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WAGES IN SWEDEN

1860—1930

IN TWO PARTS

WAGES, COST OF LIVING  
AND NATIONAL INCOME  
IN SWEDEN 1860—1930

BY THE STAFF OF  
THE INSTITUTE FOR SOCIAL SCIENCES,  
UNIVERSITY OF STOCKHOLM



VOLUME II  
WAGES IN SWEDEN  
1860—1930

PART TWO  
GOVERNMENT AND MUNICIPAL SERVICES, AGRICULTURE  
AND FORESTRY, THE GENERAL MOVEMENT OF  
WAGES IN SWEDEN 1860—1930

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# WAGES IN SWEDEN

1860—1930

BY

GÖSTA BAGGE

ERIK LUNDBERG

INGVAR SVENNILSON

## PREFACE.

In Volume II of the series of studies on *Wages, Cost of Living and National Income in Sweden 1860—1930* are published the results of the investigations into *Wages in Sweden 1860—1930*, carried on at the Institute for Social Sciences in the University of Stockholm. The volume is published in two parts of which Part Two is contained in the present publication.

The general method of cooperation in producing the studies included in this series has already been explained in the preface to Part One. Among the authors of Volume II Mr Svenilsson is responsible for the final shape and content of the present publication. Chapter XIV forms a rearrangement of a volume on wages and working conditions in municipal works in Sweden 1865—1930 published by me in Swedish (*Kommunalarbetarnas löner i Sverige 1865—1930*, Stockholm 1933, 344 pages). The text and tables on agriculture in the period 1860—1914 (Chapters XVI—XVIII and parts of Chapters XXI and XXVII) have been prepared by Mr Bengt Helger; Chapters XIX—XXVII, with the above exceptions, by Mr Svenilsson. Miss Maj Ahlberg has seen the book through the press.

Stockholm, April 1935.

*Gösta Bagge.*

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**BOOK II**  
**GOVERNMENT AND MUNICIPAL**  
**SERVICES**

## CHAPTER XIV.

### MUNICIPAL SERVICES.

CENTRALIZED organization of municipal work did not arise until in the middle of the nineteenth century. There are no figures giving the total number of municipal labourers in early times. Data available from a few towns indicate that the numbers engaged on some more important works — chiefly street and water works — have borne a fairly constant relation to the population of the towns, at least since the eighteen-nineties. Besides those mentioned, new branches of municipal activity have arisen, for instance electricity works, tramways, etc. Taking also into account technical progress, and the fact that much labour could be saved in the large scale operations made possible by the growth of the towns, the services provided for their residents have been constantly extended. The present number of labourers engaged in various branches of municipal work approaches 22,000. The developments thus briefly outlined have also greatly changed the character of municipal work, which makes it difficult to determine how the wages of municipally employed workers have developed.

#### *Selection of Towns and Branches of Work.*

The wage material has been collected and dealt with on the principles used in the investigation of manufacturing and mining (cf. Part I, Chapt. I and II). In both cases the guiding principle has been to collect information regarding the earnings of a small number of selected workers of as far as possible unchanging qualifications in a relatively large number of enterprises.

## PUBLIC SERVICES

The towns to be investigated have been selected entirely according to the possibility of obtaining as complete data as possible covering a long uninterrupted period. Primary material has been collected from 20 towns in all; fifteen towns, which were also asked if they possessed any data regarding wages, either had not kept any of their wage records, or else the material supplied proved of little use. The following towns are included in the investigation during the years stated:

