Bank suspended payment. This was one of the five largest banks in Japan. The situation was now so bad that all banks (including the Bank of Japan) of their own initiative agreed to close on the 22nd and 23rd—the 24th being a Sunday.

The new administration which came into power on April 19th, after an ineffective attempt to find means of helping the Fifteenth Bank, found itself ironically confronted with the necessity of declaring in 1927 a moratorium to clear up a situation produced in part by the ordinance proclaimed in order to bring to an end the previous moratorium of 1923. But, whereas the ordinance applied only to specified liabilities and only to the earthquake affected region, the moratorium, announced on April 22nd, applied to the whole of Japan and Korea, the Kwantung Leased Territory and Sakhalien. Its duration was from April 22nd to May 12th, 1927. The moratorium had a calming effect and, though the banks, prior to re-opening on Monday, 25th April, had borrowed all they could



from the Bank of Japan in anticipation of heavy calls, the day passed without any serious rush by depositors. It is interesting to note that the issue of the Bank of Japan convertible notes, which had risen to 2,660 million yen on April 25th, fell rapidly towards normal proportions, and by the end of May was at 1,426 millions.

Nevertheless, the moratorium had merely averted a widespread disastrous panic and given time for discussion. It had not removed the real difficulties. The Bank of Formosa was still strictly speaking insolvent, other banks to which it had made advances would be implicated in its downfall, and if these were allowed to collapse there was no knowing what further financial crises might follow. Consequently a special session of the Diet was convened, and the Government introduced two measures:—

1. A bill authorising the Bank of Japan to give special accommodation to other banks, to enable them to meet their depositors' claims. This accommodation to take the form of the discounting of bills by the Bank of Japan for a period of one year, where in the opinion of the Bank of Japan such accommodation was desirable in the interest of financial stability, the Government to guarantee the Bank of Japan against loss up to 500 million yen. Bills once discounted in this way to be renewable up to 10 years.

2. A bill authorising the Government to cause the Bank of Japan to provide funds for the Bank of Formosa by discounting bills for a period of one year, if it were deemed necessary by the Government for the sake of the proper administration of Formosa, or for maintaining Japan's credit abroad. Such bills to be renewable for 10 years, as above; and the Bank of Japan to be guaranteed against loss up to 200 million yen.

These two measures became law on May 9th. The closed branches of the Bank of Formosa re-opened on that day. The moratorium ended on May 13th, and though there had been some anxiety as to the position of the banks on re-opening, no serious difficulties were encountered. The various stock and produce exchanges throughout the country resumed business without delay, and by May 14th the crisis was past. But, it is hardly necessary to add, the radical defects of the economic situation had not yet been cured.

From the closing of the Watanabe Bank on March 15th, 1927, no less than 36 banks suspended payment. The following figures (published by the "Oriental Economist") will give a general idea of the extent of the disaster:—

				No. of banks which suspended payment.	Paid-up capital. (Million yen)	Deposits at end of 1926. (Million yen)
March	...	...	...	13	20·1	207·9
April	...	...	...	16	73·5	568·6
June	...	...	...	7	2·9	15·0
				—	—	—
Total	...	...	...	36	96·5	791·5
				—	—	—

The banks which closed in June were relatively unimportant country banks; but it will be seen that the suspensions and failures in March and April involved banks with deposits amounting at the end of 1926 to over 775 million yen, and these figures exclude the Bank of Formosa, because its head office in Formosa remained open. If the Bank of Formosa is included—as it should be—then, by adding to the above total of deposits the deposits in the Bank of Formosa's branches in Japan, we obtain a grand total of 850 million yen. Indeed, since the Bank of Formosa operated very largely with call money and short term loans, it is probably not excessive to add to the total of deposits a further sum of 230 million yen in hand from those sources at the year end. Roughly speaking, then, the closing of these banks represented a suspension of credit to the extent of some 1,085 million yen, less those amounts withdrawn between the end of 1926 and the closing of the banks. There were certainly some heavy withdrawals by depositors who foresaw the collapse, and perhaps the figure of 791 million yen should on this account be reduced by as much as 200 million yen. At the end of 1927 a great proportion of this credit remained in suspense, for the simple but cogent reason that the assets of the banks were far below their liabilities. Of the 36 banks above, 12 managed to re-open in the course of 1927, but they were small concerns and their total deposits amounted only to 88 million yen, so that the remaining 24, which were still closed at the beginning of 1928, represented deposits totalling probably over 500 million yen. Of these latter banks four were able to make an arrangement with their creditors, by which deposits up to Yen 100 were paid in full at the close of 1927, and deposits of over 100 yen were to be settled by a composition of from 50 to 60 per cent. Even this result could only be achieved by calling upon the directors for contributions from their private property and by the waiver of earthquake bills. The remaining 20 banks were in still greater difficulties. The affairs of the Bank of Formosa, the Fifteenth Bank, and the Omi Bank were still to be settled. The Bank of Formosa was set on its feet again by means of the special fund advanced by the Bank of Japan and by drastic reduction of capital.

The Fifteenth Bank's affairs were in a serious state. Desperate efforts were made to get sanction for schemes to save it by advances from the Industrial Bank under Government guarantee; but even the very strong connections of the Fifteenth Bank were insufficient to secure the necessary help, and no plan for its rescue had been found at the end of 1927.

The Omi Bank was the next in importance to the Fifteenth Bank among those which suspended payment. Its deposits at the end of 1926 were about 137 million yen, and its failure was a serious blow to the industrial district of Osaka.

When one considers the extent and magnitude of this financial disaster, its apparent effect upon Japan's trade and industry, and even upon her external credit, was surprisingly small. It was supposed that a moratorium of three weeks' duration would paralyse trade and industry, and it was natural to expect that, supervening as it did upon the Takata failure in February, 1925, the Bank of Korea's troubles in the months following that failure and the bad reports on Suzuki's and the Bank of Formosa which had been current abroad for several years, the news of these bank failures would gravely impair the confidence of London and New York in Japan's stability. There was, in fact, no serious stoppage of trade and industry. The stronger banks profited by the failure of the weaker ones and had an excess of funds; so that they could allow their clients the usual credit facilities. Exporters and importers of good standing had no difficulty in settling their exchange requirements, and merchants and manufacturers operating on a large scale were not much inconvenienced. It was the small manufacturers and dealers who suffered, because they depend largely upon small local banks, and these were obliged to avail themselves of the protection of the moratorium. Consequently many small weavers and small manufacturers of, for instance, glassware, brushes, celluloid goods, rubber goods, &c., completely or partially suspended operations; whilst most retail traders were very hard hit. Further, among the closed banks were a number which specialised in financing certain trades, such as the hosiery trade, which suffered by the failure of the Omi Bank, and the drug trade, which was affected by the failure of the Fifteenth Bank. But generally speaking it is safe to say that the depressed state of trade and industry prevailing before the crisis moderated the effect of the crisis itself and softened the blow of the moratorium, just as, when a vehicle in motion is suddenly stopped, the shock is less if the speed is slow.

The effect of the crisis upon Japan's credit abroad was, so far as can be ascertained here, much less serious than might have been anticipated. The Bank of Formosa ranked next to the Yokohama Specie Bank in the volume of its exchange transactions, and it is highly probable that the Government would not have come to its rescue (except in so far as concerned its quasi-official activities in Formosa) but for its importance as an organ of foreign trade. They saw that Japan's credit abroad would suffer if the foreign branches of this bank were not open to business, and therefore, after the rejection of the proposed Imperial Ordinance on April 17th, they arranged to supply branches in Europe and America with sufficient funds to meet their obligations. The other banks of importance in foreign trade, viz., the Yokohama Specie, Mitsubishi, Mitsui, Sumitomo, &c., were all in a strong position, and experienced little or no difficulty abroad, while at home they were almost embarrassed by the amount of deposits drawn from other banks and lodged with them during the panic. The staple

export trades—silk in particular—continued much as before, and the rate of exchange did not fall below 22·93 pence, which is higher than the minimum rate in 1926. Altogether Japanese financiers were much gratified by the confidence in Japan's soundness which was displayed by London and New York.

Turning now to the general economic condition of Japan, as distinct from the particular crisis by which its weaknesses were revealed, the emergency measures taken by the Government were obviously only palliatives. The cause of the trouble appears to lie in defects of the banking system or, perhaps it would be more accurate to say, in its liability to abuses where a sound banking tradition has not yet had time to develop. The chief weaknesses of Japan's banking system are the excessive number of banks, the inadequacy of their resources, if one excepts a few very large banks, defective inspection and auditing, and the inability of the central banking institution to exercise control over credit.

An effort was made by the Government to bring about improvement in some of these respects by means of a new Banking Law, which came into force on January 1st, 1928. Its principal innovations are to restrict banks to limited liability companies, to prescribe a minimum capital, to separate banks from trading concerns under the same ownership, and to provide for closer Government inspection and control. In pursuance of their policy of reducing the number of banks, they encouraged the formation of a new bank, with a capital of about 10 million yen, to take over some of the banks which closed in March and April. The shares in this bank, called the Showa Bank, are for the most part held by the large banks, such as Mitsui, Mitsubishi and Sumitomo, and by certain smaller banks which survived the crisis. It was formed in October, and commenced business from the beginning of 1928.

### 3. CONDITIONS IN MAY, 1928.

It remains to describe the position at the time of writing (May, 1928). In an address to the Diet on April 25th, the Finance Minister stated that the number of banks which had suspended business during and after the crisis was 38 (i.e. the 36 banks mentioned above and two other small banks), and their total deposits at the time of suspension amounted to 568 million yen. Of these the number of banks which to date either had "adjusted" their affairs or were carrying out a satisfactory process of adjustment was 25. The deposits of the remaining 13 banks, which had not "adjusted," amounted only to some 60 million yen, about one-tenth of the above figure, and their failure to re-open would therefore not seriously affect general economic conditions.

In addition to the above a number of banks had suspended business before the crisis. The affairs of 41 of these had been put on a satisfactory basis, with the aid of the special credits and by

other measures. The Government was taking steps to improve banking conditions in general, not only by means of advances under the Special Accommodation Law passed last year, but also by encouraging amalgamations. Amalgamations among 270 banks, by which 134 disappeared, took place in 1927, and among a further 50 up to April, 1928; definite schemes for amalgamations among 80 more banks were in progress.

By May 8th, 1928, the last day for special accommodation under the above-mentioned law, the Bank of Japan had granted to 86 banks in Japan credits amounting to about 680 million yen, and to banks in Formosa credits amounting to 191 million yen. Of this latter amount the sum of 185 million for the Bank of Formosa is not regarded as recoverable, and the Government will probably have to reimburse the Bank of Japan, under the terms of the law. Of the sum of 680 million (which, it should be remarked, is exclusive of the 207 million yen of unsettled earthquake bills) it is hard to say what amount is recoverable. The Governor of the Bank of Japan is reported to have stated that about one-third can be recovered in three years; but it is pretty clear that the Fifteenth, Showa, Kashima and other banks will require the full period of ten years. In any case the total loss, which will fall upon the Exchequer and thus become a charge upon the public, is likely to be considerable.

Of the important banks which suspended business, the Kashima Bank has resumed on its own account, the Omi Bank became, as from May 3rd, 1928, a branch of the Showa Bank, and the Fifteenth Bank re-opened on April 28th. As the failure of the Fifteenth Bank was the most serious of all it is worth while to mention briefly the method by which it was restored. On December 31st, 1926, its liabilities were 545 million yen, of which paid-up capital represented only 100 million. The value of the assets can be judged from the fact that the readjustment programme involved:—

1. Reduction of capital to one-fifth.
2. Calling up of unpaid share capital in instalments to 1930.
3. Contributions from directors' private fortunes.
4. Special credit of 88 million yen from the Bank of Japan.
5. Deposits up to 100 yen to be paid in full. The balance of other deposits to be paid in 20 half-yearly instalments, without interest after April, 1927.

Recovery from the effects of a crisis such as that described must be gradual, especially if it is to be lasting. By the end of 1927 there was very little indication of improvement, but the year-end settlements having been made without any special difficulties there have been signs lately of returning confidence. From a purely financial point of view conditions may be regarded as sounder than at any time since 1920. A number of shaky banks have been weeded out, others will resume operation only if and when they can be put on a firm basis; and though the collapse of

such important institutions as the Bank of Formosa and the Fifteenth and the Omi Banks could not fail to cause great hardship, it was on the whole preferable that their weakness should be thoroughly exposed, since it was only thus that it could be remedied. It can now at least be said that the whole fabric of Japanese trade and industry does not rest upon an insecure foundation of inflated credits. Perhaps the chief difficulty caused by the bank failures was the loss of credit facilities by small traders and manufacturers, who play a very important part in Japan. They cannot resume their full activities until they can obtain easy accommodation, and consequently an all-round recovery cannot be expected until the same local banks are in a position to make advances, or until some other methods of financing small enterprises are devised. At present the leading banks still absorb a large proportion of deposits. At the end of March, 1928, the Mitsubishi, Mitsui, Dai Ichi, Sumitomo and Yasuda Banks had on deposit 2,826 million yen, which is 59·3 per cent. of the total deposits in all commercial banks, as compared with 43·8 per cent. a year before. These banks in their turn had large deposits, drawing no interest, with the Bank of Japan, partly because there was no credit machinery available by which their funds could be utilised in trade and industry.

In this context it is convenient to mention that the financial crisis of 1927 has probably accelerated in Japan the process which it is now the fashion to call "rationalisation" of industry. It is most marked in the electric power industry. Mergers of small power companies with larger ones have taken place in recent years, and there is now in contemplation a large combine which would include the Tokyo Electric Light Company and the Tokyo Electric Power Company, themselves recently consolidated. Other large power companies are discussing agreements to prevent competition and curtail expenses of operation. There is no doubt that such large corporations can become very important and powerful in Japan, where the production and consumption of electricity grows rapidly. Of late they have borrowed money somewhat lavishly and perhaps too much for sound development. At the end of 1927 an Electric Bond and Share Company was formed in Tokyo for the purpose of investing in electric power and transport undertakings. It is probable that the objects of this company are not only to lend money in future, when they think it desirable, but also to supervise to some extent the activities of those concerns to which its constituents have already made loans. Its promoters include representatives of large Japanese firms, like Mitsui and Mitsubishi, the General Electric Company, the Whitehall Trust, the Guaranty Company of New York, and the light and power companies themselves.

A feature of the Japanese industrial system in some ways akin to "rationalisation" is the growing concentration of power in

the hands of a few large concerns, such as the Mitsui, Mitsubishi, Sumitomo and Okura Companies. The Mitsubishi Company, with a capital of Yen 120,000,000, for instance, is a holding company controlling the following Mitsubishi enterprises :—

	Capital in million yen.
Shipbuilding Company ... ..	50
Iron and Steel .. .. .	25
Warehouse .. .. .	10
Trading .. .. .	15
Mining .. .. .	100
Insurance .. .. .	5
Bank ... .. .	50
Electrical Engineering Company ... .. .	15
Internal Combustion Engine Company... .. .	5
Mitsubishi Trust Company ... .. .	30

This group owns or controls, through the holding company or one of the subsidiaries, enterprises in almost every field of industry and trade, such as sugar refining, flour milling, paper making, the production of raw silk, rayon manufacture, shipping, and iron and steel production.

Similarly the Mitsui interests comprise the Mitsui Gomei Kaisha, a partnership which has a greater or less share in enterprises of almost every sort throughout the country, besides controlling :—

	Capital in million yen.
Mitsui Bussan Company (Exporters, Importers, Shipowners, Shipbuilders, Millowners, etc.) ...	100
Mitsui Bank ... .. .	100
Mitsui Trust Company ... .. .	30
Mitsui Mining Company ... .. .	100
Toshin Warehouse Company ... .. .	15

The position of these powerful groups furnishes an interesting economic problem. The advantages of unified control over a number of inter-related enterprises are manifest; but such combinations, precisely because they are strong and far-reaching, tend to acquire an influence which is open to serious objections.

The relative strength of these combinations has been increased by the disappearance of a number of their less powerful competitors, who were not strong enough to survive the repeated financial crises of recent years. At the same time, small traders and manufacturers continue, as stated above, to play an important part in Japan, often as tributaries to the large organisations. Some efforts have been made by the Government to assist small businesses by means of advances on easy terms. At the end of January, 1928, they made available for this purpose a sum of 50 million yen from the Deposits Bureau, the maximum advance to each person being only 1,000 yen. Special accommodation at low interest of 150 million yen was also given to local authorities for the furtherance of new enterprises, while the agricultural and industrial banks

reduced by 2 per cent. the interest for loans secured on land and buildings.

While the resumption of full industrial activity is delayed because of difficulties which chiefly affect small manufacturers and dealers, restrictions of output were in force in most of the major industries during 1927, and in most cases have not yet been withdrawn. The following is a list of the most important :—

Cotton spinning	...	Restrictions of from 15 to 20 per cent.
Raw silk	... ..	Temporary restriction during December, 1927, by 20 per cent.
Wool	... ..	Muslin output restricted by 25 per cent. from December, 1927, to March, 1928.
Sugar	... ..	Varying percentages, according to grade.
Coal	... ..	Average 15 per cent.
Cement	... ..	About 30 per cent. restriction.
Chemical fertilisers	... ..	Plants closed for one month at end of 1927, then reduced output by 20 per cent.
Flour	... ..	Output has been restricted for two years.
Paper	... ..	Varying percentages according to grade.

The reasons for these restrictions are various, but their prime cause is decreased domestic consumption following upon the financial crisis. A contributory cause is the disturbance of foreign markets, particularly China. A curious feature of these output restrictions is that they have in many cases not prevented an increase of aggregate production, because capacity is being constantly increased at a higher rate than the rate of restriction.

The lack of confidence prevailing since the crisis, and the accumulation of idle funds, have naturally affected the money market, and it is necessary to guard against an ephemeral boom, induced by cheap money, particularly at a time when the defects of the banking system have not yet been entirely removed.

The following statistical details of financial conditions will serve to complete the foregoing picture of the crisis and its sequels to date :—

	Discount rate. Sen per diem.	Day to day rate. Sen per diem.	Bank of Japan advances and discounts.
	(Average lowest)	(Average lowest)	(Daily average) (Million yen)
Average, 1921-25	2.086	1.665	288.1
January, 1926	2.029	1.546	419.3
December, 1926	1.958	1.649	363.1
January, 1927	1.843	1.468	313.2
May, 1927	1.800	1.092	1,152.5
January, 1928	1.291	0.900	859.6
March, 1928	1.136	0.901	746.8
April, 1928	1.136	0.869	797.8

A rate of 1 sen per 100 yen per diem is, of course, equal to 3.65 per cent. per annum.



The outstanding advances and discounts on May 12th, 1928, and June 9th, 1928, respectively, were 1,082 million yen and 1,042 million yen.

It will be noticed that the discount rate has steadily fallen since 1926, and that the total advances of the Bank of Japan are at a very high figure. A great proportion of this amount represents advances under the special credits law, which do not correspond to any specific and immediate requirement of trade and industry. So long as public and private deposits remain large there is no particular danger, but as they are withdrawn the note issue increases. The Government, and the Bank of Japan in concert, are endeavouring to prevent inflation from this cause, the Government by issuing bonds and the bank by selling securities.

**Banking.**—The returns of the Associated Banks at all clearing houses throughout Japan show deposits and advances as follows :—

	Deposits.	Discounts and advances. (Million yen)	Holdings in securities.
End of December, 1925 ...	5,402	5,683	1,947
„ „ 1926 ...	5,777	6,169	2,025
„ „ 1927 ...	5,457	5,405	2,366
„ March, 1928 ...	5,484	5,290	2,588
„ April, 1928 ...	5,547	5,356	2,642
„ May, 1928 ...	5,806	5,511	2,803

The figure for deposits does not show any special feature until analysed, when it appears that, as already stated, an increasingly large proportion is in the hands of the five big commercial banks.

The amount of discounts and advances is still below normal because bankers have been cautious since the panic, and loans, in particular through second-class banks to small traders and manufacturers, have been restricted. It will be noticed that the security holdings have considerably increased. It should be added that, in addition to the concentration of deposits in first-class banks, greatly augmented deposits are now held by Trust Companies and by the Post Office :—

	Cash deposits in Trust Companies. (Million yen)	Postal savings.
End of December, 1926 ...	439	1,177
„ May, 1927 ...	531	1,459
„ December, 1927 ...	710	1,523
„ March, 1928 ...	796	1,571
„ April, 1928 ...	816	1,576
„ May, 1928 ...	838	1,655

The amount of bills cleared throughout the country were :—

	(Million yen)
1924 ...	73,800
1925 ...	83,112
1926 ...	88,851
1927 ...	62,436

The decrease is considerable for 1927, and monthly figures to date do not show a great improvement :—

	1926	1927	1928
January ... ..	6,140	6,527	5,287
February ... ..	7,026	6,362	4,969
March ... ..	7,735	7,447	5,706
April ... ..	7,639	5,120	5,527
May ... ..	7,272	3,806	5,658

The crisis and consequent trade depression have naturally affected investment, as will be seen from the following returns :—

	Average price of 50 leading industrial shares (50 yen basis)	Daily average transactions on Tokyo Stock Exchange.	Average yield of stocks.
	(Yen)	(No. of shares)	%
Average, 1925 ... ..	72·44	143,020	7·81
January, 1927 ... ..	72·90	170,250	7·02
May, 1927 ... ..	63·99	112,340	7·54
January, 1928 ... ..	67·55	107,410	6·31
March, 1928 ... ..	65·43	87,260	6·08
May, 1928 ... ..	66·47	82,210	6·29

Depression in the stock market was accompanied by activity in the market for bonds and debentures, as shown in the following table compiled by the Hypothec Bank :—

<i>Investments, in million yen.</i>					
	Government Bonds.	Municipal Bonds.	Debentures.	Shares.	Total.
1926 ...	340	78	620	441	1,479
1927 ...	318	215	754	350	1,636

The issue of Government and municipal bonds depends upon Government policy, and for a few years past the Government has abstained from public issues. Municipal issues had also declined until 1927, when exceptionally large sums were required by Tokyo and Osaka. The reduction of interest rates by the Bank of Japan, and general easy money conditions prevailing in the latter half of 1927, were favourable to debenture issues, new and conversion; and the first-class banks naturally utilised their considerable idle funds in the purchase of debentures, so that the total investment in debentures in 1927 reached a record figure. Apart from bank debentures the greater part of these issues is for electric companies, since the electric industry of Japan now requires about 300 million yen per annum for development purposes. A healthy sign is the low interest yield of recent debenture issues. The average yield of corporation debentures in 1924 was 8·957 per cent., and this had fallen by April, 1928, to 6·89 per cent.

The Osaka Electric Railway debentures issued in March, 1928 (10 million yen), yield 6 per cent., the Fuji Paper Company's debentures of the same month (10 million yen) yield 6·5 per cent.

**Prices.**—With regard to commodity prices the weighted indices for wholesale prices (computed by the Mitsubishi Economic Research Department) have varied as follows, taking the average of 1903-14 as 100 :—

1926, January	...	...	...	206
.. December	...	...	...	174
1927, June	...	...	...	185
.. December	...	...	...	173
1928, March	...	...	...	172

The Bank of Japan index of wholesale prices for May, 1928, stood at 180·4 on the basis of July, 1914=100.

Unfortunately for the private consumer retail prices do not closely follow wholesale prices in downward movements. The Bank of Japan index (July, 1904=100), of retail prices, comprising 42 items of food, 6 of fuel and light, 20 of clothing and 32 miscellaneous, has moved as follows :—

July, 1914 = 100.				
	Jan., 1926.	Jan., 1927.	Jan., 1928.	May, 1928.
Food ...	225	207	204	198
Light and fuel ...	254	248	269	264
Clothing ...	196	150	149	149
Other ...	192	170	168	166
<b>Average ...</b>	<b>210</b>	<b>186</b>	<b>185</b>	<b>182</b>

These averages are not weighted for consumption, and it is probable that a cost-of-living index, including transport and rent, for most classes of the population would be well over 200 to-day. If one takes into account the increased standard of requirement the middle-class budget at least is certainly more than 100 per cent. higher than it was in 1914.

Price levels in Japan have not fallen at the same rate as those in Europe and America, to judge from the following comparison of wholesale prices drawn up by the Bank of Japan :—

	Tokyo.	London.	New York.
1914 ...	100	100	100
1920 ...	272·8	297·4	217·3
1927 ...	178·6	155·3	147·6
1928 (April) ...	178·5	157·5	155·0

The following table shows important fluctuations in the exchange value of the yen in recent years. For ease of comparison they are given in terms of American dollars, the rates being averages for telegraphic transfers, Yokohama on New York :—

Mint Parity, yen = \$0·49846 or 24·58 pence.

Average.	Average.
1921 ... ·48147	March, 1927 ... ·48971
1922 ... ·47939	December, 1927 ... ·46088
1923 ... ·48816	January, 1928 ... ·46859
1924 ... ·41978	February, 1928 ... ·46875
1925 ... ·41012	March, 1928 ... ·47082
September, 1925 ... ·40510	April, 1928 ... ·47818
December, 1926 ... ·48750	May, 1928 ... ·46667

These figures suggest that the exchange value of the yen does not represent its true value in purchasing goods and services. This is an intricate question, which only experts are competent to discuss; but, apart from statistical evidence, it is very clear to anyone resident in Japan that he does not as a rule obtain for yen the amount of goods and services which he would obtain in Europe or America for the exchange equivalent in pounds or dollars. Since the Government have not for more than a year supported exchange, it cannot be said that the yen is artificially maintained at a high figure by "pegging" operations. Speculation in Japanese currency, in China and New York, doubtless tends in the long run to increase its exchange value, but this must be a minor factor. The true causes of the low internal purchasing power of the yen, in relation to its comparatively high external exchange value, are probably to be found in the maintenance of the gold embargo, in high tariffs, in imperfectly developed and therefore expensive transport and sales methods, particularly of retail goods, and in the high standard of profit which prevails in mercantile transactions. An apt illustration of this point is provided by the cost of Japanese coal for household use. In Tokyo it costs 32 yen per ton, while in Shanghai the same coal, imported from Japan, is delivered at \$18 per ton—about half the Tokyo price. It is to be hoped that the recent fall in the yield of stocks and debentures, which has accompanied the fall in the bank rate, may have some effect in reducing the general standard of profit. Further, before the crisis it was to the advantage of banks and mercantile and industrial concerns to maintain as far as possible the inflated value of their assets dating from the boom period up to 1920; but since the crisis the true value of these has been disclosed, and thus another factor tending towards high prices has diminished in importance. These are encouraging changes which, combined with the elimination of so many unsound banks and firms, can be set off against the losses caused by the crisis itself. In certain other respects the outlook can be described as tolerably bright. Though the importance of a "favourable" balance of foreign trade is often exaggerated, there is no doubt that of late years the excess of imports into Japan has been a cause of anxiety; but the adverse balance now shows signs of diminution, as follows:—

		Exports.	Imports. (Million yen)	Excess of Imports.
	1920	1,948	2,336	388
	1921	1,252	1,614	362
	1922	1,637	1,890	253
	1923	1,448	1,982	534
	1924	1,807	2,453	646
	1925	2,305	2,573	268
	1926	2,044	2,377	333
	1927	1,992	2,179	187
Jan.-May,	1927	768	1,056	288
„	1928	799	1,006	207

This is on the whole an encouraging tendency. Material for an estimate of invisible exports and imports for 1927 is not available, but an estimate for the year 1926 has recently been obtained from the Finance Ministry, which is of sufficient interest to be reproduced in full:—

A. REVENUE ACCOUNT.		1926
		(Million yen)
1. <i>Ordinary Revenue.</i>		
(1) Interest and dividends, etc., on foreign securities	... ..	12
(2) Profits from enterprises and services abroad	... ..	128
(3) Revenue connected with marine transport	... ..	194
(4) Revenue connected with insurance	... ..	103
(5) Spent by foreigners in Japan	... ..	49
(6) Government revenue abroad	... ..	26
(7) Other	... ..	18
	Total	530
2. <i>Extraordinary Revenue.</i>		
(1) Investments by foreigners in Japan	... ..	156
(2) Withdrawal of investments abroad by Japanese	... ..	35
(3) Other	... ..	—
	Total	191
	Total of Revenue Account	721
B. EXPENDITURE ACCOUNT.		1926
		(Million yen)
1. <i>Ordinary Expenditure.</i>		
(1) Interest and dividends, etc., on Japanese securities paid to foreigners	... ..	102
(2) Profits of foreigners from enterprises and services in Japan	... ..	8
(3) Payments connected with marine transport	... ..	68
(4) Payments connected with insurance	... ..	91
(5) Spent by Japanese abroad	... ..	30
(6) Government payments abroad other than interest and capital of foreign loans...	... ..	75
(7) Other	... ..	5
	Total	379
2. <i>Extraordinary Expenditure.</i>		
(1) Withdrawal of investments by foreigners in Japan	... ..	142
(2) Investments by Japanese abroad	... ..	21
	Total	163
	Total of Expenditure Account	542
C. EXCESS OF REVENUE.		
1. <i>Ordinary Account</i>	... ..	151
2. <i>Extraordinary Account</i>	... ..	28
	Total excess of Revenue	179

Assuming that the invisible credit balance for 1927 is of about the same dimensions as that for 1926—i.e. 179 million yen—the position may be regarded as satisfactory. It should be noted that the above figures as to visible and invisible trade refer to the trade of Japan proper only. For a true estimate of Japan's position in international trade it is probably best to treat Japan, Formosa and Korea as one economic unit. The visible trade returns are then as follows :—

	Exports.	Imports. (Million yen)	Excess of Imports.
1926 ... ..	2,118·8	2,563·4	444·6
1927 ... ..	2,065·0	2,358·6	293·6
Jan.-May 1928 ... ..	825·3	1091·7	266·4

The question of Japan's foreign trade balance must be studied in relation to her specie reserve. This has changed as follows :—

Specie Reserve.	Million yen, at end of		
	Dec., 1926.	Dec., 1927.	April, 1928.
At home ... ..	1,127	1,087	1,087
Abroad ... ..	230	186	159
Total ... ..	<u>1,357</u>	<u>1,273</u>	<u>1,246</u>

It is interesting to note the steady diminution in the foreign holding (which was as high as 1,343 million in 1919) despite the flotation of considerable public and private foreign loans in recent years. It would appear that Japan must shortly either reduce her foreign purchases or float further loans in foreign countries—unless, of course, she can rapidly expand her export trade, which does not seem probable. The shipment of gold abroad from the Government's reserve held in Japan, which commenced in 1926, was continued in the first part of 1927, and 16 million yen had been shipped by April that year. The financial crisis then prevented the continuance of this export, which had been aimed at creating a reserve in preparation for a return to a free gold market. Recent official announcements show that the Government have once more postponed the withdrawal of the embargo upon the export of gold. In a speech to the Osaka Clearing House on May 15th, 1928, the Finance Minister stated that, though the situation was growing more favourable, the time was not yet ripe for the lifting of the embargo. The large special credits outstanding made it difficult for the Bank of Japan to control the money market by its loan policy, and until this control was restored, the danger of inflated currency removed and the trade balance further improved it would not be safe to remove the embargo.

Meanwhile the currency in Japan remains well protected by specie. It may indeed be argued that the protection is excessive, and that a great proportion of this gold could be more usefully employed abroad. This, in fact, is one of the arguments used by the opponents of the gold embargo.

*Note Issue.*—The following are official statistics of note issue and cover for the period under review. They refer to convertible notes issued by the Bank of Japan, excluding those held as reserve against Government paper currency and against notes of the Bank of Korea.

	Note issue.	Gold reserve.
	(Million yen)	
End of Dec., 1924 ... ..	1,626	1,059
„ Dec., 1925 ... ..	1,599	1,056
„ Apr., 1926 ... ..	1,226	1,058
„ Dec., 1926 ... ..	1,541	1,058
„ Apr., 1927 ... ..	2,008	1,062
„ Dec., 1927 ... ..	1,640	1,062
„ Apr., 1928 ... ..	1,348	1,062
„ May, 1928 ... ..	1,254	1,062

The issue on April 25th 1927, at the height of the panic, was 2,659 million yen, the highest point ever reached.

*National Debt.*—The national debt stands as follows:—

	End of 1926	End of 1927	March, 1928.
	(Million yen)		
Internal ... ..	3,684·4	3,901·8	3,944·4
External ... ..	1,477·9	1,460·2	1,453·3

Though the governmental foreign debt has slightly decreased, the total foreign indebtedness of Japan, in respect of national loans, municipal bonds and banks and corporation debentures, is as follows:—

	Outstanding March, 1928.	Outstanding end of 1926.
	(Million yen)	
National loans ... ..	1,453·3	1,477·9
Municipal bonds ... ..	262·8	222·1
Bank debentures ... ..	12·4	56·8
Corporation debentures ... ..	321·6	293·4
<b>Total ... ..</b>	<b>2,050·1</b>	<b>2,050·2</b>

The corporation debentures consist chiefly of issues by electric light and power companies.

*Loans.*—No important foreign loans were floated in 1927, but in May, 1928, the Tokyo Electric Light Company concluded a foreign loan agreement involving the issue of £4,500,000 sterling bonds and \$70,000,000 gold dollar bonds, both at 6 per cent. This is the largest single issue of corporation bonds hitherto made in Japan. The sterling loan will, it is understood, be used chiefly for conversion. At the same time the company issued 60 million yen worth of mortgage bonds in currency. This issue is for a longer term than usual for Japanese debenture issues—25 years—and its quotations therefore throw an interesting light on present feeling in the money market. It was issued at 91, 20 times over-subscribed, and now (June 15th, 1928), stands at 95·50, at which price the yield is 6·2 per cent.

One curious result of the financial crisis was to produce in 1927 an excess of export of capital. About 50 million yen was imported in the shape of loans, whereas redemptions abroad amounted to 80 million yen. This is an unusual occurrence, and is due to the excess of idle money in Japan, which made it profitable to buy Japanese bonds and debentures abroad.

**State Finances.**—The budget for the financial year 1926-27, including two supplements subsequently approved, balanced at 1,666 million yen. The budget for 1927-28 balanced at 1,759 million yen. It presents no remarkable feature. The apportionment of expenditure among the departments is as follows:—

		Million yen.			Million yen.
Household ... ..	...	4	Justice ... ..	...	37
Foreign affairs ... ..	...	20	Education ... ..	...	140
Finance ... ..	...	416	Agriculture and forestry ... ..	...	49
Interior ... ..	...	265	Commerce and industry ... ..	...	11
War... ..	...	212	Communications ... ..	...	344
Navy ... ..	...	256			

There are no items calling for special comment, unless it be a sum of 286 million yen for national debt consolidation, which appears in the Ministry of Finance's estimates. This is an exceptionally large figure, due to a new system of putting 25 per cent. of the budget surplus to this use. For some years past there has been a cumulative budget surplus, which amounted in 1923 to 657 million yen; but it is raided from time to time, and now that it is to be used in part for loan redemption some change in the method of budgeting in future may be expected. Hitherto it has been relied upon to make budgets balance, but the sums available will obviously be reduced by the new system, if it is continued.

The sources and estimated amounts of revenue for 1927-28 are as follows:—

	Million yen.
1. Ordinary Revenue ... ..	1,458
2. Extraordinary Revenue ... ..	300
The principal items of ordinary revenue are:—	
Taxes ... ..	883
Government undertakings and property ... ..	464
Revenue stamps ... ..	81

and principal taxes are those on sake (238 million), income (224 million), and imports (127 million).

Extraordinary revenue is composed chiefly of the proceeds of loans (64 million) and transfers from previous budget surplus (166 million).

Settled accounts for 1926-27 are, of course, not yet available, but it is worth noting that, as a result of taxation reform, the estimated yield of taxation has increased by 88 million yen, as compared with the fiscal year 1925-26.

Owing to the dissolution of the Diet the budget for 1928-29 failed to pass. A working budget, within the limits of the previous years' budget, must therefore, according to the Constitution, be substituted.



### III. FOREIGN TRADE.

1. **General.**—On page 26 there is a table showing the annual totals of foreign trade.

No special inferences can be drawn from them. They merely show a reaction after the boom of 1920, heavy purchases in the two years following the earthquake, and subsequently a tendency towards equalisation of imports and exports which, however, may be due to reduced purchasing power accompanying the financial depression, and cannot therefore yet be regarded as a permanent factor.

The import returns upon analysis reveal some interesting changes in the character of the import trade, as witness the following table of percentages :—

*Imports into Japan Proper.*

Percentages (values).

			Raw materials.	Partly manufactured.	Wholly manufactured.	Food and drink.
1922	...	...	43·8	20·6	19·3	15·3
1923	...	...	50·2	18·0	18·2	12·6
1924	...	...	47·5	18·4	19·2	14·1
1925	...	...	58·0	12·7	13·5	15·2
1926	...	...	56·4	15·0	13·2	14·7
1927	...	...	55·1	15·9	13·3	14·8

It will be observed that in value the import of raw materials tends to increase, while the import of wholly and partly manufactured goods declines. The percentage of foodstuffs shows no marked variation since 1922. It is frequently alleged that the growth of population and the rise in the standard of living are tending rapidly to produce a condition in which Japan will be to a dangerous extent dependent upon imported foodstuffs; but so far there have been no reliable data upon which such a conclusion could be based. It is only within the last few months that exact scientific work has been done upon this subject. There is now in preparation (by Professor E. F. Penrose and his colleagues of the Nagoya Commercial College) a series of weighted indices of the physical volume of food production in Japan which, taken together with analogous indices for net imports of foodstuffs and for population, will serve to indicate the exact nature of the problem. Until the problem is exactly stated it is idle to discuss it.

The principal raw materials at present imported are as follows :—

*Imports (in million yen).*

	1927	1926	1925
Raw cotton ... ..	625	726	923
Timber ... ..	104	104	77
Wool ... ..	102	86	121
Oil cake ... ..	99	124	107
Sugar ... ..	76	84	75

The principal semi-manufactured goods are :—

	1927	1926	1925
		(Million yen)	
Woollen and worsted yarns	44	32	56
Iron (bar, rod, plate, sheet, tube) ... ..	90	102	81

The principal manufactured goods are :—

	1927	1926	1925
		(Million yen)	
Machinery and parts ... ..	78	90	89
Woollen tissues ... ..	34	29	57
Petroleum and benzine ... ..	27	30	31

Particulars of these and other important items in the import trade will be given below, but it is worth while to preface them with some general observations.

*Import Trade.*—In the first place it is apparent that Japan has become an important buyer in the world's markets for raw materials. In the second place, while the percentage of imports of semi-manufactured and manufactured goods declines, their total value tends to increase with the natural increase in foreign trade, and—what is of interest to those engaged in selling manufactured and semi-manufactured goods to Japan—the market is one which is rapidly changing in character. Japan is in the advantageous position of a customer for whose orders a number of anxious sellers are competing, thus providing a striking illustration of recent tendencies in world trade. Great Britain, for instance, as a seller, is now no longer in competition with only one or two great commercial rivals, but finds herself in the field with many competitors. To take an example which is of special interest to British trade, customs statistics show that Japan's imports of worsted yarns in 1919 came almost entirely from Great Britain; in 1924 the demand has vastly increased and Great Britain was still the largest supplier, but 11 other countries were competing with her; and in 1926 Great Britain took the third place among 12 supplying countries. Similar conditions are to be observed in respect of many important items of Japan's import trade. It is evident that, where competition is so severe, not only is the margin of profit necessarily small, but the changing character of the market requires constant attention. It may be asked why this market in particular should be regarded as one subject to rapid change. The answer is that, as pointed out in the first part of this report, home production tends constantly to replace importation, and concurrently with this change there arise new needs. As a new industry

develops importation of one commodity ceases or declines, but other requirements, whether of plant or accessories, or material for ancillary industries, have to be met. Moreover, new needs are produced, not alone by industrial development but also by changes in social conditions, involving new wants in clothing, food and amusements. There is no room here for elaboration of these points, but it can be stated without fear of contradiction that this market is both exacting and variable, and therefore demands unremitting observation by those who wish to retain their trade with Japan. Success attends those who can maintain representation on the spot, or who can make periodical visits to this country. Where the volume of their business does not in their opinion justify the expense of direct representation they are at a disadvantage as compared with exporters in less distant countries, unless they can make use of the services of a reliable foreign or Japanese agent who is well acquainted with local conditions. In recent years there has been a tendency among manufacturers and merchants at home to transfer their agencies from British firms operating in Japan to Japanese firms. Often, it must be admitted, the change has been justified by results, but there is no doubt that foreign houses established in Japan perform a valuable function, and the advantages to be derived from their experience should not be overlooked by exporters in Great Britain who contemplate changing or appointing agents. One factor of importance which should not be neglected in considering the import trade of Japan is a strong public sentiment in favour of domestic products as against imported goods, where the disparity between the two is not excessive. It is true that, among individuals, this sentiment breaks down under the pressure of personal tastes, and struggles sometimes vainly against the free-spending habits of the Japanese. This is clear from the comparative failure of the luxury tariff. Nevertheless, there is a strong movement in favour of domestic manufactures on grounds of national pride and national economy. In 1927 a commission was formed by law to frame for the use of Government departments a list of Japanese products which may be specified in contracts and purchases by those departments, even though they are more expensive than imported products. The Commission issued its first list on March, 1928, prefacing it by a general recommendation that Government departments should use national products as far as possible. The list includes pig iron, mild steel plates, special steels, power looms, medicines and medical apparatus, aeroplane engines, woollen textiles, certain industrial chemicals, and a number of other items. Inquiry among importers shows that it has had a definite effect in reducing import business in several commodities.

*Export Trade.*—Concurrently with the above-described changes in the character of Japan's import trade no very important developments in export trade have taken place. The principal exports,

as heretofore, are silk and silk tissues, and cotton yarns and textiles, which together in 1927 accounted for 1,320 million yen out of a total export trade of 1,992 million yen. But gradually Japan is sending to foreign markets goods other than the textiles, pottery, toys, &c., which have been hitherto considered her competitive manufactures in foreign trade. The tendency has not gone far at present, and it will require favourable conditions for its growth; but it is interesting to cite as an example a comparatively new export item in the shape of galvanised steel sheets. The black sheets are imported from Great Britain or America, galvanised in bonded works and exported to China, the Straits Settlements and other parts of the East. Similarly, with the growth of the flour milling industry in Japan, the exports of flour from Japan to foreign countries have increased from a negligible amount in 1921 to over 3 million bags in 1927. The future of Japan's export trade generally is, at present, difficult to forecast. She is now suffering from over-production or excess capacity in many productive industries; her exchange is liable to fluctuations which, though small in range, are a handicap to foreign trade and encourage a speculative type of business; living costs are high and labour is not relatively cheap; while sound financial conditions are not yet thoroughly restored. Until one can establish something in the nature of a normal or at least a relatively stable standard of economic conditions for Japan, it is impossible to say what her competitive power really is or may become. There is no doubt, however, that she must be considered henceforth not only as an importer of manufactured products but also as a potential competitor in other markets, particularly though not exclusively in those where she has the advantage of propinquity. It behoves British manufacturers and exporters who are losing their export trade to Japan to bear these facts in mind, and to remember that Japan has already, in respect of certain important commodities, developed from an importer, through an intermediate stage of production for domestic needs, into an exporter. The cotton industry is the most striking example of this evolution, the woollen industry promises to furnish another, and incidental references in this report will show that the same tendency is to be discovered in other directions.

To supplement the foregoing general account a description of the principal items in import and export trade is given below:—

## 2. IMPORTS.

**Foodstuffs.**—The problem of Japan's food supply has already been mentioned. She produces within her own territories rice, wheat, barley, rye, millet, rape seed, buckwheat, sweet potatoes, Irish potatoes, beans and peas, fruits and vegetables, tea, sugar, salt; raises a small number of cattle, swine, sheep, goats and

poultry ; and obtains from coastal and neighbouring waters a large and varied supply of fish, shell-fish and seaweeds. She supplements these by imports of rice, wheat, beans and peas, oil-yielding seeds, beef, condensed milk, butter, eggs, cheese, jams, coffee, cocoa and wines. No special changes are noticeable in the import of beef, condensed milk, butter and eggs, &c., but the trade in rice and wheat deserves attention.

The amount of foreign rice purchased depends upon the crop of rice in Japan and Japanese dependencies, and the quantities imported have varied as follows :—1925, 12·8 million piculs ; 1926, 5·7 million piculs ; and 1927, 9·7 million piculs. The last crop (1927) having been an abundant one, the Japanese Government considered that domestic supplies were almost sufficient, and in March, 1928, they placed a modified embargo upon the importation of rice. They announced that their object was to protect the farmers against a fall in prices, from which it may naturally be inferred that the cost of rice production in Japan has considerably increased of late years.

**Wheat.** —The import of wheat has grown from 10·5 million bushels in 1921 to 17·0 million bushels in 1927, the sources of supply in 1927 being Canada (37 per cent.), the United States (33·6 per cent.) and Australia (25·1 per cent.).

The import of wheat is about one-third of the total amount required for flour milling in Japan. This industry has made important strides in the last few years, as witness the following figures :—

*Wheat flour, supply and demand.*

(In million bags, of 49 lbs.)

	Production of wheat flour in Japan.	Imports.	Exports.	Available for domestic consumption.
1921 ... ..	25·7	1·6	·6	26·7
1926 ... ..	38·3	·3	6·7	31·9
1927 ... ..	36·7	·9	5·4	32·2

It will be noticed that imports of flour have much diminished, and an export trade (to China and Japanese overseas territories) has been developed. The decline in production in 1927 is due almost entirely to the difficulties encountered by the Nippon Flour Milling Company, at that time one of the Suzuki subsidiaries. The productive capacity of all wheat flour mills is considerably greater than the amount produced, since restrictions of output, varying from 5 per cent. to 40 per cent., have been in force since 1926.

**Sugar.**—A very notable increase is seen in the sugar production of Formosa due to improved methods and the use of better

cane. The crop has increased from an average of 7 million piculs in the last four years to about  $9\frac{1}{2}$  million piculs for 1928. Adding to this latter figure about 2 million piculs (including beet sugar), produced in Japan, The Luchu Islands, &c., we have a total of  $11\frac{1}{2}$  million piculs, which is very little short of the present annual consumption in Japan. It might be inferred from this that there is now no considerable import of sugar, and that if Formosan production increases at anything like the present rate Japan will henceforth be self-supporting as to sugar supplies. This is not, however, a complete statement of the position. Japan's purchases of foreign sugar, chiefly from the Dutch Indies, have been :—

	Million piculs.					
1925	...	...	...	...	...	6·35
1926	...	...	...	...	...	7·56
1927	...	...	...	...	...	7·02
Jan.-May, 1928	...	...	...	...	...	3·08

and the excess of supply over consumption is accounted for by exports, principally to China, of refined sugar produced by Japanese refineries. These exports amounted in 1926 to 3 million piculs and in 1927 to 2·63 million piculs. It will be seen that there was a large surplus of refined sugar for disposal, and in fact the Japanese refineries suffered very heavily in 1927. Sugar refining is one of Japan's most important manufacturing industries, and it furnishes an example of a phenomenon which seems to be characteristic of Japan's present industrial condition. The sugar refining industry has apparently progressed too rapidly, and capacity, for the present at least, is in excess of requirement. In 1927 not only did the great increase in Formosan production cause difficulties to the refineries, but also the China market, which is their mainstay, was so depressed by lack of purchasing power that what is known as "Java white," a crystallised sugar which the Chinese can use without further refining, was bought by China in place of the Japanese refined sugar. These factors, together with a sharp fall in the price of sugar in Java after the Japanese refineries had bought, were the cause of serious difficulties to the industry in Japan. The refineries were in many cases forced to "dump" sugar at sacrifice prices in China. The future of the Japanese sugar trade, as to production, importation and refining, presents a difficult problem. Considerable sums (some 170 million yen of paid-up capital) are invested in the refining industry, and its maintenance is therefore of importance. Its immediate prospects are not bright, but the consumption per head of sugar in Japan is still relatively low and there is consequently room for expansion in the home market.