	County:	Population at end of 1930 (thousands)	Years:
Borås . . . . .	Älvsborg . . . . .	38 . . . .	1890—1930
Gävle . . . . .	Gävleborg . . . . .	39 . . . .	1890—1930
Gothenburg . . . . .	Gothenburg and Bohus . . . . .	243 . . . .	1890—1930
Hälsingborg . . . . .	Malmöhus . . . . .	56 . . . .	1866—1930
Karlshamn . . . . .	Blekinge . . . . .	7 . . . . .	1865—1930
Karlskrona . . . . .	’ . . . . .	25 . . . .	1865—1930
Karlstad . . . . .	Värmland . . . . .	21 . . . .	1914—1930
Linköping . . . . .	Östergötland . . . . .	30 . . . .	1893—1930
Lund . . . . .	Malmöhus . . . . .	25 . . . .	1897—1930
Malmö . . . . .	’ . . . . .	120 . . . .	1886—1930
Mariestad . . . . .	Skaraborg . . . . .	6 . . . . .	1927—1930
Norrköping . . . . .	Östergötland . . . . .	61 . . . .	1901—1930
Nyköping . . . . .	Södermanland . . . . .	12 . . . .	1890—1930
Skövde . . . . .	Skaraborg . . . . .	11 . . . .	1890—1930
Stockholm . . . . .	City of Stockholm . . . . .	502 . . . .	1865—1930
Sundsvall . . . . .	Västernorrland . . . . .	18 . . . .	1888—1930
Söderhamn . . . . .	Gävleborg . . . . .	12 . . . .	1890—1930
Uppsala . . . . .	Uppsala . . . . .	30 . . . .	1890—1930
Visby . . . . .	Gotland . . . . .	10 . . . .	1865—1930
Västerås . . . . .	Västmanland . . . . .	30 . . . .	1865—1927

These 20 towns are fairly evenly distributed over the whole of the country, barring upper Norrland. Their sizes, however, are considerably above the average for Swedish towns. Although numbering from a fifth to a sixth of all the towns of Sweden, the total population of the selected towns, both in 1850 and 1930, amounted to almost  $\frac{1}{3}$  of the total urban population (they included the 7 largest towns in 1850, and the 6 largest in 1930). The fact that chiefly large towns are represented in the investigation is of course due to the difficulty of obtaining representative series from the smaller ones. The municipal workers of the classes dealt with here (see below) proved to number about three per thousand of the urban population. A not too

small number, say ten workers, may be regarded as the minimum number for obtaining by our representative method a satisfactory wage series. This minimum demand means that only towns of more than 3,500 inhabitants, in round figures, could be included in the investigation. By the middle of the period, i. e. 1900, only 30 out of 92 towns came up to this standard, which shows that the investigation, considering the paucity of the material from certain of the towns, is practically as exhaustive as possible. The influence of the size of the town on labour conditions and wages will be discussed later.

Since the eighteen-sixties, municipal activities have been extended to include various new branches of activity. In 1930, 6,800 men were employed on work on streets and in parks, 1,600 on garbage collecting and street cleaning, 1,100 by water works, 1,500 by gas works, 1,700 by electricity works, 5,600 by tramways, and 1,700 men in the ports. The question will then be whether wages were sufficiently uniformly adjusted in these different branches of work for a selection of workers engaged in any one branch to be regarded as representative of all municipal workers who possessed the same qualifications.

In the 'sixties municipal activities included water works, gas works, street upkeep, and construction and maintenance of sewers. Except for the gas works, these branches had many points of contact, and it was therefore natural to put them under joint management. The management of gas works, on the other hand, requires different technical training than that of other work, and this branch was therefore usually put under separate management. Other conditions, e. g. differences in financing, etc., naturally also played a part. In the early stages, however, the gas works employed a relatively small number of hands, and as moreover part of the men were engaged in work of a kind similar to that done by the men in the Street and Water Works Departments (pipe laying, etc.), administrative differences probably did not have much effect on the scale of wages, except in so far as might be necessitated by the more or less seasonal character of the work. Later,

when the addition of electricity works, tramways, abattoirs, etc. caused more differentiation in the categories of workers, with consequent further subdivisions in the administration, the chances of differentiation in labour and wage conditions became greater. At the beginning of this century, however, before the subdivision of the administration had been carried very far, a tendency to secure by special arrangements a uniform adjustment of wages could be noticed. Partly as a result of the negotiations for collective labour agreements, special committees composed of representatives of the various works affected were frequently appointed. Hence arose the need of some permanent organization for dealing with these questions. Such wage boards are now established in most towns where the increasing subdivision of the administration would otherwise have made uniform treatment of wage questions difficult. We are therefore entitled to assume that, in all municipal administrations, wages were on the whole uniform throughout the investigated period. To obtain a picture of the general trend of wages, it is consequently not necessary to include branches of minor importance such as abattoirs, baths, cemeteries, etc., and these have therefore been excluded.