Final statistics of the last Formosan sugar crop have become available since the above was written. They show that the production of centrifugals for the 1927-28 season was 9,527,693 piculs

(about 562,000 tons), which is 83,500 tons greater than for the previous record season, 1925-26. The output of brown sugar is estimated at 9,000 tons.

**Chemicals and Fertilisers.**—The principal chemicals imported are :—

	1927	
	Values. (Million yen)	Quantities. (Million piculs)
Ammonium sulphate, crude ... ..	32.75	4.16
Nitrate of soda, crude ... ..	6.75	.92
Soda ash and natural soda ... ..	6.54	1.67
Caustic soda, crude ... ..	5.69	.68
Sulphate of potash, crude ... ..	4.24	.52
Glycerine ... ..	1.86	.03

Apart from certain heavy chemicals for industrial use, or for refining for the drug trade, &c., the main interest of the import of chemicals into Japan is in its relation to the manufacture and supply of fertilisers—a question of vital importance to Japan, in view of the intensive methods of cultivation which she employs. The customs returns show considerable increases in the quantities of fertilisers imported as follows :—

	Million tons.
1922 ... ..	1.72
1923 ... ..	1.88 (excluding Yokohama for July and August).
1924 ... ..	1.84
1925 ... ..	1.79
1926 ... ..	2.31
1927 ... ..	2.12

The kinds of fertiliser imported are, taking 1927 figures :—

	Values in	
	Tons.	million yen.
Bean cake ... ..	1,176,468	88.47
Phosphate rock ... ..	404,000	10.76
Ammonium sulphate ... ..	248,030	32.75
Nitrate of soda ... ..	55,005	6.75
Sulphate of potash ... ..	31,408	4.24
Rape seed cake ... ..	64,285	4.43
Cotton seed cake ... ..	59,783	4.78
Other oil cake ... ..	16,491	1.28
Fish guano ... ..	1,528	.16
Bone dust ... ..	37,305	3.45
Animal bones ... ..	31,233	2.85
Others ... ..	—	3.86
1927 Total ... ..	2,125,536	163.78
1926 Total ... ..	2,313,035	202.70

It will be seen that, after bean cake (which comes principally from China, through Kwantung), the principal item in point of value is ammonium sulphate. Despite the natural increase in consumption of fertilisers the amount of bean cake imported shows practically no increase in recent years, whereas the import of

ammonium sulphate was only 92,000 tons in 1922, and it had reached 293,000 tons in 1926. For various reasons it seems to be displacing bean cake as the standard nitrogenous fertiliser. The chief sources of supply of ammonium sulphate in 1927 were as follows:—From Germany, 135,429 tons; from Great Britain, 60,103 tons; from United States, 40,417 tons.

The increased demand for this fertiliser has produced interesting results. In 1923, when the total import was less than 150,000 tons, the chief suppliers were the United States and Great Britain. In subsequent years Germany entered the market with synthetic sulphate and in 1926, when the import was nearly 300,000 tons, the proportions were roughly Germany 60 per cent., United States 22 per cent., Great Britain 13 per cent. In 1927, however, Great Britain's position improved, and imports of German sulphate fell off. Severe competition is therefore to be expected in future between the British by-product and the German synthetic product. Meanwhile strong efforts are being made to increase the production of ammonium sulphate in Japan itself. 146,000 tons were produced in 1926 and the 1927 production is estimated at 180,000 tons; but the total requirement will, it is stated, soon exceed 500,000 tons per annum. The Japanese Government are interesting themselves in this problem, and for some time past have contemplated some form of control over the production and distribution, and possibly the importation, of fertilisers. The project appears to have been dropped for the time being, but it may well be revived by any administration which professes a desire to assist the agricultural classes. The chief steps now being taken to increase the domestic production of ammonium sulphate are the erection and extension of nitrogen fixation plants. Some particulars of these were given in the 1926 report, which showed that the output in 1925 (including about 14,000 tons of by-product sulphate) was 127,000 tons. There has thus been a steady but not remarkable increase to 146,000 tons in 1926 and 180,000 tons in 1927. Further progress depends largely upon the success of the Japan Nitrogen (Nippon Chisso) Company's works in Korea. This company is now building large water power stations (120,000 kilowatts) for a synthetic ammonia plant capable of producing 250,000 tons of sulphate per annum. Production will be by the Casale system, already adopted by the same company for its plant in Japan, which has an annual capacity of 50,000 tons of sulphate.

The production for fertilising purposes of superphosphates from imported rock phosphates is another important industry. In addition to the 404,000 tons of rock imported from foreign countries in 1927 about 130,000 tons were brought from the islands, Raza and Angaur, in the South Seas Mandated Territory. The total production of superphosphates in Japan during 1927 was 752,889 tons.

**Mineral Oils.**—The greater part of Japan's petroleum supply is derived from foreign sources. The production of petroleum



refined from domestic crude oil in 1927 amounted to 65 million U.S. gallons,\* while that obtained from imported crude oil was about 70 million U.S. gallons. The total output of Japanese refineries was thus 135 U.S. million gallons. Adding to this the importation of refined oils, amounting to 153 million U.S. gallons, and deducting 11 million U.S. gallons for exports to Japanese colonies, &c., we arrive at a total available for consumption in Japan proper of 277 million U.S. gallons.

It is interesting to note that there has been a diminution in the consumption of illuminating oil, due to the spread of electric lighting. Total consumption has doubled in six years. The most rapid increase was from 227 million gallons in 1926 to 277 million gallons in 1927, and though this is in part accounted for by low prices, it undoubtedly reflects a sudden increase in the use of motor vehicles—motor cars, motor cycles, aeroplanes, motor boats and motor ships—and of prime movers consuming oil.

Japanese crude oil production has at no time been sufficient to meet the demands of the domestic refineries, and the increased use of petroleum products in Japan has emphasised the country's deficiency in this important respect. The Japanese authorities are taking such steps as are possible—e.g. by bounties for prospecting—to stimulate the production of mineral oil in Japanese territory; but the output has decreased in recent years and very little increase is to be expected except perhaps in Formosa, where the outlook is more promising. Japan must, it appears, continue to depend upon imported oil—at present supplied chiefly by the Shell and Standard Oil Groups. The extent of her dependence upon foreign supplies is brought out by the following figures:—

	Crude oil Production in in Japan and Formosa. (Million U.S. gallons)		Crude oil Imports. gallons
1922 ... ..	86·2	23·6	
1923 ... ..	75·7	47·1	
1924 ... ..	76·1	77·9	
1925 ... ..	79·1	103·1	
1926 ... ..	75·1	117·9	
1927 ... ..	73·1	162·6	

Concessions obtained from the Soviet Government in northern (Russian) Sakhalin are now being worked with fair success. The output of crude oil for 1927 is stated to have been 67,000 tons, and it is expected to increase in the next year or two to 100,000 tons. Practically the whole of this supply is taken by the Japanese navy.

As to other mineral oils, it may be mentioned that creosote oil is being produced in the coal areas in south-west Japan, and some shipments were made to America in 1927.

\*Note.—U.S. gallons =  $\frac{8}{7}$  imperial gallon.

Efforts are being made to develop shale oil production at Fushun, in Manchuria, by the South Manchuria Railway Company, but they do not at present appear to have progressed beyond the stage of large scale experimental work.

**Lumber.**—The importation of lumber on the present scale is a comparatively new development. Immense quantities were rushed to Japan after the 1923 earthquake, and the timber import trade had not recovered from the effects of overbuying when the 1927 financial panic caused further difficulties. Towards the end of 1927 conditions improved. The imports in 1927 were:—

	From	Values. (Million yen)
China ... ..	...	1·40
Kwantung ... ..	...	·25
Dutch Indies ... ..	...	·74
Asiatic Russia ... ..	...	15·01
Siam ... ..	...	1·55
U.S.A. ... ..	...	71·29
Canada ... ..	...	12·14
Other countries ... ..	...	1·39
		103·77

It will be noticed that the greater part of the supply is from the Pacific coast of North America. It consists chiefly of Douglas fir, American cedar, spruce and hemlock. In quantity the total import for 1927 was 10 per cent. less for 1926, when about 1,400,000,000 board feet were brought in.

There is a considerable import of lumber for rough constructional work, railway sleepers and pulp from the Siberian maritime province, and large quantities are brought to the mainland from the Hokkaido and Sakhalin.

Taken altogether the lumber import trade is now in a sound condition, and, apart from the exceptional post-earthquake buying, shows signs of steady increase. The trade is not an easy one for Canadian and American exporters, as there are more sellers than buyers; but in the aggregate it is a lucrative one. The proportions from Canada and the United States are as follows:—

	American.	Canadian.	Total.
	(Million cubic feet)		
1926 ... ..	101·12	5·46	106·58
1927 ... ..	91·84	16·61	108·45

The total import since 1918 from the Pacific coast of America is 545 million cubic feet.

**Wood Pulp.**—The production of pulp in Japan and Japanese Sakhalin is put at about 490,000 tons per annum. This is insufficient for Japan's requirements, and imports in 1927 were:—

	From	Quantity. (Million lb.)	Value. (1,000 yen)
Canada	... ..	95.4	6,080
Norway	... ..	17.2	1,804
Sweden	... ..	21.7	1,765
Germany	... ..	9.2	665
U.S.A.	... ..	7.1	580

The Canadian pulp is for paper making, while most of the pulp from Norway and Sweden is for the rayon industry.

**Iron and Steel.**—The position of Japan as regards iron and steel production and importation is too complicated to admit of adequate treatment in a short space, but the following are some of its outstanding features:—

The production of iron ore in Japan proper in 1926 was, according to official figures, 130,420 tons. This could be increased in favourable circumstances, since production under the incentive of war-time demand reached 378,000 tons in 1918; but at present most of the mines cannot be worked at a profit. The supply of iron ore from Japan and territories under Japanese control is:—

	1926	1925	1924
	Tons.	Tons.	Tons.
Japan proper	130,420	75,765	57,922
Korea	387,717	376,207	323,639
Manchuria	566,543	220,999	220,105
Total	1,084,680	672,971	601,666

The quantities of iron ore imported into Japan proper are:—

	Tons.
1924	1,201,859
1925	1,211,577
1926	891,822
1927	940,000

but these figures include amounts already included in the above table of production, as will be seen from the following analysis of the sources of Japan's imports of iron ore:—

Iron ore imports from	1927	1926	1925	1924
		(Tons)		
China	507,000	502,747	813,490	800,157
Straits Settlements	440,000	290,053	290,213	264,933
Other foreign countries	—	30	6	42
Korea	126,000	98,992	107,868	136,727
Total	1,073,000	891,822	1,211,577	1,201,859

Adding together production and imports (less amounts transferred from Korea and Manchuria to Japan) we have in round figures

a total supply year by year as follows:—1924, 1,666,000; 1925, 1,775,000; 1926, 1,874,000 tons. Allowing for stocks carried over and for natural increase in requirement we may estimate the consumption of iron ore for 1927 in Japan, Manchuria and Korea as in the neighbourhood of 2,000,000 tons. It will be seen that Japan is dependent upon foreign countries for about one-half of her present requirements of iron ore. The disadvantages of this situation have been brought home to Japan in the last two or three years by the disturbances in China, which have seriously interfered with the supply of iron ore from the Hanyehping and other mines in the Yangtse basin. Other sources of supply had to be sought to make up the deficiency, increased amounts being drawn from the Straits Settlements in 1927, while in the first four months of 1928 the import from China was roughly 110,000 tons, as against 220,000 tons from the Straits Settlements.

*Pig Iron.*—Official statistics are as follows:—

Produced in	1926	1925	1924
		(Tons.)	
Japan proper ... ..	821,832	696,111	598,405
Korea ... ..	115,036	99,160	99,795
Manchuria ... ..	198,143	136,685	134,376
Total Japanese production	1,135,011	931,956	832,576

The imports of pig iron in the same years and the countries supplying these quantities were:—

	1926	1925	1924
		(Tons)	
China ... ..	3,796	47,822	165,219
Great Britain ... ..	7,595	8,185	7,809
Sweden ... ..	238	2,958	14,075
U.S.A. ... ..	102	86	3,173
British India ... ..	227,628	153,332	159,978
Others ... ..	160,281	103,976	91,690
Total ... ..	399,640	316,359	441,944
Add Ferro-alloys (chiefly from U.K.) ... ..	4,055	2,352	4,665
	403,695	318,711	446,609

Of the above quantities, in 1926 the import from China (central) was almost negligible, as compared with previous years. The item "others" consists almost entirely of imports from Kwantung province, i.e. pig iron produced by the Anshan and Penhsihu works in Manchuria, and shipped from Dairen. It will be seen that, with diminished supplies from China and an increasing

requirement, the Japanese iron and steel industry is now increasingly dependent upon foreign supplies of pig iron, principally from India. The imports for 1927 reveal this position very clearly, since of a total import from foreign countries (excluding Korea) of about 570,000 tons of iron (pig, ingots, billets, blooms and slabs) some 260,000 came from British India, and 195,000 tons from Kwantung province, while the import from China was only 6,000 tons, practically all from Manchuria, the import from central China having ceased. There was also in 1927 a quite noticeable increase in imports of special grades of iron from Great Britain and Germany, though the quantities are very small proportions of the total import. That supplies were short is clear from the fact that in 1926 and 1927 considerable quantities of scrap iron were imported—80,000 tons and 230,000 tons respectively—whereas in previous years this import has been very small. Some business was done in importing old ships for breaking up, the material being largely used for melting scrap.

Conditions are so fluctuating that it is difficult to compute with any decision a normal annual requirement of pig iron for Japan. So far as Japan proper is concerned a recent official estimate, based on the year 1926, is :—

Production in Japan	...	...	...	...	Tons. 821,832
Imports from foreign countries and colonies	...	...	...	...	508,412
					<hr/> 1,330,244
Deduct exports	...	...	...	...	4,686
Net requirement	...	...	...	...	<hr/> 1,325,558
Proportion produced in Japan proper	...	...	...	...	62%

but since 1927 figures show an import of over 500,000 tons exclusive of supplies from Korea (say, 100,000 tons from the Kenjiho works), and this has had to be supplemented by exceptional imports of scrap, it is probably not excessive to place the present annual requirement at 1,500,000 tons. In other words, Japan must obtain one-third of her present pig iron requirement from foreign countries, and must find, in order to produce the balance of 1,000,000 tons of pig iron, about 2,000,000 tons of iron ore. Of this 2,000,000 tons she can obtain about 1,000,000 tons in territory under her control, and must purchase the remainder from foreign countries. There are very approximate figures, but will serve to give a general idea of the position. It is naturally a position which is unsatisfactory from a national, or at any rate a nationalist, point of view, and for many years past has caused concern to the Japanese authorities. The trend of official policy, in this as in other industries, has been to encourage the production of finished and semi-finished materials in Japan where possible, obtaining control of supplies of raw material in foreign countries. The

methods adopted or contemplated have varied from time to time according to the administration in power, but the general principle has remained constant. In 1927 a scheme was drawn up to assist the iron and steel industries in Japan by protective duties on pig iron and steel, replacing the present bounties. This project fell through owing to the dissolution of the Diet early in 1928; but its revival in some form may be expected. It is of particular interest to British trade, in view of the large import of Indian pig iron mentioned above, and also because protective duties on pig iron, if they are to be effective, must be accompanied by corresponding duties upon steel and steel products, including machinery of some types. Any restriction upon the importation of pig iron must necessitate new sources of supply of iron ore. Since the maintenance of supplies from China (Hanyehping) is doubtful in view of recent experience, additional supplies have had to be sought in the Straits Settlements, as has been shown above, and in other directions. With regard to blast furnaces official figures show a present annual capacity of 1,462,680 tons (of which 374,000 tons is accounted for by Anshan, Kenjiho and Penhsihu), so that an increase in capacity would soon be necessary if imports of pig iron were much diminished.

Another handicap to Japan's iron and steel industry is the shortage of good coking coal, of which 300,000 tons had to be imported from China in 1927.

The total steel production of Japan has increased from 773,000 tons in 1917 to 1,506,000 tons in 1926—an annual increase of 10 per cent.—and despite the difficulties with which the industry has to contend there is no doubt that it will continue to advance.

Imports of steel have been well maintained, though there was some falling off in 1927 due to financial stringency. The principal items have been:—

	1927	1926	1925
		(1,000 piculs)	
Bars, rods, angles, T's, etc. ... ..	3,435	4,638	2,304
Wire rods ... ..	1,818	1,966	855
Plates and sheets ... ..	3,994	4,348	2,482
Tinned plates and sheets ... ..	1,017	833	972

The trade in black steel sheets and in tinplate is of particular interest to Great Britain. Severe competition is felt from the United States in both commodities, and complaints about British goods have been frequent in past years, generally in respect of suitability to the market rather than of quality. These are defects which can be remedied without great difficulty, and it is gratifying to see that manufacturers in Great Britain have begun to pay serious attention to these matters, which they have neglected in

the past. The following figures, from a non-official source, show the competition between various supplying countries in black sheets of thin gauges (under 7 mm.):—

	1927	1926
	(Kilo tons)	
British ... ..	88,728	106,559
U.S.A. ... ..	60,867	76,818
German ... ..	22,801	14,881
Belgian ... ..	1,838	1,239
Other ... ..	1,158	—
Total ... ..	<u>175,392</u>	<u>199,497</u>

The diminution in imports is due in part to financial causes, but also to increased production by the Kawasaki works. The total production of black steel sheets in Japan at present is about 9,500 tons per month, of which not more than 50 per cent. is of 30 and 31 gauge. At present these sheets compete with imported sheets only under the protection of import duty. Domestic production is bound to increase, and in time thicker gauges will be preferred; but consumption is steadily rising, and importation will therefore continue for some time ahead. One reason for increased consumption is the growth of an export trade in imported sheets galvanised in bonded works. It is believed that some 50,000 tons were exported in 1927 to China, the South Seas, Java, Manila and Burma.

Construction materials (for buildings, bridges, vessels, docks, &c.), were imported as follows:—

	1927	1926
	(1,000 yen)	
Great Britain ... ..	699	666
Germany ... ..	3,421	3,336
Belgium ... ..	291	749
U.S.A. ... ..	2,986	3,748
Other countries ... ..	1,905	1,031
Total ... ..	<u>9,302</u>	<u>9,530</u>

Great Britain does not appear to be able to compete in price with Continental and United States structural steel, except for certain ship plates. In special steels a good business is done, but under difficulties, because of the increasing domestic production and the policy, mentioned above, of using home manufactures wherever possible, even at a higher cost.

The following figures, from the most recent official returns, give some idea of the annual consumption of steel materials in Japan proper. The amounts in the last column are obtained by deducting exports from the sum of home production, and imports in 1926:—

	Production.	Imports.	Consumption.
Bars and rods ... (tons)	597,000	278,000	837,750
Sheets and plates ..	280,000	261,000	525,000
Wire rods ... ..	21,000	118,000	139,000
Rails ... ..	174,000	94,000	239,000
Pipes and tubes ... ..	42,500	52,000	86,000

Satisfactory figures of production and consumption for 1927 and the beginning of 1928 are not yet available, but it is known that consumption has very rapidly increased in the past year, and the deliveries of the Government steel works have fallen behind, so that Continental steel makers should profit.

For convenience the following returns of mineral production (other than iron ore), which are the latest available, are appended here :—

*Mineral production in Japan.*

	1926.	1927.
Coal ... ..	31,426,549 metric tons	32,954,918 metric tons
Petroleum ... ..	2,699,645 hectolitres	
Gold ... ..	9,098,554 grammes	9,605,463 grammes
Silver ... ..	139,252,301 ..	140,946,847 ..
Copper ... ..	67,365,449 kilogrammes	
Lead ... ..	3,609,934 ..	
Zinc ... ..	16,972,221 ..	
Platinum ... ..	6,169 grammes	1,458 grammes
Bismuth ... ..	25,694 kilogrammes	22,575 kilogrammes
Arsenic ... ..	1,035,278 ..	
Graphite ... ..	498,386 ..	
Lignite ... ..	161,134 metric tons	
Sulphur ... ..	47,775 ..	61,340 metric tons
Sulphur ore ... ..	47,292 ..	16,770 ..
Phosphorous ore ... ..	108,569 ..	
Manganese ore ... ..	15,206,658 kilogrammes	27,560,201 kilogrammes
Chrome ore ... ..	7,051,548 ..	9,782,478 ..
Tin ... ..	523,769 ..	680,194 ..
Tungsten ore ... ..	17,569 ..	44,768 ..
Iron pyrites ... ..	417,513 metric tons	
Salt ... ..	614,134 ..	

**Machinery.**—The imports of machinery and parts in recent years have been :—

	Values. (1,000 yen)
1924 ... ..	128,523
1925 ... ..	88,996
1926 ... ..	90,686
1927 ... ..	78,381



The principal supplying countries in 1927 were as follows :—

	(Million yen)
Great Britain ... ..	20·75
Germany ... ..	17·60
Switzerland ... ..	4·55
U.S.A. ... ..	31·11

The proportions of recent years have been maintained, except that the German share has increased. The total importation shows signs of decreasing. It is early yet to give a definite opinion as to whether this is a fixed tendency. The progress of domestic manufacture, aided by recent tariff increases, has clearly affected imports. Practically every item in the list of machinery imports for 1926 shows a decrease, and though full figures for 1927 are not available in a form allowing of comparison, the general impression derived from a study of the returns is that of an all-round decline in imports. Perhaps the most interesting heading is "Dynamos, electric motors, converters, transformers and armatures." The 1926 figures are :—

Imports from	Value. (1,000 yen)
Great Britain ... ..	1,141
France ... ..	89
Germany ... ..	1,320
Switzerland ... ..	540
U.S.A. ... ..	7,374
Other countries ... ..	226
Total : 1926 ... ..	10,690
1925 ... ..	11,981
1924 ... ..	20,978

These figures in themselves constitute evidence of the progress of domestic manufactures, particularly since they record a decrease in imports at a period when electric enterprises in Japan are rapidly expanding. A number of works in Japan now produce generators rated up to 10,000 kw., and motors of several thousand horse power. Alliances have been formed between foreign and Japanese manufacturers, the latter producing the formers' products under licence. It is difficult to assess the share of Japanese manufacturers in supplying electrical equipment, but the following estimate from a trade paper is probably not far out :—Japanese, 56 per cent. ; European, 13 per cent. ; American, 31 per cent. In smaller machinery and apparatus, e.g. fans, telegraphic instruments, small motors, telephones, &c., Japan is almost self-supporting. The market for electric appliances such as heaters, cleaners, cookers, freezers, &c., is not yet much developed, but shows signs of improvement.

The following are very approximate figures of production in recent years :—

				Electrical machinery.	Bulbs.	Wire and Cable.
				(Million yen)		
1917	...	...	...	49.5	10	52
1927	...	...	...	105.2	16	113

Generally speaking the present situation is that, where price is the first consideration orders go to Japanese makers, except for certain large transformers and turbines and light traction units; while where quality is the first consideration foreign suppliers can compete despite customs duties. The future of the import trade in electrical machinery and apparatus seems to depend largely upon the growth in Japan of a demand for high quality manufactures. If that demand grows quickly Japanese makers will probably not be able to keep up with it for some time. In any case it must be remembered that, in this as in many other trades, Japan is a "buyer's market," so that competition among sellers is severe and terms are exacting. As a general rule no supplier of electrical machinery or apparatus can hope for success unless he is represented in Japan by experienced and energetic agents.

In this context it is convenient to mention briefly the present position of Japan's electric power enterprises. According to statistics prepared by the Ministry of Communications, the total generating capacity was 1,100,000 kw. at the end of 1919; at the end of 1926 it was 3,200,000 kw., installed and operating; while a further 1,650,000 kw. capacity was under construction. The total authorised capitalisation of the industry is over 3,000,000,000 yen, of which about 2,400,000,000 yen is paid up. Of the total electric power supply of 3,200,000 kw., 1,965,000 kw. is derived from water power. This great development of the electric power companies has not been reached without the assistance of foreign capital, the sterling and dollar loans of the principal light and power companies amounting at the end of 1927 to about £25,000,000.

**Motor Vehicles.—Cars and Trucks.**—The import of motor vehicles (i.e. motor cars and motor trucks), and of parts thereof has steadily increased during the past two years, as is shown by the following figures:—

				Number of motor vehicles imported.	Value in yen of motor vehicles and parts thereof imported.
1926—April-June	...	...	...	616	3,723,073
July-Sept.	...	...	...	517	3,597,416
Oct.-Dec.	...	...	...	753	4,592,081
1927—Jan.-March	...	...	...	791	3,661,593
April-June	...	...	...	1,074	5,034,248
July-Sept.	...	...	...	1,163	4,130,210
Oct.-Dec.	...	...	...	1,167	5,455,920
1928—Jan.-March	...	...	...	1,294	5,451,492

Latest estimates show that motor vehicles of all kinds in use in Japan proper number over 54,000, of which about 30 per cent.

are trucks and about 75 per cent. of the remainder are taxi vehicles. The number of motor vehicles in use is constantly increasing, and, from present indications, will continue to increase for some years to come. The number of vehicles built by the Japanese themselves, and the quantity of material they can furnish, excepting woodwork, to complete unfinished imported vehicles is still very small, so that growing use of motor traction of all kinds in Japan must continue to provide a large market for foreign material. The Ford Company, General Motors Corporation and the Citroën Company have recognised the increasing value of the market in Japan itself and the possibilities of Japan as a centre from which the Asiatic mainland may be supplied in the future, and they have decided that it is worth while establishing their own factories in Japan for the purpose of assembling vehicles from imported materials and parts. The Ford assembly plant has been in operation since before 1926, and probably 60 per cent. of all motor vehicles at present in use in Japan are Ford products. General Motors Corporation established an assembly plant at Osaka in April, 1927, and in 40 working days placed on the market 1,000 Chevrolet cars. According to the press by December, 1927, 5,000 Chevrolet cars had been built, and by June, 1928, 10,000 were completed. The company are effectively increasing the output of their factory by energetic advertising and by extending to Japan their system of accepting payment by instalments. A Japan Citroën Company expect to have an assembly plant in operation by next year.

The market is thus changing from one that used to be supplied mainly by complete imported vehicles to one that will be supplied from now on chiefly by vehicles assembled in the country, and, owing to tariff charges, imported cars and trucks will not be able to compete in price with the vehicles of the same class produced by the local assembly plants. Imports of complete vehicles must tend in the future to be confined chiefly to those of higher quality and price, and, among these, American-made vehicles have for long largely preponderated. In official returns the values of motor vehicles and parts imported in the last three years from different sources are given as follows :—

	1925	1926	1927
	Yen.	Yen.	Yen.
Great Britain ... ..	434,099	306,141	453,875
France ... ..	783,627	816,027	598,747
Germany ... ..	85,553	350,917	216,144
Italy ... ..	34,167	119,652	340,430
U.S.A. ... ..	9,226,969	13,104,741	16,023,405
Other countries ... ..	1,128,027	1,024,723	649,370
Total ... ..	11,692,442	15,722,201	18,281,971

*Motor Cycles.*—Motor cycles imported into Japan in the last three years have been as follows :—

				Number.	Value in yen.
1925	...	...	...	4,339	2,579,901
1926	...	...	...	4,993	2,612,805
1927	...	...	...	3,069	1,609,435

It may be assumed that, had it not been for the financial distress last year among small traders, the number of motor cycles imported would have shown an increase as compared with previous years; and there is every indication that the use of motor cycles in Japan equally with the use of motor cars and trucks, is likely to increase in the immediate future. There are no signs yet of Japanese-made motor cycles being able to compete with those imported. The motor cycles used are, with few exceptions, imported from the United States and the United Kingdom. British machines have recently been equally popular with American, the numbers of machines imported in 1925 and 1926 being 2,383 (1,449,692 yen) and 2,327 (1,258,192 yen) from the United Kingdom, and 1,746 (990,463 yen) and 2,541 (1,273,582 yen) from the United States. In 1927, however, the number of American machines imported was 2,084 as compared with only 912 British. British makers of motor cycles have in the last few months given more attention to the Japanese market in which the large American makers have established a very effective and energetic sales organisation.

**Internal Combustion Engines.**—There is an increasing use in Japan of engines of the following kinds :—Hot bulb engines of about 20 horse power for use in fishing boats, small kerosene engines of about 5 horse power for use in agriculture, and similar engines of from 10 to 100 horse power for use in mines. The engines used in fishing boats are almost all of Japanese manufacture and there is also a large production of small kerosene engines; but there is still a considerable import of engines consuming some form of oil, varying from kerosene to heavy oil, as is shown by the following figures :—

From	(Imports values)	
	1926	1927
	(1,000 yen)	
Great Britain	554	386
Germany	331	477
Switzerland	227	264
U.S.A.	2,980	3,721
Other countries	306	245
Total	4,398	5,093

**Wool and Woollens.**—The imports of raw wool and tops have been as follows in the period 1925-27 :—

From	1927	1926	1925
		(Piculs)	
China ... ..	6,749	8,908	9,804
Great Britain ... ..	17,449	32,663	64,356
Australia ... ..	744,051	552,555	522,019
Africa ... ..	7,640	1,698	2,364
Others ... ..	13,159	16,191	13,477
Totals ... ..	789,048	612,015	612,020

These figures speak for themselves. They show an increase in the consumption of wool, a steady diminution in the purchase of tops from Great Britain and a corresponding growth in the purchase of raw wool from Australia and South Africa. The import of tops has fallen as follows :—

	Piculs.
1925 ... ..	85,932
1926 ... ..	64,109
1927 ... ..	44,756

The distribution of the trade in yarns is shown by the following statistics, taken from customs returns :—

*Imports of Woollen and Worsted Yarns.*

	1927	1926	1925
		(1,000 kin)	
Great Britain ... ..	3,459	2,138	3,188
France ... ..	2,791	1,743	3,071
Germany ... ..	4,291	3,818	4,712
Belgium ... ..	23	97	103
Italy ... ..	48	85	81
U.S.A. ... ..	1	*	2
Other countries ... ..	3,171	1,362	501
Total ... ..	13,784	9,243	11,658

\* Less than 500 kin.

The imports of woollen tissues, by values, were :—

From	1927	1926	1925
		(Million yen)	
Great Britain ... ..	28·21	25·98	53·91
Germany ... ..	5·24	1·92	1·30
U.S.A. ... ..	*	*	·02
Other countries ... ..	1·21	1·32	2·25
Totals ... ..	34·66	29·22	57·48

\* Less than 8,000 yen.

An examination of the available customs statistics for the two years ending May, 1928, shows that imports of woollen yarns and piece-goods have been fairly well maintained and have even shown a tendency to increase. The import tables alone, however, are liable to give a misleading impression of the situation which has developed, especially since the financial crisis of 1927. It will be surprising if the import figures do not reveal a decline from May, 1928, onwards, particularly pronounced as regards yarns.

The most obvious explanation of this expected change is that it is the aftermath of the financial crisis. For the first few weeks after this event its seriousness was not generally understood by the average Japanese importer, and after the termination of the moratorium the larger importers for a time continued to order goods on their accustomed scale. By October, 1927, however, i.e. by the beginning of the following buying season, it was becoming more and more evident that financial conditions were tight, and representatives of British exporters, both residents and travellers, found that orders were obtainable only with the greatest difficulty. The smaller Japanese buyers were compelled to hold off practically entirely, and the larger firms, faced with a reluctance on the part of their own customers to shoulder more than the most modest of forward commitments, were similarly forced to curtail their operations. Ordinarily shipments ordered in October onwards are due in Japan in the following May onwards, and hence the surmise that the decline in imports will begin to be apparent from May, 1928. In so far as the difficulties of British exporters are thus explained, hopes are entertained that an improvement will take place in the course of the present year, and that the buying season of 1928-29 will bring a reversion to more prosperous conditions. There are, no doubt, good grounds for hoping that such will be the case.

It is believed, however, that the financial crisis, though indubitably a very important factor, does not by itself explain the conditions which confront British exporters in Japan; and that any survey, to be adequate, must take account of the progress of the Japanese woollen industry itself. It is apparent, for example, that the financial crisis cannot be adduced as an explanation of why the importation of yarns should decline more markedly than that of piece-goods.

Apart from the setback caused by the earthquake of 1923, the Japanese industry has progressed fairly steadily from 1920 to the present time. There is more machinery in the country now than there was immediately prior to the earthquake, and still more is being ordered. The development is far from being simply a matter of increased magnitude. During the last two years signs of greater maturity have also begun to appear. By this is meant that the Japanese factories are beginning to be to a greater degree

specialised units, and not merely have agglomerations of machinery turning out wide ranges of non-distinctive products. Not more than a beginning has been made in this direction, but the tendency has at last appeared, and there can be no doubt that it will go forward. For example, a factory solely for dyeing and finishing has been started at Nishinomiya, and the recently organised Showa Wool Yarn Spinning Company will, when production is commenced, devote itself solely to the manufacture of yarns. Moreover, factories already existing are beginning to be modified so as to specialise in given directions. These are straws which show the direction of the wind. In particular it is to be observed that the Japanese industry has begun to produce a bigger proportion of its own tops and yarns than was formerly the case, and there are definite indications now that a determined effort will be made within the next few years to make the industry as nearly self-sufficing as possible in yarns, apart from specialities. It is here that the real reason for the relatively marked drop in demand for imported yarns must be sought. In the case of tops, the development of home production has already reduced imports to a very low level. Another interesting feature of the Japanese industry is that the production of wool muslin, though still on the up grade, is becoming proportionately less important than that of other cloths. This seems to be due to fashion changes. Wool muslin is *par excellence* a fabric for women who dress in Japanese style, and though the majority still do so the number of those who adopt western clothing is increasing every year.

The developments indicated above can have only one meaning, viz., that Japan is gradually becoming self-supporting in woollens, as she has already become in cottons. In a long view of the situation the conclusion is inevitable that imports will be confined firstly to raw wool and secondly to certain specialities, and British representatives on the spot have no hesitation in declaring that the Japan market is becoming more difficult for them every year. Another feature to which British manufacturers will have to devote very serious attention is the entry of Japanese woollens into China and India; the nearness of China in particular gives the Japanese exporters a great advantage. In foreign markets, of course, Japanese goods have no tariff advantage, and in the case of woollens irregularity of standard is a weakness which has not been overcome. Nevertheless, serious efforts are being made to introduce cheap Japanese cloths into these markets, where cheapness counts for so much, and the scale which the exportation of Japanese cottons has attained should serve as a warning not to underestimate the importance of the movement.

Such are the prospects revealed by a long view of the effect of the growth of the Japanese woollen industry on the export of British woollens. In the immediate future these effects may not

be felt so seriously as they must ultimately be. As mentioned above, there is some hope that an improvement in financial conditions may result in a better buying season in 1928-29. This may prove to be the case because although the Japanese industry is expanding, the demand of the country for woollen goods is still growing. For some years after the war the demand was growing more rapidly than the industry, but that is no longer so. The industry now is catching up with the demand, but it will probably be a few more years before this leads to a serious permanent curtailment of imports. One observer estimates that the Japanese industry will supply 75 per cent. of the future increase of demand, leaving only 25 per cent. to the foreign exporter. For the future it is considered that Great Britain's chief hope lies in supplying high-class specialities and also the very cheap, heavy cloths woven from low-count yarns.

*Market Conditions.*—In conclusion, a few words may be said concerning the market conditions which the British exporter finds confronting him in Japan.

Firstly, repeat order business, formerly the great stand-by, is becoming more precarious, not because British goods have fallen off in quality, but because nowadays a cloth which is seen to be popular is immediately copied by Japanese manufacturers. The copy is inferior to the original, but the import tariff more than equalises matters.

Secondly, price is, as always, the first consideration in Japan. Importers show a marked reluctance to pay an advance in price even if the raw material has gone up. Rather than pay more they will usually elect to substitute a cheaper cloth for the one previously dealt in, and this in turn further encourages the practice of copying referred to in the preceding paragraph.

British manufacturers who wish to maintain their position in this market will find it increasingly incumbent upon them to take a close personal interest in conditions, and to give the fullest support to their agents.

**Cotton Tissues.**—It is hardly necessary to state that the import of cotton textiles into Japan tends to diminish as the Japanese textile industry progresses. The total import of cotton textiles in 1927 amounted in value to 7,237,000 yen, the principal items being :—

	Sq. yds.	Yen.
Cotton velvets and other pile tissues ... ..	640,000	1,014,000
Cotton Italians and satins ... ..	1,886,000	1,335,000
Plain tissues (other than grey and bleached tissues) ... ..	2,920,000	1,504,000



The following summary of information kindly furnished by a Japanese importing house is of interest, as showing their opinion of the prospects for British exporters to Japan :—

“ The statistics of imports show a tendency towards decrease in the import of cotton textiles which will probably become more marked. The reason for this decrease is the fact that Japan can now manufacture such cotton goods as were previously imported from Great Britain. The textile printing industry in particular has made remarkable progress of late, thus threatening Lancashire cottons. Thus printed jeans, fabrics like poplin, etc., formerly imported exclusively from Manchester, are now replaced by Japanese goods, which, despite a fall in the prices of British goods, are still about 20 per cent. cheaper.

“ On the other hand, British-made voiles, organdies, and fine umbrella-cloths, would appear to have some future in Japan, although they must meet with strong competition from Japanese imitations. If they wish to retain the business, British makers must begin to supply new articles, of new design, continuously, and at low prices.”

The advice given in the last few lines needs some qualification, in so far as there is considerable difficulty in protecting designs. They can be registered, but if they are to remain on the market for a brief period only the expense is disproportionately high. In this connection it may be mentioned that it is not only Japanese makers who imitate British designs and markings.

**Artificial Silk.**—The “ Rayon ” industry in Japan is making rapid strides, and the amount of foreign fibre imported has fallen in proportion. In 1926 the import was 3,238,000 lb., whereas in 1927 it fell to 800,000 lb., production in Japan having meanwhile increased from 5½ million lb. in 1926 to 10½ million lb. in 1927. The industry was started in 1918, but came almost to a standstill owing to the slump of 1920. Further progress in Europe and America stimulated manufacture in Japan, and considerable success has been obtained since 1922. A number of powerful firms, such as the Japan Spinning Company, the Oriental Spinning Company and the Mitsui Bussan Company, interested themselves in the manufacture, and organised rayon companies. Investments in this industry have increased from about 10 million yen in 1922 to 79 million yen in May, 1928, and it is one of the few industries which has continued active and prosperous during the last few years of trade depression. The following are particulars of the principal producing companies :—

	Output.
Showa Rayon Co. (formerly Toyo Spinning Co.)	1,000 kilos per day
Japan Rayon Co. ... ..	6,000 lb. „
Kurashiki Spinning Co. (estimated, from June, 1928) ... ..	1,250 kilos „
Teikoku Artificial Silk Co. ... ..	10 tons „
Tokyo Artificial Silk Co. ... ..	1,000,000 lbs. per annum
Toyo Rayon Co. ... ..	3 tons per day
Asahi Silk Weaving Co. ... ..	5 „

It is understood that all these companies use the viscose process. The estimated production for 1928 is 18 million lb. New factories and extensions of existing plants will probably increase the total domestic production rapidly in the next few years, and some doubts are now being expressed as to whether capacity is not outrunning demand. Already there are signs of falling prices owing to saturation of the home market, and outlets are being sought in neighbouring markets. The competition of artificial silk with natural silk is a subject which exercises the minds of raw silk producers in Japan. The development of artificial silk does not appear so far to have affected the quantity of natural silk consumed, either in Japan or in foreign markets; but there are some signs that the competition of artificial silk keeps down raw silk prices.

**Radio Apparatus.**—The following information has been courteously supplied by a British importing house:—

“ Some three years ago broadcasting in Japan was started on a very small scale with 500-watt stations at Tokyo and shortly afterwards Osaka and Nagoya, all these later being increased to 1 kilowatt. The service was poor and weak, only allowing crystal sets to be used within a comparatively few miles. The demand was therefore for valve sets of the larger kind and loud-speakers, thus limiting the users of radio to those who could afford such appliances.

Efforts are being made to improve the service, and the Tokyo and Osaka stations have been increased to 10 kilowatts from the 20th May, 1928. Nagoya is soon expected to follow suit, and similar new stations are being opened at Hiroshima, Kumamoto, Sapporo, Sendai, Keijo and Dairen. This is expected to greatly increase the use of inexpensive crystal sets throughout Japan.

As mentioned above, the demand at first was for valve sets, loud-speakers, and head sets, also parts such as transformers, condensers, dials, tubes, etc. Large quantities were imported, many by irresponsible inexperienced traders, resulting in heavy overstock and the slump in 1926 with many failures among dealers. These stocks are now more or less cleared off and legitimate business commencing, but in the interval the Japanese have experimented considerably and now manufacture most of the materials required, particularly valves, valve sets, loud-speakers, and sundry parts. Import of loud-speakers is therefore restricted to a few makers of better qualities, principally British with American and some German competition.

The import duty was originally 20 per cent. on radio goods, but after a year or so was raised to 40 per cent. This practically eliminates business in made up articles which are now turned out in Japan, but there is still some opening for materials required by the Japanese makers such as good quality magnets, sounding boards, enamelled wire for coils, crystals loose and fixed, etc. Such parts as transformers, condensers, dials, etc., and of course complete sets, are practically ruled out.

Some import should be possible in head sets for use with crystal sets under the increased power. Head sets are not made here to any extent, and makers of reliable goods at reasonable prices should be able to do business. Generally speaking, however, English head sets are too dear as compared with German. Crystal sets for use with loud-speakers if not too expensive will also sell.

As regards valves or tubes, these are being made in Japan in quantities and are difficult to import, although some business is still done in American

tubes. Good tubes at really low prices will still sell if British makers can turn them out, but they must have the American style base with long legs.

British manufacturers who may intend to continue catering for this trade should be urged to pay more attention to the detailed requirements of this market, and particularly to maintaining the quality and condition of their deliveries. An idea appears to prevail that such articles for Japan and the Orient, being comparatively new markets, need not be perfect or uniform and there are instances of import houses here having suffered severe and unfair losses as a result of this bad service. Japanese buyers are, if anything, over-particular and carefully scrutinize offerings submitted from different countries, so that best possible values and strict uniformity in quality, packing, etc., are essentials to success in the trade."

**Cinematograph Films.**—The outstanding feature of the Japanese cinematograph industry is the fact that in the past two or three years Japanese films have made great progress, and now constitute approximately 85 per cent. of all films shown in Japan.

There is, however, still room for a very large importation of foreign-made films. Hitherto the market has been almost entirely in American hands; but the public now shows signs of interest in films from other countries. "All-British" films appeared in Japan for the first time in 1927. If they are to make any progress the exporters must be prepared to spend money liberally and judiciously upon advertising, in order to create a demand. The Japanese have a strong dramatic and æsthetic sense, and producers who hope to dispose of second-rate films here will be disappointed. The market requires careful study, either by direct representatives of the exporters or by reliable agents in Japan with the requisite local knowledge.

### 3. EXPORTS.

**Raw Silk.**—While the export of raw silk is of little direct interest to British trade it is indirectly of the greatest importance, since upon it depends to a large extent Japan's purchasing power in foreign markets. In the last three years the value of raw silk, waste silk and spun silk yarns exported by Japan has been :—

	Raw silk, etc.	Total exports of Japanese products. (Million yen)
1925	912·5	2,222
1926	751·6	1,976
1927	754·7	1,914

It will be seen that the value of these exports is, on average, nearly 40 per cent. of the total value of exports of Japanese products. It is a fact worth remembering in considering Japan's foreign trade that the exports of silk and silk tissues and cotton yarns and cotton tissues taken together comprise over 75 per cent. of the total export in value.

The following review of the raw silk season (July, 1927, to June, 1928, inclusive), has been kindly furnished by one of the leading export firms :—

" In reviewing the season 1927-28 in a short report of this nature the statistical position will not be touched upon, for this can be studied from tables supplied by the various Silk Associations in Japan, America and Europe.

Exports from Japan have again broken all previous records. Whilst shipments to Europe from July 1st, 1927 to June 15th, 1928, have remained almost exactly the same as for the corresponding period during the previous season, those to America show an increase of roughly 20,000 bales, the total exports from Japan to America and Europe amounting to 501,703 bales against 481,398 bales.

Generally speaking, the season, which closes on June 30th, has been a successful one for the Japanese producers in spite of many anxieties. Although from an economic point of view the revenue derived from sericulture has become smaller on account of lower prices, most of the filatures have been able to make small to moderate profits. The tendency to increase the crops with every new season has again been confirmed, the official estimates for the total Japan crop of 1927 giving a surplus of 5 per cent. as compared with the previous year. Average prices paid for cocoons of the spring, summer and autumn crops established to reelers an approximate cost of 1,300 yen for the production of low grade white raw silk: prices actually paid on the Yokohama and Kobe markets for this quality have fluctuated between 1480 yen and 1200 yen.

In spite of a record consumption of Japan silks in America prices on the local markets during the first quarter of the season continued weak, which must be attributed to the effects of the financial panic and moratorium in the spring of 1927. Although not directly related to the silk industry, this disturbance subsequently had a serious effect on the financing of the new crop, and weakened the position of reelers to such a degree that they found it impossible to maintain price levels. By the end of the summer low grades had dropped below 1,300 yen, and anxiety was felt for a serious breakdown which, however, was prevented by the consummation of various stabilisation schemes with Government support, viz. :—

(1) A loan of 50,000,000 yen to silk growers at 5·5 per cent., divided into 12,000,000 yen, repayable within one year for advances on cocoons and 38,000,000 yen, repayable within two years, for the purchases of seed, farmers' appliances, etc.

(2) A loan limited to 37,500,000 yen through the Bank of Japan to the Third Teikoku Sanshi Kaisha for the purpose of stabilizing silk prices by temporarily withdrawing from the Yokohama and Kobe markets a maximum of 50,000 boxes of silk against advances to reelers of 750 yen per box. This loan was granted at an interest rate of 5·84 per cent., and had to be repaid by the end of May of this year. A total of approximately 15,000 boxes were stored away from the Yokohama and Kobe markets under this latter scheme.

After protracted negotiations reelers furthermore agreed at the beginning of December to curtail production by either closing filatures for one full month or postponing the resumption of reeling operations by one month in such districts where work is stopped during the cold period, or alternatively by sealing up from January 1st to May 31st 20 per cent. of all the reeling basins in operation at the beginning of December.

Thanks to all these measures and principally the active support America gave the market the tendency improved and prices recovered considerably during the winter and early spring, so that the 15,000 boxes withdrawn under the above-mentioned stabilisation loan were easily digested at higher prices and without disturbing the market.

Towards the end of the season the reduced consumption figures in the United States have considerably depressed the market, and the customary liquidation of old stocks had to be effected in the neighbourhood of 1,200-1,250

yen, for low grades white silk. On these lower levels, however, both American and European consumers are evincing more interest.

The prospects for the spring crop are favourable, and although there has been some frost damage to mulberry plantations in some districts the yield of this first crop is expected to be at least equal to last year's. Cocoon markets opened on a comparatively high level, but the warnings given by banks and dealers that they will not give facilities for speculative purchases appear to have had the wholesale effect of bringing cocoon prices down to a more reasonable level, the reelers' cost for low grade white silk being now in the neighbourhood of 1,300 yen. Indications are to the effect that the summer and autumn crops will be large, and the tendency for an ever increasing output of raw silk is shown by the installation of approximately 20,000 new reeling basins.

Notable events in the Japan market were the adoption on July 1st of conditioned weight, as the basic weight of all dealings in raw silk for export. Early this year a charter was granted to Kobe to open a Silk Exchange, which is expected to function from September 1st. Whilst opinion is greatly divided on the merits of this move, and the Yokohama interests strongly resent the decision on the part of the Government to grant the charter, Kobe is now definitely established and recognised as a silk port. That very considerable progress has been made by the southern port in the raw silk trade is proved by its export figures, which show an increase of roughly 22,000 bales over the previous year, whilst Yokohama has exported about 2,000 bales less.

The Yokohama Silk Exchange has adopted a wider range of qualities deliverable under its contract (five grades) and a classification system under which the use of the seriplane as testing apparatus plays an important part. The new grading rules will be applied as from July 1st.

Reelers have agreed to be taxed 3 yen per box on all deliveries for export purposes. This fund, collected by their association, is to be used in times of stress to help stabilise conditions. Originally the contribution was fixed at 1 yen per box, but it appears that the collection of these contributions is a very difficult matter, and a plan is now under negotiation to make the quota 5 yen per export bale and to have it collected by the exporting houses, who would simply deduct these contributions from the payments to reelers and dealers.

An event of outstanding interest has been the Japan American Silk Conference, sitting in Yokohama during the latter part of April and the beginning of May. Acting on a suggestion made by the Japan Raw Silk Association, the so-called American Technical Committee of the Silk Association of America, consisting of manufacturers and technical experts, paid an extended visit to Japan and met here representatives of reelers, dealers, exporters, and technical experts in order to discuss the highly involved problem of the testing and grading of raw silk. Whilst the conference did not come to any definite conclusions and the hope of finding an internationally recognised method of testing and classifying raw silk has not yet been fulfilled, the discussions have nevertheless been of the utmost importance, and will bear fruit, in so far as they have created a widespread interest in modern testing methods and have brought producers and consumers much closer. The many reports submitted at the conference and the minutes of the meetings will be published in English and Japanese in the near future for the benefit of all those interested in the silk trade here and abroad."

**Silk Textiles.**—The following information has been kindly furnished by one of the leading export firms:—

"During the last twelve months, from June, 1927, to May, 1928, there have been various adverse influences which have affected the different markets in Japan, and there has been no exception made regarding silk textiles.

The financial crisis which took place in the spring of 1927 created a feeling of unrest, continuing well into the autumn. Quotations for raw silk steadily



material, 36 inches in width, which works out at about twelve to sixteen inches per piece. On a number of pieces, this wasted material represents considerable loss to the exporter."

**Cotton Yarns and Textiles.**—The cotton industry in Japan is now so important, because of its effects on the Lancashire cotton trade, that it has been the subject of special investigation and reports to the Department of Overseas Trade. It is not therefore necessary to examine it in detail in this report, and the following notes are intended to be of general interest only.

The export of cotton yarns, according to customs figures, has been as follows:—

					Quantities. (1,000 lbs.)	Values (1,000 yen)
1925	...	...	...	...	123,079	123,117
1926	...	...	...	...	81,398	70,716
1927	...	...	...	...	46,592	38,794
Jan.-May						
1927	...	...	...	...	24,757	18,546
1928	...	...	...	...	13,230	11,496

The very striking decline in 1927 and the first part of 1928 represents diminished export to all foreign markets, but the drop in sales to China and to British India is the most pronounced. As regards China it is due to civil disturbances and to boycotts against Japanese goods in many districts, combined with falling silver prices. As regards British India, the enforcement of a revised Indian tariff upon cotton yarns curtailed exports from Japan after September, 1927, but the decrease was also due in part to dumping of Chinese yarns in Indian markets, disturbed conditions in China having reduced consumption of yarns spun in China. These facts combine to show the importance to Japan of the China market. The figures are instructive:—

*Value of cotton yarn exports to:—*

	China.	Kwantung.	Hongkong.	British India.
		(In million yen)		
1925	52.07	2.09	20.75	38.71
1926	25.70	1.19	8.09	28.08
1927	9.20	.86	3.64	20.04
1927 (Jan.-May)	5.04	.44	2.06	9.08
1928	4.18	.36	2.22	3.35

The decline in quantities in 1927 was not so heavy as the decline in values, since yarn prices fell heavily in that year; but examination of such figures as are now available shows that there was a further and heavy decline in quantities in the first five months of 1928.

The export trade in cotton tissues was in value smaller than in the preceding years, the total for 1927 being 383 million yen,

as against 416 million yen in 1926 and 432 million yen in 1925. Values of exports to China (including Kwantung and Hongkong) were :—

	(1,000 yen)
1925 ... ..	234,091
1926 ... ..	220,841
1927 ... ..	166,194
1927 (Jan.-May) ... ..	59,546
1928 „ ... ..	87,653

While exports to China diminished slightly in volume the total exports increased slightly in quantity, despite the large drop in values. The total export of 13 types of cotton cloth which represent about 90 per cent. in value of all cotton tissues exported was 1,378 million yards in 1927, as against 1,331 million yards in 1926. The export value of cotton tissues to British India rose in 1927 to 86 million yen, as against 70 million yen in 1925. There is no marked variation in the values of exports to other countries, unless it be an increase from 22 million yen in 1925 to 33 million yen in 1927 in the value of cotton goods (other than cotton hosiery) sent to African countries.

It may be asked whether the Japanese cotton industry has not been weakened by these lean years in the export trade, particularly in the case of the yarn spinners. The following statistics, extracted chiefly from the latest returns of the Japan Cotton Spinners' Federation, give the best answer to this question :—

1. The working spindlage has been reduced by output restriction agreements among the members of the Federation. The average for 1926 was 5,002,932, giving a yarn production of 2,607,746 bales in the year as against 2,530,692 bales in 1927. In May, 1927, the working spindlage was reduced to 4,672,715, and in 1928 it has so far been as follows :—

January ... ..	4,702,892
February ... ..	4,673,027
March ... ..	4,677,424
April ... ..	4,691,707

It is probable that this reduction in working spindlage has in some ways facilitated preparation for the abolition of night work by July 1st, 1929. Certain of the larger spinning companies have already made experimental re-arrangements of shifts and spindlage with this end in view.

2. The export of yarns spun by companies belonging to the Federation fell from 203,000 bales in 1926 to 115,000 bales in 1927, but exports, important as they are, form only a small proportion of the output. Domestic consumption of yarns for these two years was 1,663,000 bales and 1,682,000 bales respectively (and these figures exclude yarns used by spinning companies in their own weaving departments). The mills which manufacture for export are as a rule the largest mills, belonging to companies with strong reserves.

3. The market prices of shares in the principal cotton companies are well maintained, as witness the following returns of April, 1928, transactions on the Osaka Stock Exchange.

Oriental Spinning Co., 50 yen shares, fully paid-up. (Dividend for last term, 25 per cent.) ... ..	198
Kanegafuchi Co., 50 yen shares, fully paid-up. (Dividend for last term, 35 per cent.) ... ..	258



Other spinning shares fetched from 112 yen to 164 yen for a fully paid 50 yen share. There is no doubt that the cotton industry is going through a difficult period, and the position of small companies is insecure; but the larger companies have substantial reserves which enable them to tide over bad years.

#### 4. DISTRIBUTION OF TRADE BY COUNTRIES.

*Trade with Great Britain.*—Statistical details are given in the summary prefixed to this report. They speak for themselves; but it may be useful to add a few remarks on Japan's trade with Great Britain. Great Britain is principally a seller to Japan, and purchased from her in 1927 only 65 million yen worth of goods as against sales of 153 million yen.

The principal imports from Great Britain into Japan are :—

	1927	1926	Percentage of total imports into Japan, 1926
		(Million yen)	
Woollen tissues ... ..	28·20	25·97	88·9
Woollen yarns ... ..	8·42	5·78	17·8
Wool ... ..	4·49	9·32	10·8
Iron and steel (excluding pig iron) ... ..	22·14	28·38	27·8
Machinery and parts ... ..	20·75	25·41	28·1
Cotton tissues ... ..	6·24	5·40	86
Caustic soda and soda ash ... ..	7·25	4·59	57·6
Ammonium sulphate ... ..	8·16	6·29	14
Paper ... ..	3·17	4·06	20

Though Great Britain is still the first among European countries as an exporter to Japan, her share in the trade has diminished in the last decade, as the following figures show :—

	Total imports into Japan.		Imports from Great Britain.	
	Value (million yen)		Value (million yen)	Percentage of total.
1921 ...	1,614		184	11·4
1922 ...	1,890		232	12·3
1923 ...	1,982		237	12·0
1924 ...	2,453		312	12·7
1925 ...	2,572		227	8·8
1926 ...	2,377		170	7·2
1927 ...	2,179		153	7·0

The underlying causes of this decline are various. An important factor is the gradual change in the character of Japan's import trade which, as already shown, tends to comprise an increasingly large proportion of raw materials. For these the natural source of supply is in geographical or climatic zones distinct from those in which Japan and Great Britain are situated. Thus, because of her requirements of cotton, sugar, rubber and wool, Japan

turns more and more to tropical or sub-tropical regions, such as British India, Java, Malaya and Australia. This appears to be an inevitable tendency in world trade; and though on a short view the prospect for British manufacturers is not encouraging, it has to be remembered that the sale of vast quantities of raw materials by these regions increases in the long run their purchasing power and their consumption of manufactured goods. At the same time the decrease in Great Britain's share in the trade with Japan can be ascribed in part to the competition of other industrial countries in the supply of manufactured goods. To some extent this, too, is an inevitable tendency, the success of our competitors being often due to such natural advantages as proximity or abundant material resources. No useful purpose is served by vague allegations that British trade suffers from lack of enterprise on the part of British manufacturers and exporters; but it is perhaps permissible to state, as regards British trade with Japan, that this market is pre-eminently one which requires a knowledge of local conditions, obtainable only by observation on the spot. Until recent years but few representatives of British trades and industries have made special journeys to Japan, and their business has undoubtedly suffered because of this neglect. At least three industries of importance have, in the judgment of the writers of this report, lost valuable trade through their failure to investigate conditions here, or—what is even less excusable—have paid no attention to the earnest recommendations of those who have investigated on their behalf. In some instances it has been argued by British firms that they could not afford the expense of representation, temporary or permanent, in Japan. This is often a valid argument, but there are cases where a pooling of interests would have got over the difficulty. Moreover, the study of a foreign market may, without bringing positive and direct pecuniary returns, be of great value in other ways. Not a few manufacturers would be in a happier situation to-day if they had studied their customers not only as buyers but as potential competitors.

#### IV. TRANSPORT AND COMMUNICATIONS.

**1. Land Transport.**—The total mileage of the Government railways open to traffic in May, 1926, was 7,859. At the end of 1926 it was 7,978 miles, and at the end of 1927, 8,258 miles. A further 280 miles are under construction. Of the total, the mileage electrified by the end of February, 1928, was 101 miles. The electrification of further sections is proceeding. There are now (June, 1928), 1,145 miles of double track and 91 miles of three tracks and more.

Non-Government railways in operation at the end of 1927 had a total length of 3,309 miles, of which 781 miles were electrified. A further 1,051 miles of privately owned railways are now under

construction, of which 500 miles will be electrified, and sanction has been given to private companies to build an additional 2,090 miles, of which 1,230 miles may be electrified.

The fact that the Government railways are all narrow gauge (3 feet 6 inches) prevents rapid transit over Government lines. The fastest limited passenger express, between the two largest cities, Tokyo and Osaka, takes 11 hours to cover the 353 miles, an average of 32 miles an hour. The next fastest passenger expresses average 30, 27, 25 and 24 miles per hour. Goods traffic moves at a much slower rate.

The privately owned electric lines are designed to give quicker transport and are built on the 4 feet  $8\frac{1}{2}$  inch gauge; but their construction is not encouraged where it is thought they may divert traffic from the Government lines. Thus a proposal by a private company to build an electric line which would bring Osaka within six hours of Tokyo was not sanctioned by the authorities. Electric tramways, and particularly motor car services, both for passengers and goods traffic, are, however, being much extended in most parts of the country adjacent to the railways and are largely used in addition to, and in competition with, railway facilities. So great has been the increase in the use of motor trucks for goods and parcels transport that the Ministry of Railways investigated the subject and found that at the end of 1927 the number of motor trucks competing with the Government railway services was 4,210, of which 219 were  $\frac{3}{4}$ -ton trucks, 3,368  $1\frac{1}{2}$ -ton trucks, 560 trucks loading between  $1\frac{1}{2}$  and  $2\frac{1}{2}$  tons, and 63 loading over  $2\frac{1}{2}$  tons. Of the total number 80 per cent. were Ford trucks. The Ministry estimated that the number of motor trucks in use was increasing annually by 20 per cent. The use of motor transport in country districts, though it has increased rapidly in recent years, would develop much more were it not for the fact that country roads are narrow and have only a rough earth or gravel surface. They are being improved, but very slowly, and so far it is only in the cities, and in the neighbourhood of the cities, that streets and roads surfaced with cement, asphalt and other materials, exist.

The first underground electric railway to be built in Japan was opened for traffic in January, 1928. It runs for a mile and a half between two points in the city of Tokyo, and it is being extended for another mile or thereabouts. It is understood that this venture so far has been a financial success, the novelty of this form of travelling having proved an attraction to the Japanese populace.

**2. Air Transport.**—No regular air passenger services yet exist. Mails and parcels are carried over the following routes, but even these services are not regularly maintained in all weathers:—

	Return journeys per week.
Tokyo-Osaka ... ..	3
Tokyo-Sendai ... ..	1
Osaka-Fukuoka ... ..	3
Sakai-Oita, via Takamatsu and Imaharu ... ..	3

During the last two years flights were made occasionally between Osaka and Dairen to test the possibility of a regular service between these points, via Seoul; and it was hoped also to establish a service between Osaka and Shanghai, via Fukuoka and Moppo; but only one successful flight to Shanghai has been made so far.

It is a curious fact that hitherto practical results in civil aviation in Japan have been obtained chiefly through the enterprise of the large newspapers, who use them for the transport of correspondents and photographs. The Ministry of Communications has now, however, taken definite steps to encourage civil aviation. Small subsidies were granted in 1925-26 (271,800 yen) and in 1926-27 (371,800 yen). The amount has been increased to 580,000 yen for the year 1928-29, and provision has been made in the budget for larger subsidies in future, as follows:—

For the year	1,000 yen.
1929-30 ... ..	2,750
1930-31 ... ..	3,580
1931-32 ... ..	3,230
1932-33 ... ..	2,900
1933-34 ... ..	2,010
1934-35 ... ..	1,660
1935-36 ... ..	1,360
1936-37 ... ..	1,010
1937-38 ... ..	770
1938-39 ... ..	120

These subsidies are payable on condition that services, for both passengers and freight, are maintained between Tokyo and Dairen and between Osaka and Shanghai.

It is made a condition that the planes used in these services shall have an economic speed of 150 kms. per hour, be able to carry passengers and freight weighing in all not less than 600 kgs., and have passenger and cargo space of not less than 6 cubic metres.

Actual operation of the services will be in the hands of a private company; but the Government will maintain very close control and will not allow shares in the company to be held by non-Japanese subjects.

It is of interest to quote, in connection with the position of civil aviation in Japan, the official explanation of the Ministry of Communications when asking sanction for inclusion of the above-mentioned subsidies in the budget. It was as follows:—

It is unnecessary to emphasise the great importance from the standpoint of national defence and communications of developing aerial transport. The example of European and American countries shows, however, that until it is sufficiently developed it does not pay. In Japan this enterprise is in its



of tramp steamers. They trade in European waters, in the Atlantic, to both coasts of North America, to Australia and the South Seas, to India and China. In October, 1926 and in October, 1927, when Japanese tramp tonnage was more fully employed than at any other time in the last two years, its distribution was as follows:—

*Vessels of over 2,000 deadweight tons only.*

Trade routes.	Deadweight tonnage.	
	October, 1926	October, 1927
Europe ... ..	169,893	128,076
North America and Atlantic ... ..	165,389	228,469
Japan and east coast of North America ...	644,297	601,723
Australia ... ..	99,284	46,060
South Seas, India and China ... ..	208,999	257,896
Japan coastwise ... ..	1,889,653	2,020,137
In dock, laid up, etc. ... ..	114,366	106,933
<b>Total ... ..</b>	<b>3,291,881</b>	<b>3,389,294</b>

Of late years it has been a practice among Japanese tramp shipowners to buy old vessels abroad, and in consequence of some of these having been wrecked recently with loss of life there has been adverse criticism of the practice and suggestions that the import of vessels over 20 years old should be prohibited. The import of aged vessels is already restricted by a higher import duty upon vessels over 20 years old than upon vessels under that age, and owners of tramp tonnage are being encouraged to buy younger vessels by loans from the Industrial Bank of Japan, at slightly under 9 per cent. up to 50 per cent. of the value of vessels purchased from abroad, provided they are under 15 years of age. The bank also lends to shipowners contracting for new tonnage.

In February, 1927, the Seamen's Minimum Wage Law was amended to conform to agreements reached at the Third International Labour Convention of 1921. In June, 1928, the crews of Japanese steamships in home waters struck for higher wages and better working conditions, and the strike, which lasted less than a week was settled by a compromise that granted part of the men's demands. These are all signs that Japanese shipowners will not, in the future, be able to operate as many obsolete vessels at very low costs, as in the past.

Recent shipbuilding returns show that improvement of Japan's mercantile fleet has in fact begun, and that vessels of the most modern kind are being added to it. Thus vessels built in Japan in the last two years include:—

- 3 vessels between 8,000 and 7,000 gross tons, namely, one motor tanker and two motor passenger liners for the Japan-East Coast of South America trade.
- 2 vessels between 5,000 and 4,000 gross tons, passenger steamships for trade with South Sea Islands and Formosa.

- 2 vessels between 4,000 and 3,000 gross tons, passenger steamships for trade with China.  
 3 vessels between 3,000 and 2,000 gross tons, motor passenger ships for trade to Tientsin.  
 2 vessels between 2,000 and 1,000 gross tons, steamships for coastwise trade.

and the following vessels have been ordered or are under construction :—

- 3 motor passenger liners of about 16,000 gross tons each, and 17 knots speed for the Japan-San Francisco Line (Nippon Yusen Kaisha).  
 2 motor passenger liners of about 9,500 gross tons each, and 15 knots speed, for the Japan-East Coast of South America Line (Osaka Shoshen Kaisha).  
 1 motor cargo ship of about 5,600 gross tons.  
 1 motor tanker of about 7,300 gross tons.

In addition to the above, three other passenger liners of about 11,000 gross tons each, and with Diesel engines giving a speed of 17 to 19 knots, are to be built for a new service to be undertaken, probably by the Nippon Yusen Kaisha, between Japan and Seattle.

The growth of regular steamship communication between Japan and the east coast of South America is worthy of notice. It is an accompaniment of the growth of the Japanese settlements in Brazil.

Government subsidies to Japanese shipping lines sanctioned in 1926-27 were :—

	Yen.
By the Central Government ... ..	6,902,243
Korean           "           ... ..	997,000
Formosan       "           ... ..	1,405,624
South Sea Islands Mandated Territory Administration	760,000

and in 1927-28 they were :—

By the Central Government ... ..	6,838,639
Korean           "           ... ..	997,000
Formosan       "           ... ..	1,405,624
South Sea Islands Mandated Territory Administration	760,000

Subsidies sanctioned for the financial year 1928-29 are :—

	Yen.
By the Central Government ... ..	6,832,731
Korean Government ... ..	994,500
Formosan Government ... ..	1,622,291
South Sea Islands Mandated Territory Administration	760,000
Kwantung Leased Territory Administration ...	32,300

For the new service to be instituted between Japan and Seattle, for which, as mentioned above, three passenger motor liners of 11,000 gross tons are to be built, subsidies have been sanctioned as follows :—

Financial year,	Yen.
1929-30 ... ..	322,269
"   1930-31 ... ..	1,415,908
"   1931-32 ... ..	1,702,580
"   1932-33 ... ..	1,702,580
"   1933-34 ... ..	1,702,580

**4. Radio.**—Japanese stations maintaining communication with foreign countries are now four in number. The Tokyo Station (formerly known as the Iwaki Radio Station), which has sub-stations at Haranomachi (sending station), Tomiokacho (sending and receiving station), and Fukuoka mura (receiving station), and the Ochiishi Station (sending and receiving), near Nemuro, maintain communication with the American Continent. Communication with Europe is maintained by the Osaka Station (Sumiyoshi ku), and by the Nagoya Station, which has sub-stations at Kaizo mura (receiving station) and Yosami mura (sending station). The Nagoya Station has been recently completed (June, 1928), with the help of German engineers, and is intended for direct communication with Nauen, Ste Assise, Warsaw and other European stations.

Radio telephony is in use at Kobe and Moji between the shore and ships in harbour, but has not yet further developed.

**5. Telegraphs and Telephones.**—An automatic telephone system was installed in Japan for the first time in January, 1926, in the Kyobashi Ward of Tokyo, and automatic telephones are now in use in other sections of Tokyo, in all sections of Yokohama, and in parts of Osaka, Kobe, Kyoto and Nagoya. No changes have been made in submarine cables between Japan and foreign countries; but a new cable has been laid between Murotsu in Yamaguchi Prefecture, and Ryuko, near Fusan, in Korea.

## V. POST EARTHQUAKE RECONSTRUCTION.

**Tokyo.**—Good progress has been made in the construction of new paved streets and, to a less extent, of arterial roads through the main points of exit from the city. A number of handsome bridges have been built. Tokyo may, in the course of the next 10 or 20 years, become a fine city, on American rather than on European lines, in its central districts. Unfortunately from the point of view of beauty it has few natural advantages as a metropolitan site, and it must depend for its success chiefly upon careful planning and good architecture.

**Yokohama.**—The following notes on conditions in Yokohama have been furnished by His Majesty's Consul-General:—

### *Population.*

Population of City of Yokohama:—

1920	...	427,714	(census)
1925	...	405,387	(census)
1928	...	535,322	(estimated from official statistics).

*Note.*—On the extension of the city limits in April, 1927, the population of the area added was about 110,000.



The following table shows the number of foreign residents in 1922, prior to the earthquake ; in 1924, six months after the earthquake, and in April, 1928.

	Dec., 1922.	Apr., 1924.	Apr., 1928.
British (including British Indians)	1,053	156	558
American ... ..	502	119	367
German ... ..	200	50	141
French ... ..	140	25	124
Russian ... ..	358	8	98
Other ... ..	389	67	260
<b>Total</b> ... ..	<b>2,642</b>	<b>425</b>	<b>1,548</b>
Chinese ... ..	4,850	764	3,914
	<b>7,492</b>	<b>1,189</b>	<b>5,462</b>

Foreign firms established in Yokohama (excluding mere personal agencies) are approximately as follows:—

	1923 (Pre-earthquake)	1928
British ... ..	92	42
Other ... ..	56	36
<b>Total</b> ... ..	<b>148</b>	<b>78</b>

There is a considerable falling-off in the number of general import and export houses. This is due partly to the removal of firms after the earthquake to Kobe or Tokyo from Yokohama (although there has been a tendency during the past year to return to Yokohama), and partly to the fact that the import and export business, especially the former, is throughout Japan falling more and more into Japanese hands. The comparatively high overhead cost to foreign firms, and the financial and other facilities enjoyed by the leading Japanese merchants render competition more and more difficult to meet, while the increasing commercial experience of Japanese merchants results in keener and more effective competition against foreign business houses. Many of the minor foreign firms have discontinued business.

Foreign manufacturers are beginning to establish works in Yokohama and vicinity. The municipal authorities are anxious to give every facility for the establishment of industrial establishments, including works under foreign control, which will increase employment and add revenue to the city.

*Reconstruction Progress.*—The reconstruction works, involving a total expenditure by the State, Prefecture and Municipality, of over 134,000,000 yen, are making, generally speaking, satisfactory progress, and about 75 per cent. of the work is completed.

## VI. TREATIES, TARIFFS AND LEGISLATION.

**1. Treaties.**—The Supplementary Convention to the Anglo-Japanese Treaty of Commerce and Navigation negotiated in 1925, was ratified on July 29th, 1927. Article 3 of this Convention extends the provisions of the Treaty to all Japanese possessions, to Japanese leased territories, and to territories under Japanese mandate.

A new Treaty of Commerce and Navigation between Japan and Germany was ratified in Tokyo on the 1st of April, 1928. The new Treaty follows generally the provisions of the old Treaty between the two countries; but it is accompanied by an Agreement

allowing the import into Japan of about 65 varieties of German dyes and intermediates, so long as the Japanese Government raises no objection to their import. Germany in return agrees not to charge more than reichmarks 2.50 per 100 kilogrammes upon imports of Japanese soya bean oil. A Conventional Tariff, which is still under negotiation, will form an annex to the Treaty.

Negotiations, which have been intermittent since 1920, regarding the vexed question of Japanese fishing rights on the coasts and in the territorial waters of Kamchatka and Siberia have led to the signing of a Fishery Convention between Russia and Japan. (Ratified 23rd May, 1928.) The Convention reserves certain areas for Russian fishing interests and imposes some taxation, and labour regulations, on the Japanese. The freedom which Japanese fishermen previously enjoyed had resulted for practical purposes in a Japanese commercial monopoly of the fisheries.

**2. Tariffs.**—Since the extensive revision of the Japanese Statutory Tariff in 1926, the only alterations have been increases in the import duties on sugar, to afford protection to the production of raw sugar in Formosa and Japan, as well as to the sugar refining industry; the imposition of an import duty on cassava root and increases in the duties on tapioca, manioc and sago, designed to protect the dairy-farming industry in the Hokkaido; a reduction of the duty on corn starch, which is used in the manufacture of *mousseline de laine*; and the removal of the duty on oxide of cobalt, used in the making of enamelled ironware. These changes came into operation at the end of March, 1927.

Since the autumn of 1927 the authorities have had before them requests by the commercial and industrial interests concerned for higher import duties on timber, wool—textiles, worsted yarns and tops, pig iron and steel, machinery, tools and wood-pulp. Dissolution of the 1928 Diet Session has postponed any alteration in the duties on these items until the spring of 1929, when the Diet next meets.

The Law (No. 51 of 1925) concerning the exemption from Japanese import duties of articles produced in the Kwantung Leased Territory was amended on the 31st March, 1927, by Law No. 43, which extended the exemption to jute yarns, high-speed steel (containing not less than 0.5 per cent. of chrome, tungsten, or molybdenum), electric resistance materials containing nickel or chrome, building materials made principally from magnesite and materials made principally from dolomite. A further effect of the amendment was to reduce the import duty on hardened bean oil produced in the Territory.

As a result of the International Economic Conference held at Geneva in 1927, a movement has developed in Japan in favour of liberty of trading. In January, 1928, an association was formed

called The Osaka Liberty of Trading Association, and similar associations have been formed in Tokyo, Kobe, Kyoto and Nagoya. The objects of the movement are generally to oppose protective tariffs at home and abroad and to work for their reduction, and with this end in view to co-operate with Free Trade Associations in other countries; and as regards Japan in particular, gradually to secure reduction of the existing tariff so that eventually it does no more than protect growing Japanese industries.

It would be unwise to expect much for the present from this movement in Japan. It is inspired largely by importers of foreign goods and does not justify an inference that there is any general tendency towards free trade in this country. The most that can be said is that whereas before the European war there was practical unanimity as to the benefits of protection, there now exists a small and not very influential body of opinion that favours the removal of trade restrictions. Meanwhile, since industrial interests in Japan are on the whole stronger than mercantile interests, demands for protection by one industry or another are constant, and may be expected to continue. There are signs, however, that some modification may soon be effected in the special 100 per cent. tariff on luxuries, which came into force in July, 1924. The Minister of Finance, answering a question in the Diet on April 26th, 1928, admitted that the measure had been hastily drafted and passed, and that it caused no small inconvenience to foreigners coming to Japan. He added that he was carrying out investigations with a view to securing a revision of the measure in the next session of the Diet.

Alongside these tendencies, which may result eventually in some relaxation of import duties, another movement has progressed in the last year, that which encourages the use of Japanese-made goods instead of imported articles. A Law, No. 41 of the 31st March, 1927, has been passed enabling the Japanese Government to specify, in its contracts and purchases, that national products should be used. Reference to this subject has been made above in the section devoted to Foreign Trade; and in the section dealing with Japan's imports of foodstuffs mention has been made of the Government prohibition of the import of rice.

**3. Legislation.**—Domestic legislation affecting financial and commercial conditions in Japan, enacted in the last two years, includes the following :—

**The Banking Law** (Law No. 21 of March, 29th 1927 : effective as from 1st January, 1928.) Reference has been made to the law in the introductory section of this report. It replaces the old Banking Regulations of 1893. Its most important provisions are that banks, other than special or savings banks, must be limited liability companies, must have a minimum capital of one million yen (in some districts two million yen), and must engage in no business but banking; it provides generally for closer official control of banking business.

Enquiry made of the agents of British banks in Japan elicited the reply that the Law imposes no difficult conditions on the business of British banks.

**The Accountants Law** (Law No. 31 of the 31st March, 1927; effective as from 10th September, 1927). Hitherto in Japan there have been no Japanese professional accountants having the same status, expert knowledge, and powers as chartered accountants in the United Kingdom and other countries; and this is one reason why so many Japanese banks and commercial companies have been able to carry on business on a system that would be considered unsound from the point of view of expert accountancy. Under the new law properly qualified Japanese subjects are to be selected by the Minister of Commerce and Industry, with the help of an examination committee, and appointed to be accountants (*Keirishi*). They will be under official control and liable to penalties for malfeasance.

The law provides that the subjects of foreign countries designated by the Minister of Commerce and Industry may, if suitably qualified, become *Keirishi*; but no foreign countries have yet (June, 1928) been so designated, and none of the British Chartered Accountants practising in Japan has been able to register as a *Keirishi*. There is, however, nothing in the law, nor, so far, in the regulations for its enforcement, that interferes with the business of British accountants in Japan.

A Bill to exempt from the Japanese Business Profits Tax the earnings of non-Japanese shipping trading to Japan passed both Houses of the Japanese Diet on the 6th May, 1928; but it has not yet become law. The Bill is an amendment to Law No. 6 of the 18th July, 1924, which exempted non-Japanese shipping from payment of Japanese income tax.

**Commercial Law.**—A committee has recently been formed under the auspices of the Tokyo Chamber of Commerce to consider what revision is necessary in the Commercial Code and other commercial laws of Japan, "so as to keep them abreast of changing commercial and economic conditions." The Chamber of Commerce has invited foreign business men residing in Japan to express their views upon the working of the present laws. The committee has no official status, but it includes a number of distinguished jurists, officials, bankers and merchants.

In this connection it is not out of place to advert to criticisms which are somewhat freely aimed by foreign residents and travellers in the Far East at the administration of commercial law in Japan. It is often alleged that legal methods in this country are such as to give a foreign plaintiff very little chance of satisfaction against a Japanese defendant. This is one of those mistaken statements which remains in currency because it contains a certain small element of truth. The courts are often over-worked, and therefore apt to hang up difficult cases, while the codes of procedure give numerous opportunities for adjournments, of which advocates habitually avail themselves as a matter of tactics. Consequently foreigners are often reluctant to bring suits in Japanese courts because they believe, not without reason, that such delays are in the nature of a denial of justice. From this it is an easy step to assuming that they would encounter in the courts conscious or unconscious prejudice in favour of a Japanese litigant. There is no warrant for such an unfortunate assumption. The real difficulty

confronting a foreigner who has legal business in Japan is a language difficulty; and it is safe to assert that a foreigner who has a good case which he can clearly present to a good lawyer stands exactly the same chance of success as a Japanese. The manager of a British firm carrying on an import business in Japan of considerable magnitude recently informed the writer that in the last 20 years he had brought a number of suits in Japanese courts and had not lost one.

**Trade Marks, Patents, etc.**—Frequent criticisms are made of the administration of the Trade Mark Law in Japan, but a fairly close study of this question extending over several years has disclosed nothing that could be interpreted as partiality. The procedure is in some respects cumbrous and inelastic, and the law is perhaps not too liberally interpreted; but in most cases the grievances of foreign owners of trade marks are due to their own neglect to avail themselves of the protection which Japanese law affords.

It is true, however, that there is an unpleasantly large class of manufacturers and dealers who habitually imitate foreign goods and foreign marks, thus causing constant trouble, expense and annoyance to the rightful owners. More often than not they are small men, who err out of stupidity and ignorance; such, for instance, as the manufacturer of a brand of sauce, recently on sale in bottles bearing a label (obviously copied from a toilet preparation) stating that the contents were *excellent pour enlever les pellicules des cheveux*. Imitations of this nature may do little harm to the trade in genuine articles. They may even in the long run promote it by calling attention to the existence of something superior. But the cumulative effect of inferior Japanese goods disguised by counterfeit labels must be to produce in the minds of many consumers an impression that foreign goods have no special merits.

While imitations of registered trade marks can be stopped, there is one respect in which the protection afforded by Japanese law is imperfect. Japan is a party to the International Convention for the Protection of Industrial Property, but on the admission of the Japanese authorities Japanese law does not at present provide any means of stopping false indications of origin and certain analogous practices constituting "unfair trade competition" within the meaning of the Convention. The Japanese Government have, however, informed His Majesty's Ambassador that they are keenly alive to the necessity of enacting preventive regulations, and these are now under consideration by the departments concerned.

An interesting case in 1927 shows that even under the present laws protection can be obtained against piracy of a trade name, even when it does not form part of a registered trade mark. Six

directors of a Japanese manufacturing company, which had made and sold imitations bearing the trade name, &c., of the proprietors of a foreign product, were arrested and detained in prison upon a charge of fraud, even after they had published a full apology and entered into a bond of 10,000 yen as security for future good behaviour. The fact is that Japanese law is sometimes almost too severe in cases of this nature. Public prosecutors are overworked and loth to take up trivial cases, partly because of the heavy penalties involved; while plaintiffs would as a rule prefer a verdict with substantial damages, which are rarely awarded by the courts in such cases.

---

## ANNEX I.

## TRADE OF FORMOSA.

By G. B. Paton, C.B.E., His Majesty's Consul, Tamsui.

## COMMERCIAL SUMMARY.

*Area.*—13,887 square miles.*Population.*

Formosan Chinese ... ..	3,923,752
Japanese ... ..	195,769
Aborigines ... ..	86,733
Foreigners (almost wholly Chinese) ... ..	35,505
	<hr/>
	4,241,759

*Language.*—Official language, Japanese. Language most in use, Chinese (Amoy dialect). English is the best-known foreign language.

*Monetary Unit.*—Same as in Japan.

*Rate of Exchange.*—Same as in Japan.

*Index Numbers.*—

(July, 1914, equals 100).

Wholesale prices, 177·35.

Retail prices. Statistics not available.

*Weights and Measures.*—Same as in Japan, but in square measure, the "ko," equivalent to 2,934 Japanese tsubo, or 2·3967 acres, is commonly used.

*Total imports.*—

Yen.

1925 ... ..	186,395,000
1926 ... ..	183,412,450
1927 ... ..	186,948,387

*Principal imports (1927).*—

## Fertilisers:—

Beancake ... ..	12,323,031
Sulphate of ammonia and other chemical manures ... ..	13,327,277

---

Rice ... ..	25,650,308
Cotton and silk textiles ... ..	16,039,385
Iron and steel ... ..	15,254,559
Timber ... ..	8,951,093
Fish, dried and salted ... ..	6,736,842
Fish, dried and salted ... ..	6,268,303
Sugar (raw) ... ..	4,441,541
Gunny bags ... ..	3,894,352

*Imports from Japan.*—

1925	1926	1927
Yen.	Yen.	Yen.
129,906,280	121,404,784	121,107,991

*Imports from United Kingdom.*—

1925	1926	1927
Yen.	Yen.	Yen.
5,371,590	2,705,117	3,074,093

*Imports from other Principal Sources (1927).*—

	Yen.
China ... ..	22,928,294
British India ... ..	15,165,346
Germany ... ..	6,803,148
U.S.A. ... ..	2,695,576
Dutch East Indies ... ..	2,884,232
Siam ... ..	2,557,578

<i>Total Exports.</i> —						Yen.
1925	...	...	...	...	...	263,214,651
1926	...	...	...	...	...	251,425,070
1927	...	...	...	...	...	246,676,284
<i>Principal Exports (1927).</i> —						
Sugar	...	...	...	...	...	98,981,421
Rice	...	...	...	...	...	68,009,705
Tea	...	...	...	...	...	11,652,124
Bananas	...	...	...	...	...	8,789,934
Coal	...	...	...	...	...	7,658,302
Alcohol	...	...	...	...	...	5,471,146
Camphor and camphor oil	...	...	...	...	...	4,923,996
Fish (dried and salted)	...	...	...	...	...	3,747,619
Pineapples, tinned	...	...	...	...	...	3,167,920
<i>Exports to Japan.</i> —						
1925		1926		1927		
Yen.		Yen.		Yen.		
215,248,807		202,109,583		202,078,577		
<i>Exports to United Kingdom.</i> —						
1925		1926		1927		
Yen.		Yen.		Yen.		
1,102,375		965,728		1,179,987		
<i>Exports to other principal destinations (1927).</i> —						Yen.
China	...	...	...	...	...	24,791,290
Hong Kong	...	...	...	...	...	6,082,700
U.S.A.	...	...	...	...	...	5,601,735
Dutch East Indies	...	...	...	...	...	3,787,517
<i>Railway Mileage.</i> —						Miles.
Government railways	...	...	...	...	...	610
Private railways	...	...	...	...	...	326
						—
						936

**FINANCE.**—The following table shows the budget of the Formosan Government for the financial years 1926-27, 1927-28 and 1928-29 :—

	1926-27	1927-28	1928-29
	Yen.	Yen.	Yen.
<b>Revenue—</b>			
Ordinary ... ..	93,589,533	92,572,902	97,566,571
Extraordinary ... ..	6,185,733	19,026,300	11,540,152
<b>Total</b> ... ..	<b>99,775,266</b>	<b>111,599,202</b>	<b>109,106,723</b>
<b>Expenditure—</b>			
Ordinary ... ..	76,188,579	79,167,157	78,509,003
Extraordinary ... ..	23,586,687	32,432,045	30,597,720
<b>Total</b> ... ..	<b>99,775,266</b>	<b>111,599,202</b>	<b>109,106,723</b>

After three years of economy and retrenchment, the estimates for the years 1926-27 and 1927-28 again showed an expanding tendency, the appropriations for 1927-28 being about Yen 22,000,000 in excess of those for 1925-26.



The increase of approximately Yen 13,000,000 in the extraordinary revenue in 1927-28 was mainly due to a large surplus brought forward from the previous year and to the issue of public bonds to the amount of Yen 5,000,000.

The main items which account for the increase in the extraordinary expenditure in that year were railway development work, including the doubling of the main line from Taihoku to Takao, irrigation and riparian works, and expenses connected with the establishment of the University of Formosa.

The appropriations for the current year showed originally a further increase of Yen 1,212,000 over those for 1927-28, but owing to the dissolution of the Diet before the estimates were passed, the actual revenue and expenditure of the previous year have been adopted as the working budget. The original estimates contained no new items of importance.

The semi-official Bank of Taiwan became deeply involved in the financial crisis which overtook Japan in the spring of 1927, and at one time the Bank's difficulties threatened to undermine the confidence of the public in the financial institutions of the island. Thanks, however, to the energetic action of the Formosan Government and the support accorded by the central Government in Japan, a catastrophe was averted. Steps have since been taken to readjust the affairs of the Bank of Taiwan and other banks, and it is hoped that the financial situation is now on a sounder basis. As part of the measures of readjustment, the capital of the Bank of Taiwan has been further reduced from Yen 45,000,000 to Yen 15,000,000; that of the China and Southern Bank, which is affiliated with the Bank of Taiwan, from Yen 5,000,000 to Yen 2,500,000, and that of the Taiwan Commercial and Industrial Bank, which is also associated with the Bank of Taiwan from Yen 10,000,000 to Yen 5,000,000. In the report for 1926 reference was made to previous reductions in the capital of these banks which were effected in 1925.

**COMMERCE.**—Formosa's record for the past two years is much more favourable than might have been anticipated considering the fall in the price of rice and sugar, the island's chief exports, and the adverse conditions prevailing in Japan and China, the principal markets for Formosan products. The overwhelming importance of rice and sugar as economic factors will be realised from the fact that together they constitute 70 per cent. of the exports, rice accounting for 27·28 per cent. and sugar for 40·42 per cent. of the total. Fortunately the drop in prices was counterbalanced by bumper harvests. In the past season the rice crop exceeded that of 1925, the previous record year, by 2,270,000 bushels, or over 7 per cent., while the sugar output for 1927-28 was some 97,000 tons, or over 20 per cent. higher than the previous best, also in 1925.

Generally speaking, therefore, it may be said that the large agricultural population, forming some 90 per cent. of the total, in spite of the diminished prices is probably as prosperous as it has ever been.

In other respects also, progress has been maintained. The output of oil has risen from 800,000 gallons in 1925 to 5,000,000 gallons in 1927, and shows signs of reaching much higher figures. The shipments of pouchong tea are increasing year by year, and the oolong tea trade remains steady. The coal output is slowly expanding, though exports dropped considerably in 1927 owing to the disturbances in China. The banana trade with Japan appears to be suffering from over production and prices have dropped, but tinned pineapples are finding an increasing market. Camphor shipments, though less in the past two years, show signs of recovering in 1928. This commodity, however, is no longer the asset it was to the Monopoly Bureau owing to enforced reduction of prices to permit of competition with the German synthetic product.

The following table shows the value of the external trade with Japan and foreign countries in the years 1925, 1926, 1927, and the first four months of 1928 :—

(1,000 yen)

	1925	1926	1927	1928 (Jan.-Apr.)
<i>Exports—</i>				
To foreign countries ... ..	47,966	49,315	44,598	10,420
To Japan ... ..	215,249	202,110	202,078	110,876
Total ... ..	263,215	251,425	246,676	121,296
<i>Imports—</i>				
From foreign countries ... ..	56,489	62,007	65,840	19,397
From Japan ... ..	129,906	121,405	121,108	41,722
Total ... ..	186,395	183,412	186,948	61,119
<i>Total External Trade—</i>				
With foreign countries ... ..	104,455	111,322	110,438	29,817
With Japan ... ..	345,155	323,515	323,186	152,598
Total ... ..	449,610	434,837	433,624	182,415

**Trade in 1926.**—In 1926, the exports of both rice and sugar, almost all to Japan, increased in quantity, but owing to the fall in price, the values dropped in both cases, rice by over Yen 9,000,000, and sugar by approximately Yen 10,000,000. Fortunately increases were registered in almost every other item in the list of exports, and as the result the decrease as compared with 1925 was reduced to Yen 12,000,000. The chief commodities to show an increase were bananas, cotton textiles (re-exports to China of Japanese manufactures), coal and salted fish.

In imports the value was about Yen 3,000,000 less than in 1925, large increases in Japanese textiles being offset by still larger decreases in rice, bean cake, opium and gunnybags. The decrease of Yen 8,501,000 in imports from Japan and increase of Yen 5,518,000 in those from foreign countries is explained by the fact that whereas in 1925 very large quantities of Rangoon rice were re-exported from Japan to Formosa, in 1926 direct shipments were made from Rangoon and Japan was almost entirely eliminated from the trade.

**Trade in 1927.**—The aggregate of exports and imports showed little variation from the previous year, but the gross excess of exports over imports dropped to Yen 59,728,000, as compared with Yen 68,013,000 in 1926.

The decrease of Yen 4,749,000 in the export trade was due to a falling off in the shipments of bananas, coal, textiles, sugar, alcohol and panama hats. The loss on these items was counterbalanced to some extent by increased exports of rice, tinned pineapples and fish.

Imports in 1927 showed a decline in most of the main items with the exception of rice. A substantial increase in the importation of foreign rice, mainly from Rangoon, valued at Yen 16,039,000 as compared with Yen 10,250,000 in 1926, resulted in the total imports reaching Yen 3,536,000 in excess of those of the previous year. The expansion in rice imports was due to the remission of the import duty in Formosa and increased shipments of Formosan rice to Japan. Large increases were also recorded in sulphate of ammonia and iron. Cotton and silk piece goods fell off by Yen 4,880,000, or 24 per cent., owing mainly to the greatly diminished re-export trade to South China which had shown an abnormal expansion in the previous year.

**Rice.**

Though second in the list of exports (and imports) rice is probably the biggest factor in the economic situation in Formosa, and on the success of the crop and the prices obtained for it, depends to a very material extent the prosperity of the large agricultural population.

The figures of production and export in the past three years were as follows :—

	Production.	Export.	
		Quantity.	Value.
	Bushels.	Tons.	Yen.
1925	31,967,000	330,000	72,115,000
1926	30,840,000	334,000	63,101,000
1927	34,237,000	399,000	68,010,000

As will be observed, exports, which are practically all to Japan, increased in 1927 by 69,000 tons as compared with 1925, but the values dropped by Yen 4,105,000 owing to the fall in price of the cereal.

The crops in 1927—two are produced annually—were the highest for the island, beating the previous record, in 1925, by 3,270,000 bushels.

The outstanding feature of the period under review has been the attempt to introduce into the island on a very large scale the cultivation of rice from Japanese seed. As the result of many years of research and experiment, it is claimed that this Japanese rice, when grown in Formosa, differs little in taste from that produced in Japan itself. The aim of the authorities is to produce as much of the Japanese species as possible and export it to the mother country, making good the local deficiency by imports of foreign rice. As Japanese rice commands a much higher price than the native variety, the Formosan farmers adopted the idea with enthusiasm and in 1926 over 30 per cent. of the total acreage of the first crop was planted with Japanese seed. The results, however, were disappointing, as continuous rain in April and disease in May spoilt the crop. The farmers were discouraged and the area planted dropped considerably for the second crop and did not increase in 1927. This year the acreage for the first crop has again advanced to 40 per cent. of the total available riceland, and as weather conditions have been favourable, high hopes are entertained that the experiment this time will prove a success.

Imports of cheaper rice to replace the Formosan rice which is shipped to Japan show a big increase in the past two years. From 11,000 tons in 1925, the import increased to 60,000 tons in 1926 and 117,500 tons in 1927, mostly from Rangoon, and a small portion from Siam. The increase, however, is not so great as these figures indicate, as in 1925 large shipments of foreign rice reached the island via Japan and were entered in the Customs returns as Japanese rice in order to escape the import duty.

**Sugar.**

Sugar maintains its position as the largest item of export both in value and volume. Shipments to Japan, which takes practically the whole of the output, amounted to 7,487,915 piculs, valued at Yen 98,375,828 in 1926, the corresponding figures for 1927 being 6,928,384 piculs and Yen 96,430,734.

The area planted with cane and the production of sugar in the past three seasons were as follows :—

	Area.	Production.
	Acres.	Tons.
1925-26	260,993	479,000
1926-27	228,852	406,000
1927-28	232,800	576,000

As already mentioned, the past season's crop of 576,000 tons is by far the largest on record and exceeds the previous best in 1925 by 97,000 tons.

The area under cane shows a tendency to decline owing to the competition of rice and fruit crops. To some extent also the farmers are influenced by the relative prices obtained from the previous year's rice and sugar crops. The 1925 rice crop fetched a high figure, and to this must be ascribed the large falling off in the acreage planted with cane in the following year. But the reduction of acreage is being rapidly neutralized by improved methods of cultivation and the extended use of artificial manures, chiefly sulphate of ammonia.

Imports of raw sugar for refining, chiefly from the Dutch East Indies, amounted to 482,684 piculs, valued at Yen 5,304,000 in 1926, and 379,260 piculs valued at Yen 3,580,000 in 1927.

An interesting feature of the past year was the formation of a company for manufacture of paper pulp from cane waste which at the present time is utilised by the sugar factories for fuel. After prolonged investigation it is claimed that a method has been discovered of converting bagasse into pulp on a commercial scale, and a pulp mill has been erected near one of the sugar factories at Giran.

### Tea.

The quantity and value of oolong tea exported to foreign countries in the past three years was as follows:—

	Quantity.	Value.
	Lbs.	Yen.
1925 ... ..	10,673,000	5,220,000
1926 ... ..	10,587,500	5,470,000
1927 ... ..	10,644,000	5,103,000

Shipments to the United States, which is the chief market for oolong teas, amounted in 1927 to 9,075,000 lbs. The trade has been declining for some years past owing to the competition of Indian teas. To the United Kingdom, on the other hand, exports increased from 828,000 lbs. in 1925 to 1,451,000 lbs. in 1927.

The export of pouchong teas to China, the Dutch East Indies, Siam and the Straits Settlements is steadily expanding, shipments in 1926 being 1,440,000 lbs. larger than in the previous year.

### Camphor.

The exports of crude camphor during the years 1925, 1926, 1927 and 1928 (Jan. to Apr.) are shown below in thousands of pounds:—

	1925	1926	1927	1928 (Jan.-Apr.)
To foreign countries ... ..	2,741	1,592	2,270	1,469
To Japan ... ..	703	1,237	1,018	591
Total ... ..	3,444	2,829	3,288	2,060

Since the spring of 1926, the competition of German synthetic camphor has been making itself felt in foreign markets with increasing intensity, and the Monopoly Bureau has found it necessary to make repeated reductions in price. Commencing in July, 1926, these reductions amount in the aggregate to Yen 53 per 100 lbs., or approximately 36 per cent. The present price is £9 5s. per 100 lbs. c.i.f. London, at which level, assisted by the low exchange value of the yen, the natural product appears to have an advantage over the synthetic. The reductions in price are reflected in the value returns of exports which fell from Yen 4,524,000 in 1925 to Yen 3,630,000 in 1926, and Yen 2,973,000 in 1927.

Exports to the principal foreign markets in 1927 were :—66 per cent. to the United States, 16 per cent. to France, and 15 per cent. to the United Kingdom.

#### Coal.

The following statistics show the position of the Formosan coal industry in 1925, 1926 and 1927 :—

	1925 1,000 tons	1926 1,000 tons	1927 1,000 tons
Production ... ..	1,650	1,773	1,766
Exports to foreign countries ... ..	700	753	560
Exports to Japan ... ..	189	136	129
Ship's bunkers ... ..	184	210	221

Local consumption in 1927 was estimated at 800,000 tons. Exports to South China and Hongkong rose from 675,000 tons in 1925 to 728,000 tons in 1926, but dropped again in 1927 to 531,000 tons.

#### Alcohol.

Exports of alcohol, all to Japan and China, were well maintained during the period under review, and amounted in 1927 to 12,830,771 litres valued at Yen 5,471,000. 46 per cent. of this quantity was shipped to China.

#### Tinned Pineapples.

This industry appears likely to become of some importance, and an export trade is being built up not only with Japan, but also with foreign countries such as Great Britain and America. Exports rose from Yen 1,928,000 in 1925 to Yen 3,168,000 in 1927.

#### Fertilisers.

Fertilisers, chiefly beancake and sulphate of ammonia, head the list of imports. Beancake comes all from China, mostly from Dairen. Imports in 1926 and 1927 were about 165,000 tons, which is slightly less than in 1925. The imports of sulphate of ammonia, on the other hand, are expanding at a rapid rate: From 10,600 tons in 1924, the import figure advanced to 52,600 tons in 1926 and 74,860 tons in 1927. The bulk of the supplies originally came from the United Kingdom, but the returns for last year show that of the amount imported, 49,600 tons came from Germany, the share of the United Kingdom being 14,900 tons.

Sulphate of ammonia was formerly used only on the sugar plantations, but recently the farmers have begun to adopt it for rice crops as well.

Other fertilisers imported in 1927 were some 40,000 tons of superphosphate and about 10,000 tons of compound fertilisers, all from Japan. Imports of other manures, such as nitrate, bone-meal, etc., are infinitesimal.

#### Oil.

The oil industry which the Formosan authorities have been assiduously developing for some years shows signs of attaining a certain degree of prosperity. The output of crude oil in 1927 amounted to 5,061,640 imperial gallons, as compared with 3,000,000 gallons in 1926 and 800,000 gallons in 1925. The bulk of this crude oil is shipped to Japan for refining.

The imports of kerosene oil during the past three years were as follows :—

	1925	1926	1927
	Gallons.	Gallons.	Gallons.
From U.S.A. ... ..	1,281,155	1,352,435	1,499,670
„ Dutch East Indies ... ..	716,154	985,047	1,422,089
„ Japan ... ..	1,914,470	1,479,985	1,410,145
„ other countries ... ..	9,850	—	91,181
Total ... ..	3,921,629	3,817,467	4,423,085

Imports from the Dutch East Indies, it will be observed, have doubled in the past two years.

Fuel oil storage is being developed. A Japanese concern has erected tanks at Takao with a capacity of 10,000 tons, the main object being to supply the sugar mills. At Tamsui the Rising Sun Petroleum Company is constructing a 2,500-ton tank, also for fuel oil.

#### Cotton Piece Goods.

Imports from Japan, together with silk tissues, rose from Yen 15,708,000 in 1925 to Yen 19,806,000 in 1926, but dropped again in 1927 to Yen 14,942,000 the increase in 1926 being due to some extent to the growth of the re-export trade to South China, which advanced from Yen 3,180,000 in 1925 to Yen 5,184,000 in 1926, but fell away in 1927. Direct imports of cotton pieces goods from foreign countries in 1926 and 1927 amounted to approximately Yen 300,000, or about the same as in 1925, and were practically all from the United Kingdom.

#### Opium.

Imports of opium have dwindled considerably in the past two years, and amounted to only 42,300 lbs. in 1926 and 58,000 lbs. in 1927 as compared with 155,300 lbs. in 1925. For some years the bulk of the supplies have come from Persia, but in 1926 30 per cent. was imported from India, and in 1927 44 per cent. from Asiatic Turkey.

The number of licensed smokers at the end of 1927 was 29,536, a reduction of 4,823 in the past two years.

#### Motor Cars.

Though the figures are not published separately in the Customs returns, there has been a substantial increase in the number of cars imported in the past two years, and it is estimated that the number in the island has risen from 400 to over 900. The great majority of these are Fords and Chevrolets, British cars being scarcely represented. With the gradual extension and improvement of the roads, the market gives promise of expanding rapidly in the next few years.

#### Trade of various Foreign Countries.

The customs returns show only direct imports from foreign countries. Goods entering Formosa via Japan are classified as of Japanese origin, so that the import of foreign goods is probably much larger than the figures which appear in the returns.

The shares taken in 1927 by the countries chiefly interested in the export and import trade are shown in the summary which forms a preface to this report.

*British Empire.*—The total trade of the British Empire with Formosa in the years 1925, 1926 and 1927 was as follows (in thousands of yen):—

	1925	1926	1927
Exports	6,716	6,060	7,940
Imports	10,759	15,353	19,638
	17,475	21,413	27,578

Trade with the United Kingdom dropped from Yen 6,473,965 in 1925 to Yen 4,254,080 in 1927, the decrease being mainly due to diminished imports of sulphate of ammonia, though other items, such as cotton and woollen textiles and tinned sheets also showed a slight falling off. Exports, mainly camphor and tea, were somewhat higher than in 1925.

The large expansion in the import figures for the British Empire shown in the above table is accounted for by the increase in shipments of rice from Rangoon which advanced from Yen 3,852,000 in 1925 to Yen 10,572,000 in

1926, and Yen 15,165,000 in 1927. Imports from other parts of the Empire in 1926 and 1927 consisted mainly of wheat from Australia and salted fish (herring) from Canada.

*China.*—The trade with China which constituted 57 per cent. of the total foreign trade in 1925 was seriously affected by the continued unrest in South China and the figure dropped to 51 per cent. in 1926 and to 43 per cent. in 1927. Imports from China consist mainly of beans and beancake, timber, mats for packing, and joss paper, while the bulk of the exports are dried and salted fish, coal, alcohol and sugar.

*United States.*—The trade with the United States dropped from Yen 9,256,000 in 1925 to Yen 8,343,000 in 1927—an increase of Yen 477,000 in imports being more than offset by a reduction of Yen 1,438,000 in exports, chiefly camphor and oolong tea. The principal imports from the United States were kerosene oil, tinned sheets and wheat.

*Germany.*—The trade with Germany, consisting mainly of imports of sulphate of ammonia, advanced from Yen 1,721,000 in 1925 to Yen 6,803,000 in 1927.

### Shipping.

The number and tonnage of steam and motor vessels engaged in foreign trade and entering Formosan ports from countries other than Japan in 1925, 1926 and 1927 was as follows:—

	Vessels.	Tonnage.
1925 ... ..	1,318	2,250,947
1926 ... ..	1,520	2,670,166
1927 ... ..	1,430	2,713,092

Vessels under the Japanese flag numbered 1,360, of 2,188,426 tons in 1926, and 1,144 of 2,077,771 tons in 1927. Of the remainder, the largest share in tonnage was represented by British shipping, viz., 63 vessels of 229,650 tons in 1926 and 52 vessels of 197,117 tons in 1927. The corresponding figures in 1925 were 53 vessels of 194,967 tons.

German shipping increased from 11 vessels of 46,635 tons in 1925 to 23 vessels of 96,939 tons in 1927, and Dutch shipping from 20 vessels of 60,154 tons in 1925 to 37 vessels of 147,894 tons in 1927. Norwegian shipping recovered to some extent in 1927 and was represented by 59 vessels of 76,614 tons.

The junk traffic with China shows little variation, the tonnage figures for 1925 and 1927 being about the same.

Improvements have been made in the service between Japan and Formosa. The three remaining vessels of 6,000 tons have been replaced by three of 9,000 tons, and the Keelung-Kobe line is now served by six vessels all of 9,000 tons. The number of sailings has accordingly been increased from 11 to 13 per month. The Java-China-Japan line now sends its regular steamers between Japan and Java into Keelung at fortnightly intervals to pick up pouchong tea and other cargo for the Dutch East Indies. The subsidised service of the Osaka Shosen Kaisha from Takao to Dairen and calling at Tsingtau, Shanghai, Hongkong and Canton on the homeward run having proved unprofitable, has been replaced by one which will call at Keelung, Chemulpo and Dairen on the outward voyage, and Chinnampo, Chemulpo, Fusan and Keelung on the homeward run.

### Ports.

The great bulk of the trade of Formosa passes through Keelung in the north and Takao in the south. In 1927 the share of the former was 58 per cent. of the total, while that of Takao was 37 per cent. Between them, therefore, these two ports handled 95 per cent. of the external trade.

The second programme of harbour extension at Keelung, consisting of 3,500 feet of new wharves is nearing completion, and the most northern section, designed to accommodate vessels up to 20,000 tons, is already in use. So far,

however, only one of the four ferro-concrete three-storied warehouses to be erected on the wharves has been constructed. Further work contemplated is the building of a breakwater to enclose the outer harbour which will greatly increase the area of anchorage available for shipping. At Takao it is proposed to build a second breakwater outside the harbour entrance and to deepen the entrance and fairway to admit vessels up to 10,000 tons. An additional 980 feet of new wharves is also to be undertaken.

### **Railways.**

The Karenko-Taito railway (107 miles) along the east coast, was opened to through traffic in March, 1926, and in 1927 a start was made with the doubling of the main line between Taihoku and Takao, on which it is proposed to expend Yen 15,000,000 to be spread over five years.

### **Roads.**

Work on the new motor road which is eventually to connect Keelung and Takao has made some progress, and the section between Keelung and Taihoku has been completed. The entire road which is to cost Yen 13,000,000 will not be finished before 1935. A motor road of 75 miles is also being constructed between Suo and Karenko on the east coast. Suo is connected by rail with Keelung, and the new road is expected to develop trade in the Karenko region.

### **Radio Stations.**

The island's first wireless programme will be completed this year by the erection of a station in the Pescadore Islands. Five have already been constructed, viz., at Keelung, Giran, Taito, Karenko and Garambi. In addition, the stations at Tamsui and Itabashi, south of Taihoku, which will constitute the main channels for long distance wireless communication, will be finished in September, 1928.

### **University of Formosa.**

The University of Formosa was opened in April, 1928. Both Japanese and Formosan students are admitted, and courses are provided in arts, science and agriculture. Connected with the department of agriculture will be a special forestry section and a botanical garden.

---



## ANNEX II.

## TRADE OF COREA FOR 1927 AND CONDITIONS TO JUNE, 1928

*By Oswald White, His Majesty's Consul-General at Seoul.*

*Note.*—In the text of this report the terms "import" and "export" are to be taken as including trade between Japan and Corea. The term "foreign," however, is to be understood as excluding Japan.

There being no regular services between Corea and Europe or America, foreign goods to and from Corea are usually transhipped at a port of Japan. For purposes of convenience they are frequently passed through the Customs at the port of transhipment and consequently appear in the Customs returns as part of the trade between Japan and Corea. Again it is probable that a considerable part of the foreign goods imported via Shanghai goes down in the returns as imported from China and not from the country of origin. Not only, therefore, is it impossible to get statistics of the total foreign trade, but it is extremely difficult to obtain accurate information as to the volume of British and other foreign trade. Where estimates are given in this report as to the share of the trade accredited to Japan which is really foreign, it is to be understood that it is in the nature of guess-work. It is obviously impossible also to distinguish between goods which have been transhipped and those which have been taken from stocks of foreign goods kept in Japan.

**Trading Conditions from January, 1927.**—The principal factors affecting trade in Corea since the beginning of 1927 have been:—

(1) The declaration of a fortnight's moratorium in April, 1927, as a result of the financial panic in Japan. Fortunately the results of this latter did not extend to Corea, and financial conditions soon reverted to normal. Nevertheless, Corea suffered indirectly from the depressed state of trade in Japan, and to this fact probably may be attributed a slight drop in the total value of exports to Japan in 1927.

(2) The 1927 rice crop was a bumper one, amounting to over 17,000,000 koku (1 koku equals about 5 bushels), of which 7,000,000 was available for export. Prices dropped, but the balance was in favour of the farmer, and the exporter did well. Rice has now become such a large item in Corea's export trade that the rice crop is all-important. In 1927 the value of exports (practically all to Japan) was 192,000,000 yen, out of a total export of 359,000,000 yen.

(3) There was an increased production of cocoons in 1927, but prices were very low. Thus, though the total export of cocoons was not greatly less for the 12 months of 1927, 2,138,000 kin (1 kin equals 1½ lb.) as against 2,531,000 kin in 1926, the value was only 4,890,000 yen as compared with 7,471,000 yen. The decreased export is due to the extension of filatures, and the export of raw silk rose from 724,000 kin to 987,000 in 1927. At the same time, however, the export of tussore silk declined by 10 per cent. to 1,645,000 kin.

(4) The cotton crop was excellent and good prices were realised.

(Taking these foregoing four factors together, one may say that the good and the bad cancelled out, and trade as a whole showed a healthy development.)

(5) There has recently been a big drop in imports of millet from Manchuria. This is far and away the biggest item on the import list, and in 1926 and in 1927 was valued in the Customs returns at 32,000,000 yen each year. Imports of the 1927 crop are expected, however, to drop from 3 million koku the previous year to only half that amount. The reason is that the Korean rice crop was so abundant and prices are so low that the people are consuming

far more rice than normally. The fact spells very poor business for those merchants, carriers and others who are interested in the import, and is accordingly bad for trade generally.

(6) Development works—railway, road and harbour construction, irrigation, hydro-electric power undertakings—continue to affect favourably imports of machinery, equipment and material, and to stimulate the demand for articles consumed by the workers employed.

**Growth of the Trade of Corea.**—The growth of trade during the last ten years is shown by the following table (in millions of yen) :—

	Exports.	Imports.	Total.
1918 ... ..	154	158	312
1919 ... ..	219	281	500
1920 ... ..	192	239	431
1923 ... ..	261	266	527
1926 ... ..	363	372	735
1927 ... ..	359	383	742

These figures bring out clearly the great development of Corea's trade. Apart from three lean years which followed the boom of 1919, trade has expanded year by year, so that exports or imports alone were greater in 1927 than the total trade of 1918. To this pleasing result many factors contribute, but they mostly trace back to the steady development of Corea's resources under Japanese administration. There is every reason to believe that the rate of progress will be maintained.

**Balance of Trade.** Most years show an apparent adverse balance of trade. This was 24 million yen in 1927, but if the net export of bullion, amounting to nearly 5 million yen, be subtracted the adverse balance is reduced to 19 million. Freight earnings on through railway traffic and on steamship services reduce it still further. Seeing, therefore, that a fair amount of goods imported are paid for not by Corea but by Japan, the position appears favourable to the former country.

**Conditions in June, 1928.**—Promising as is the prospect of trade development in the future, the immediate outlook is poor. The drop in the price of rice and of silk continues. The latter is of less importance as silk cultivation is a secondary occupation of the farmers, but, as Corea is predominantly agricultural, depressed trade in rice and other produce, which has been similarly affected, is a serious matter. The Corean farmer, who forms the bulk of the population, has no reserves to fall back upon, and, unless prices recover, a marked decrease in purchasing power is to be expected.

**Study of the Foreign Trade of 1927.**—It is not proposed to analyse the trade of Corea in this report. Apart from mining products, exports are almost entirely of agricultural products to Japan and China, and have been omitted. In the case of imports, only those articles which seemed of interest, direct or indirect, to British trade have been discussed.

**Cotton, Woollen and Silk Goods.**—The total import of raw cotton, raw silk, cotton yarn and cotton, woollen and silk goods in 1927 was 67 million yen, or more than one-sixth of the total imports. Most of this trade is Japanese, but Great Britain is keenly interested in the import of woollen cloth and serge.

*Imports of Woollen Cloth and Serge.*

	Quantities.			Values, 1,000 yen		
	1925	1926	1927	1925	1926	1927
Great Britain (1,000 yards) ...	517	540	539	1,563	1,315	1,446
Japan " " ...	399	591	826	942	1,257	1,610

(There is also a slight import from other countries. Cotton and woollen mixtures are included.)

At first sight it would look as though British trade was standing still, but a large part, say possibly two-thirds, of the trade entered to Japan in the returns is British, the goods being passed through the Customs at the port of transshipment, or bought from stocks held by wholesale merchants in Japan. There is every indication that sales of British cloth are growing, and they should continue to do so as the market develops in consequence of the gradual rise in the standard of living in Corea.

There is also a fairly large import of British cotton shirtings and sheetings. This trade is in the hands of Chinese merchants in Shanghai, who buy at the local sales, and, as the trade is dependent on the rise and fall in exchange between Shanghai and Corea, it is liable to violent fluctuations. Imports were 3,228,000 yards in 1925, 7,476,000 yards in 1926, and 3,936,000 yards in 1927. Other miscellaneous textile imports from Great Britain were poplins, 142,000 yen; cotton cloth (plain weave), 260,000 yen; alpaca, orleans, lustre, etc.; 265,000 yen, Victoria lawns, brocades, sateens, italian, etc., swell the total of these miscellaneous imports from Great Britain in 1927 to 1,012,000 yen, so that, with woollen cloth and serge and cotton sheetings, British trade, direct and indirect, in textiles, lies between 4 and 5 million yen. The total import of silk piece goods amounted to 9,293,000 yen, all but a fraction from Japan. Of recent years artificial silk cloth has been coming in and, as it is cheap, the market is likely to grow considerably.

**Cotton Cultivation.**—The cotton crop grows but slowly. The 1927 output was estimated at 1,612,000 piculs. There is a cotton spinning mill at Fusan operating 15,200 spindles and 600 looms. Its present output is 12,000 bales of 200 lbs. of cotton yarn and 19,000 bales of cotton cloth. 800 spindles and 200 looms are to be added in 1928. There is a small import of raw cotton which in 1927 amounted to 120,000 piculs, of which one-third was said to be American and two-thirds Indian.

**Rice.**—There is a considerable import of "foreign" rice to replace Korean rice exported to Japan. In 1927 this amounted to 1,986,000 piculs valued at 17,500,000 yen. Owing to the exemption of the import duty in Japan from February to August, 1927, the bulk of this was passed through the customs in Japan and no statistics are available as to the country of origin. In 1926 the import of Rangoon rice was valued at 6,615,000 yen.

**Flour.**—The total consumption of wheat flour in Corea is estimated at slightly over 100,000,000 kin (kin equals  $1\frac{1}{2}$  lbs.), of which half is milled in Corea and half imported. At one time the import was mainly American, but now it is practically all Japanese. The demand has trebled in the last ten years and is likely to grow.

**Fertilisers.**—Imports of fertilisers in 1927 were :—

	Piculs.	Yen.
Beancake and other cake ... ..	2,245,000	9,297,000
Sulphate of ammonia ... ..	539,000	5,051,000
Prepared fertilisers ... ..	582,000	1,837,000

Beancake is imported from Manchuria, the other two from Japan. Until a few years ago natural fertilisers alone were used, but sales of sulphate of ammonia have increased remarkably in the last five years: in 1923 they amounted to only 10,000 piculs. The encouragement of rice growing is directly responsible and the farmers having come to understand its merits, consumption is likely to grow. Of the import from Japan 13 per cent. is said to be foreign, but of this amount the greater part is German, only a small portion being British.

Production of sulphate of ammonia in Corea is small, but a factory is now being erected for the manufacture by extraction of nitrogen from the air, which is eventually to have a capacity variously stated at from 250,000 to 300,000 tons annually. Another scheme is also under consideration.

**Chemicals.**—Imports of sodium compounds in 1927 were :—

	Piculs.	Yen.
Caustic soda ... ..	38,000	521,000
Soda ash and sodium carbonate... ..	23,000	163,000
Sodium and potassium cyanide ... ..	3,000	92,000

Practically all of the soda ash is British, imported via Japan. Caustic soda is employed largely in washing Korean clothes. The industries making use of soda compounds are at present in their infancy. Washing soap is made locally, but toilet soap is all imported. Glass manufacture is regarded as promising, and there are a number of small factories in the principal towns making lamp globes, chimneys and bowls, medicine bottles, etc., to a value of a quarter million yen. (It may be mentioned here that imports of toilet soap and of window glass and manufactures are practically all Japanese.) The cyanides are imported for the use of the gold mines. Roughly two-thirds of this import is British, the balance American.

**Dyes, Paints, Inks.**—Imports of these articles in 1927 were :—

	Piculs.	Yen.
Dyes ... ..	5,844	491,000
Ink ... ..	—	326,000
Paint ... ..	7,908	330,000

Nearly all of this comes from Japan, but of the dyes it is estimated that 10 per cent. is foreign, mainly German, but also some American.

**Drugs and Proprietary medicines.**—There is no separate item for these articles in the Customs returns as they are lumped in with chemicals, not separately mentioned, but the total import of drugs, miscellaneous chemicals and proprietary medicines in the last two years was :—

	1927	1926
	(Thousand yen)	
Japan ... ..	4,517	5,028
Other countries ... ..	411	311
Total ... ..	<u>4,928</u>	<u>5,339</u>

There is little doubt that a large part of the total is made up of drugs and medicines. Half the advertising space in vernacular newspapers is taken up with advertisements of patent medicines. Where formerly Chinese medicines were used, foreign drugs are coming more into favour. Judging from advertisements, cures for colds, for dispelling fever, for removing digestive troubles, etc., command a ready sale. At the same time the practice of Western medicine and surgery is spreading through the peninsula, and the demand for medicinal drugs and chemicals grows year by year. The bulk comes from Japan, but it is estimated that at least half the imports from Japan are foreign. The greater part of the foreign trade is taken by Germany, Switzerland and United States, Great Britain tailing behind. British firms with travellers in the Far East might well devote more attention to Corea.

**Mineral Oils.**—The consumption of mineral oil of all grades has shown a steady increase during the year. Unlike Japan, where the abundance of hydro-electric power has spread electricity throughout the whole country, kerosene for illuminating purposes is still the most important petroleum product in Corea. Electric lighting is slowly increasing, but at present is largely confined to the principal towns; whilst the improvement in the agricultural districts brought about by extensive irrigation schemes more than counteracts any decrease in consumption as the result of electrical enterprise. Although the abundant harvest of 1927 was, as already stated, offset by poor prices, the rural communities have been better off than usual during the past season. This state of affairs is reflected in the increased kerosene imports.

Consumption of other grades of oil also tends to increase, road improvement and cheaper cars have combined to cause a greater volume of motor traffic and motor spirit imports are rising by as much as 20 per cent. per annum. There are "jitney" services to be found in all parts of the country, fares on which are comparatively cheap. Competition between fuel importers during the year has resulted in large cuts in the cost of motor spirit and lubricants, and the present conditions are favourable to a continued extension of road traffic.

As regards "heavy" and semi-refined "light oils," the consumption of these grades is largely confined to the fishing industry. There is plenty of room for further development in the coastal fisheries of Corea, and the Government-General is encouraging the industry in various ways. The general tendency is for small h.p. boats to turn to Diesel oils. The quotations for these grades have been showing a downward tendency, in addition to which there is an Ordinance by which it is possible to obtain duty exemption on fuel oil for a large number of uses. A marked increase in annual imports of heavy oil is to be expected. Prospects for this grade are particularly good in the fisheries of North and South Keisho provinces and the north-east coast between Gensan and Seishin, where development has hardly commenced.

The inland trade for fuel and Diesel oils is mainly confined to sundry electric generating companies and irrigation works, the generating and pumping power for which is mostly supplied by Diesel engines. Fuel supplies are made in drums, not a very economical method, but apparently preferable to the high delivered cost of coal.

Paraffin wax consumption is negligible, a few bags being supplied here and there to small local candle manufacturers. Candles are manufactured and marketed in Corea by the two principal foreign oil importing firms. In addition to this there is a considerable trade in low grade candles manufactured in Japan and exported to this country. There is no domestic production of paraffin wax, either in Corea or in Japan, and the source of all mineral wax marketed direct or as candles in these countries is foreign.

In general, there is every indication that the volume of petroleum products consumed in Corea is likely to increase with the development of the country. An improvement in agricultural methods has resulted in an increasing demand for small horsepower motors used for pumping, threshing, etc. Road improvement will naturally bring about an increase in the number of cars in use, and as stated above, there is plenty of room for expansion in the fishing and coastal carrying industries.

Foreign and Japanese imports for 1927 are given in the Customs returns as follows:—

	Foreign.		Japanese.	
	Galls.	Yen.	Galls.	Yen.
Crude oil ... ..	3,831,000	984,000	714,000	195,000
Motor spirit ... ..	1,853,000	1,211,000	480,000	402,000
Kerosene ... ..	11,522,000	5,355,000	845,000	544,000
Other illuminating ... ..	523,000	264,000	1,963,000	782,000
Lubricating ... ..	932,000	108,000	11,172,000	1,226,000
		7,922,000		3,149,000

(Note.—The figure for lubricating oils from Japan seems impossibly large and probably includes oils used for other purposes also.)

**Explosives.**—Total imports for 1927 were :—

	Tons.	Yen.
Dynamite and gelignite ... ..	481	622,000
Detonators ... ..	11½	54,000
Blasting fuses ... ..	80	135,000
Powder ... ..	100	131,000
Other ... ..	—	42,000
Total ... ..		<u>984,000</u>

Total imports have increased in recent years owing to the activity of civil engineering works of various kinds. British imports have, however, decreased as a result of Japanese and German competition. This is shown by the figures for 1925-27 for dynamite and gelignite.

	1925 Tons.	1926 Tons.	1927 Tons.
Great Britain... ..	119	48	61
Germany ... ..	91	176	181
Japan ... ..	30	181	239

The foreign demand is confined more or less to mining. Japan securing all the demand for civil engineering purposes.

*Iron and Steel.*—Direct imports of iron and steel in 1927 from Great Britain were small, consisting of :—

	Yen.
Bars and rods... ..	26,000
Plates and sheets ... ..	9,000
Tinned plate ... ..	52,000
Tubes and pipes ... ..	29,000

but such figures are of little value as a large proportion of the iron and steel imported from Japan is foreign.

Total imports from Japan in 1927 were :—

	Yen.
Bars and rods ... ..	3,444,000
Plates and sheets ... ..	880,000
Tinned plate ... ..	116,000
Tubes and pipes ... ..	1,009,000

It is estimated that 30 per cent. of the first three and 50 per cent. of the fourth are foreign. Germany and Great Britain share the foreign trade in bars, rods, plates and sheets. The latter country is predominant in the case of tinned plate and has but a small share in foreign imports of tubes and pipes. These percentages are largely guess-work, but they would place the total imports from Great Britain at about 800,000 yen out of a total foreign trade of rather less than 2,000,000 yen. There are also large indirect foreign imports of rails amounting to over a million yen, but this is not a trade in which Great Britain has been able to compete.

**Machinery.**—Imports of machinery for the years 1926 and 1927 were, according to the Customs returns :—

	1927 Yen.	1926 Yen.
Japan ... ..	8,265,000	6,856,000
Other ... ..	1,155,000	894,000
Total ... ..	<u>9,420,000</u>	<u>7,750,000</u>

The principal items in 1927 were :—

	Yen.	Yen.
Boilers ... ..	286,000	
Locomotives and tenders ... ..	1,371,000	
Dynamos, etc. ... ..	574,000	
Other prime movers ... ..	1,189,000	
	3,420,000	
		3,420,000
Sewing machines ... ..		539,000
Pumps ... ..		574,000
Lathes, etc. ... ..		223,000
Dredgers ... ..		192,000
Printing machines ... ..		73,000
All other ... ..		4,399,000
		9,420,000
Total ... ..		

The values in this list give a rough idea of the relative importance of different types of machinery.

The direct imports in 1927 from countries other than Japan are given as follows :—

(In thousand yen).

	Great Britain.	U.S.A.	Germany.	Other.
Boilers ... ..	33	23	—	} 32
Locomotives and parts ... ..	3	210	—	
Dynamos, etc. ... ..	7	15	4	
Other prime movers ... ..	13	41	—	
Sewing machines ... ..	475	6	—	
Pumps ... ..	16	7	—	
All other ... ..	29	137	104	
Totals ... ..	576	439	108	32

If sewing machines be deducted, Great Britain makes but a poor showing.

The total value of foreign machinery entering Corea is considerably greater than is indicated by these figures, as a good deal of foreign machinery goes through the Japan Customs. It is impossible to get exact information on the point, but general inquiries seem to show that the value of British machinery imported thus indirectly is not great, though there is a fair import of machinery required by mines under British management.

**Motor Cars and Cycles.**—So many reports have been written on this subject that there is no need to devote attention to it here. The trade in motor cars is entirely in the hands of American manufacturers. In motor cycles the trade is shared between Great Britain and the United States.

**Instruments.**—The total import in 1927 of surgical instruments, musical instruments, weighing machinery, telegraph and telephone equipment was given at about 3,000,000 yen. With the development of the country this import is bound to grow. Most of it is entered as coming from Japan, but an appreciable quantity is foreign. Figures for the import of watches are not obtainable, as most of the import is by parcel post, but the trade must reach fair dimensions. Swiss watches are the most popular, but there is also an import of American and Japanese watches.

**British Trade.**—The direct trade of the British Empire with Corea in 1927 is shown by the following table :—

(In thousand yen).

	Imports.	Exports.	Total.
Great Britain ... ..	4,980	31	5,011
British India ... ..	1,838	46	1,884
Straits Settlements	106	222	328
Kongkong ... ..	157	18	175
Canada ... ..	120	4	124
Australia ... ..	221	1	222
Totals ... ..	7,422	322	7,744

But, as already explained, there is also a considerable indirect trade, for which allowance must be made. Thus, if complete returns of imports of rice and raw cotton be included, the import total from India would be about ten million yen. Similarly the total import from Great Britain is probably between 7 and 8 million yen. At a rough estimate the total value of trade between the British Empire and Corea lies probably in the neighbourhood of 17-18 million yen. This figure, however, takes no account of the trade in mineral oils.

Direct imports from the United States and Germany in 1927 are given at 8,208,000 yen and 848,000 yen respectively, but here again the totals would be greatly increased if complete figures for motor cars, rails, machinery, iron and steel materials, drugs, dyes, chemicals, etc., could be included.

On the whole it appears probable that more British trade could be done with Corea than is the case. If imports of textiles, of iron and steel and of sewing machines from Great Britain be deducted, her trade dwindles to insignificant proportions. In machinery the tendency is for orders to go to the United States and Germany. The trade in motor cars is an American monopoly. Drugs, dyes, miscellaneous chemicals and fancy goods come from the United States and Germany, rarely from Great Britain.

It has to be admitted that the market for foreign trade is a very restricted one. Industry is only in its infancy, and the purchasing power of the average Corean is so low that to him what are every-day necessities in Western countries are luxuries. But public works amount to a considerable sum year by year. As the development of the peninsula continues, trade should grow and the purchasing power of the people rise. When the home market is large enough, industries may be expected to come into existence.

It is reasonable, therefore, to look for a growth in foreign trade in the future. If it is hoped to secure a share in this trade, the spade-work must be done now. Goods are sold almost entirely on the name, and the better the marks of trade rivals are known, the more difficult it becomes to force a way into the market.

One method that is recommended for making a bid for trade is to include Corea in the territory covered by travelling representatives. American and German travellers pay periodical visits, and seem to find it worth while to do so. British goods need to be more largely advertised. Propaganda is useful in certain lines in creating a market. Much of the trade in sulphate of ammonia, for instance, has been built up on these lines. In drugs, certain well-known German and American dealers are assiduous in canvassing trade. In medical supplies generally the preference of Japanese doctors for German articles creates a primary obstacle that needs patience to overcome.

It is suggested that representatives of British firms should call at this Consulate-General when visiting Seoul.



*Public Works.*—Harbour-works are proceeding at Kunsan, Mokpo and Seishin. It is generally recognised that extensions are needed at Chemulpo, Chinnampo, Gensan and Yuki, and so soon as funds are available the work will no doubt be taken in hand.

There are now 1,456·5 miles of Government railway and 503·8 miles of private railway in Corea. The Government line from Seoul to Kwainai on the river Tumen will be completed in September, 1928. Work is proceeding on the loop-line from Pyeng Yang to Gensan (132 miles), and is to be started shortly on the line from Gensan to Fusan. Various other lines are projected for the future. During the last year the Government railways earned 52,000,000 yen gross receipts at an expenditure of 41,000,000 yen, while freight carried amounted to 682,681,000 ton-miles and 18,457,000 passengers were carried.

*Shipping.*—There is little to be said on the subject of shipping: 14 British ships of a total tonnage of 45,917 tons called at Corean ports in 1927. There are no regular services between Corea and Europe or the United States, the small volume of direct trade and the absence of return cargo militating against such a service. It is probable that trade suffers thereby. Considerable delay occurs while goods are being transhipped, and the risk of breakages is increased. The suggestion has been made that as there is a fairly continuous trade from New York there is a possible opening for a regular line, say, every other month: after discharging, the vessels would need to proceed to Dairen or other neighbouring port for a return cargo.

---

## APPENDIX I.

EXPORTS FROM JAPAN DURING 1926, 1927, AND 1ST JANUARY TO 30TH APRIL, 1928.

	1926	1927	1928 4 months, Jan.-April
	(1,000 yen)	(1,000 yen)	(1,000 yen)
<b>I. FOOD, DRINK AND TOBACCO :—</b>			
<i>A. In a natural state.</i>			
Rice and paddy ... ..	1,799	7,772	358
Beans and peas ... ..	10,941	10,337	4,052
Aquatic products ... ..	24,316	22,297	6,746
Others ... ..	12,114	13,759	3,736
<i>B. Partly or wholly prepared.</i>			
Starches ... ..	279	210	*
Tea ... ..	12,112	10,897	387
Sugar, refined ... ..	34,032	28,920	14,525
Beer ... ..	2,543	4,244	1,707
Comestibles, in tin and bottle ... ..	15,976	19,850	5,727
Others ... ..	33,183	27,276	10,853
<b>Total Class I</b> ... ..	<b>147,295</b>	<b>145,562</b>	<b>48,091</b>
<b>II. RAW MATERIALS :—</b>			
Waste silk and floss silk ... ..	16,304	11,700	2,931
Coal ... ..	31,123	25,507	8,738
Wood ... ..	17,979	15,951	5,027
Others ... ..	74,844	84,166	9,443
<b>Total Class II</b> ... ..	<b>140,250</b>	<b>137,324</b>	<b>26,139</b>
<b>III. MANUFACTURES FOR FURTHER USE IN MANUFACTURING :—</b>			
Vegetable fatty oils ... ..	11,266	10,484	1,549
Camphor ... ..	5,742	5,633	1,955
Menthol crystals ... ..	10,049	4,895	1,645
Raw silk ... ..	735,152	743,424	221,175
Cotton yarns ... ..	70,717	38,794	8,299
Iron ... ..	3,636	3,395	1,487
Plaits for hat making ... ..	10,447	8,462	1,415
Others ... ..	34,854	37,096	13,245
<b>Total Class III</b> ... ..	<b>881,863</b>	<b>852,183</b>	<b>250,770</b>
<b>IV. ARTICLES WHOLLY MANUFACTURED :—</b>			
Soaps ... ..	1,797	1,603	1,005
Matches ... ..	6,895	8,153	2,715
Silk tissues ... ..	133,070	139,615	41,693
Cotton tissues ... ..	416,270	383,849	122,607
Woollen tissues ... ..	3,187	2,603	692

\* Not available; included in "others."

APPENDIX I—*continued.*

	1926	1927	1928 4 months, Jan.-April
IV. ARTICLES WHOLLY MANUFACTURED ( <i>continued</i> ):—	(1,000 yen)	(1,000 yen)	(1,000 yen)
Cotton blankets ... ..	3,589	3,233	903
Silk handkerchiefs ... ..	4,810	5,914	1,778
Grass rugs ... ..	2,289	1,744	—
Knitted goods ... ..	26,008	29,057	10,924
Hats, caps and bonnets ... ..	11,455	9,427	3,109
Buttons ... ..	8,514	9,853	3,277
Papers ... ..	19,028	19,291	8,197
Cement, Portland ... ..	4,942	7,119	2,837
Pottery ... ..	33,190	30,495	10,591
Glass and glass manufactures ... ..	14,308	16,660	5,445
Insulated electric wire ... ..	1,865	1,944	—
Iron manufactures ... ..	13,142	12,219	4,876
Rubber tyres ... ..	4,735	4,942	1,582
Machinery and parts thereof ... ..	9,224	11,626	2,461
Umbrellas ... ..	3,000	2,343	1,273
Brushes ... ..	7,233	5,632	1,826
Lamps and parts thereof ... ..	6,616	6,858	2,587
Toys ... ..	10,863	10,515	3,617
Others ... ..	106,088	106,526	42,119
Total Class IV ... ..	852,118	831,221	276,114
V. MISCELLANEOUS ... ..	23,201	26,012	10,627
Total exports ... ..	2,044,727	1,992,302	611,741

## APPENDIX II.

IMPORTS INTO JAPAN DURING 1926, 1927, AND 1ST JANUARY TO 30TH APRIL, 1928.

	1926	1927	1928 4 months, Jan.-April
	(1,000 yen)	(1,000 yen)	(1,000 yen)
<b>I. FOOD, DRINK AND TOBACCO :—</b>			
<i>A. In a natural state.</i>			
Rice and paddy ... ..	50,694	78,978	15,045
Wheat ... ..	93,349	53,925	27,835
Beans and peas ... ..	61,392	52,907	27,975
Eggs, fresh ... ..	11,322	9,986	2,475
Other ... ..	26,464	26,931	13,812
<i>B. Partly or wholly prepared.</i>			
Sugar ... ..	83,672	75,799	26,791
Salt ... ..	3,667	3,573	—
Other ... ..	19,720	21,441	8,150
<b>Total Class I</b> ... ..	<b>350,280</b>	<b>323,540</b>	<b>122,083</b>
<b>II. RAW MATERIALS :—</b>			
Oil yielding materials ... ..	29,484	18,849	7,613
Crude india-rubber and guttapercha ... ..	40,019	34,707	10,263
Chili saltpetre ... ..	8,473	6,754	3,053
Sulphate of ammonium, crude ... ..	44,961	32,750	11,313
Phosphorite ... ..	9,152	10,767	2,483
Oil-cake ... ..	124,143	98,882	42,864
Cotton, raw ... ..	725,935	624,596	218,893
Flax, hemp, jute, etc. ... ..	24,934	23,602	8,792
Wool ... ..	86,062	101,671	50,907
Coal ... ..	27,831	35,492	11,013
Ores ... ..	10,315	12,797	4,232
Wood ... ..	104,026	103,758	35,984
Wheat bran ... ..	13,382	12,026	5,127
Others ... ..	93,201	85,331	33,050
<b>Total Class II</b> ... ..	<b>1,341,918</b>	<b>1,201,982</b>	<b>445,587</b>
<b>III. MANUFACTURES FOR FURTHER USE IN MANUFACTURING :—</b>			
Leather ... ..	8,158	7,815	2,560
Caustic soda and soda-ash ... ..	7,971	12,027	4,758
Coal-tar dyes ... ..	6,560	5,477	3,233
Woollen and worsted yarns ... ..	32,484	43,555	11,060
Pulp for paper making ... ..	11,017	11,931	3,873
Iron, pig, ingot and slab ... ..	20,830	27,761	8,517
Iron, bar, rod, plate, sheet and tube ... ..	102,326	89,054	39,345
Lead, ingot and slab ... ..	18,774	15,213	5,289
Zinc, ingot, slab and grain ... ..	14,039	9,146	3,761
Construction materials ... ..	9,530	9,175	—
Others ... ..	125,492	117,006	41,945
<b>Total Class III</b> ... ..	<b>357,181</b>	<b>348,160</b>	<b>124,341</b>

APPENDIX II—*continued.*

	1926	1927	1928 4 months, Jan.-April
	(1,000 yen)	(1,000 yen)	(1,000 yen)
<b>IV. ARTICLES WHOLLY MANUFACTURED :</b>			
Petroleum benzine ... ..	18,233	17,730	2,556
Oil, petroleum ... ..	11,925	9,986	9,326
Cotton tissues ... ..	6,396	7,560	2,685
Woollen tissues ... ..	29,268	34,672	13,187
Paper ... ..	20,416	15,322	1,710
Iron nails ... ..	361	171	—
Watches and parts thereof ... ..	9,530	7,275	—
Automobiles and parts thereof ... ..	15,722	18,391	8,081
Machinery and parts thereof ... ..	90,686	78,381	25,922
Others ... ..	112,453	100,877	43,800
<b>Total Class IV ... ..</b>	<b>314,990</b>	<b>290,365</b>	<b>107,267</b>
<b>V. MISCELLANEOUS ... ..</b>	<b>13,115</b>	<b>14,996</b>	<b>4,458</b>
<b>Total imports ... ..</b>	<b>2,377,484</b>	<b>2,179,153</b>	<b>803,736</b>

REPORTS by H.M. Trade Commissioners, Commercial Diplomatic and Consular Officers on commercial and financial conditions in the following countries, issued, or in course of preparation, by the Department of Overseas Trade:—

A.—During the year 1927.

Argentina ... ..	2s. 6d. (2s. 7d.)	Netherlands ... ..	2s. 6d. (2s. 7d.)
Belgium ... ..	4s. 6d. (4s. 8d.)	Netherlands East Indies	3s. 0d. (3s. 2d.)
Brazil ... ..	1s. 6d. (1s. 7d.)	New Zealand ... ..	2s. 0d. (2s. 1d.)
Canada ... ..	2s. 6d. (2s. 7d.)	Norway ... ..	2s. 0d. (2s. 1d.)
Canary Islands ... ..	1s. 0d. (1s. 1d.)	Palestine ... ..	1s. 0d. (1s. 0½d.)
China ... ..	1s. 6d. (1s. 7d.)	Panama and Costa Rica	1s. 6d. (1s. 7d.)
Czechoslovakia ... ..	1s. 6d. (1s. 7d.)	Peru ... ..	2s. 0d. (2s. 1d.)
Denmark ... ..	1s. 6d. (1s. 7d.)	Poland ... ..	1s. 6d. (1s. 7d.)
East Africa ... ..	2s. 0d. (2s. 1d.)	Portuguese East Africa	1s. 6d. (1s. 7d.)
Estonia ... ..	1s. 0d. (1s. 0½d.)	Roumania ... ..	1s. 0d. (1s. 0½d.)
Egypt ... ..	2s. 0d. (2s. 1d.)	Siam ... ..	1s. 6d. (1s. 7d.)
Finland ... ..	1s. 0d. (1s. 0½d.)	Switzerland ... ..	1s. 6d. (1s. 7d.)
France ... ..	7s. 6d. (7s. 9d.)	Turkey ... ..	1s. 0d. (1s. 0½d.)
Germany ... ..	3s. 6d. (3s. 8d.)	United States ... ..	3s. 0d. (3s. 2d.)
Greece ... ..	1s. 6d. (1s. 7d.)	Report on the Japanese Cotton Industry	3s. 0d. (3s. 2d.)
Italy ... ..	3s. 6d. (3s. 8d.)		
Latvia ... ..	9d. (9½d.)		
Morocco, Algeria, Tunisia, Tripoli and Cyrenaica	4s. 6d. (4s. 8d.)		

B.—During the year 1928.

Australia ... ..	3s. 0d. (3s. 2d.)	Jugo-Slavia... ..	1s. 6d. (1s. 7d.)
Austria ... ..	1s. 6d. (1s. 7d.)	Lithuania ... ..	9d. (9½d.)
Belgium ... ..	4s. 0d. (4s. 2d.)	Mexico ... ..	2s. 0d. (2s. 1d.)
Bulgaria ... ..	(In preparation.)	Netherlands ... ..	3s. 0s. (3s. 2d.)
Chile ... ..	3s. 6d. (3s. 8d.)	Nicaragua ... ..	6d. (6½d.)
China ... ..	(In preparation.)	Persia ... ..	1s. 6d. (1s. 7d.)
Cuba... ..	1s. 0d. (1s. 0½d.)	Poland ... ..	1s. 6d. (1s. 7d.)
Egypt ... ..	1s. 6d. (1s. 7d.)	Portugal ... ..	1s. 6d. (1s. 7d.)
France ... ..	(In preparation.)	Roumania ... ..	2s. 0d. (2s. 1d.)
Germany ... ..	3s. 6d. (3s. 8d.)	South Africa ... ..	2s. 0d. (2s. 1d.)
Greece ... ..	2s. 0d. (2s. 1d.)	Spain ... ..	1s. 6d. (1s. 7d.)
Honduras and El Salvador	1s. 6d. (1s. 7d.)	Sweden ... ..	1s. 6d. (1s. 7d.)
Hungary ... ..	1s. 6d. (1s. 7d.)	Syria ... ..	1s. 0d. (1s. 0½d.)
India ... ..	3s. 0d. (3s. 2d.)	Turkey ... ..	1s. 0d. (1s. 0½d.)
Italy ... ..	3s. 6d. (3s. 8d.)	Uruguay ... ..	1s. 0d. (1s. 0½d.)
Japan ... ..	(See Cover.)	Venezuela ... ..	9d. (9½d.)

Annual subscription for the above reports, including postage to any part of the world, £3.

(The above publications can be obtained from the addresses given on the title-page of this Report. All prices are net, and those in parentheses include postage).