With regard to certain other branches which, although they have in recent years been employing a comparatively large number of men, are either of more recent origin, or have during the earlier and greater part of the investigated period employed but few hands, there is strong reason to assume that, owing to special conditions of work, their wages have differed from those of the bulk of municipal labourers. This applies especially to tramways and electricity and gas works. These should anyway be dealt with separately, not only because of the special categories of workers employed in them, but also in view of the varying dates of their first appearance, and finally because even at the present time they do not exist in all the towns investigated. It has, however, not been possible to carry out this special investigation in connection with the more general study of the wage movement at municipal works.

The remaining section of municipal activities, on the other hand, comprising the construction and maintenance of streets, squares and parks, sewage and water works, is represented not only during the whole investigated period, but also in every town from which information has been obtained. It is consequently well adapted to an investigation of the fluctuation of wages, and, as will appear from the above, the trend of the wages may be considered representative of at least the majority of municipal workers.

#### *Selection of Occupations.*

The selection of representative workers from the payrolls was in certain towns made difficult in the early years by these lists not stating the occupations of the workers. Sometimes it was possible to tell from the daily rate of pay whether the recipient was skilled or unskilled, but it was not always possible to differentiate clearly between these two categories, as the early payrolls often show very great discrimination between workers even in the same occupation. The rates given in the payrolls may thus vary from very low figures, which apparently have applied to juniors or old and decrepit individuals, up to comparatively large amounts, which can only have been paid to foremen or very highly qualified workers. Such variation was probably due to the method of fixing the wages, which gave greater opportunities for differentiation according to individual skill than does a collective agreement, and which thus also made it possible to employ any kind of workers. Collective agreements, on the other hand, have the effect of cutting out such labour as does not come up to a certain standard. The differences of pay might also sometimes be due to the fact that some of the work was reserved for people in need of poor relief. Between the highest and the lowest paid categories of the payrolls, and particularly in rolls where occupations are specified, it is nevertheless generally possible to find a large group of workers receiving the same rate of pay, and from its position in the wage scale this rate may be assumed to have

referred to men of full working capacity, the equality of whose pay can be explained as a consequence of their more homogeneous qualifications. At a later stage, the more uniform earnings of these labourers may also be partly due to the more general occurrence of full-year employment. The collection of material has been confined to this, presumably fully capable, class of labour employed.

As regards the division of the workers into occupational categories, the difference between skilled and unskilled labour is vague, and in a way more so in municipal than in general industrial work. Skilled labour was in earlier years performed chiefly by joiners, carpenters, blacksmiths, pipelayers, pavers, and blasters. Of these, the carpenters and pavers could possibly be trained in less than four years. In later years, much work has been added which does not need so long a training, but which nevertheless cannot be classed as unskilled. This is primarily the case with tramways and with electricity and gas works, but certain work of that nature is also met with in the branches included in this investigation, e. g. the handling of cranes. Some of this work is of a very intricate nature, though — given the requisite ability — it can as a rule be learnt in a year. Motorcar drivers, whose training is still shorter, are in the same category. On the other hand, unskilled workers have gradually come to be employed on tasks requiring a certain amount of skill, yet cannot be regarded as skilled workers. Such, for instance, are concrete workers, stonemasons, and asphalt workers.

Other qualifications beside the practical knowledge of how to perform certain duties — say the using of a particular machine — are often required for these "special tasks". Chauffeurs and crane-men must be alert and reliable, and such qualifications frequently become of primary importance. Owing to the fact that demands apart from actual practical skill are made on them, certain special workers will, in spite of their relatively short training, be put on the same wages as the skilled workers. Less is demanded of other special workers, however, and the difference

between their pay and that of unskilled men will be less accordingly, sometimes none at all.

As has been said above, the "special workers" are mainly a recent development, however, and as the present investigation must be restricted to such branches of work as throughout the whole period are commensurable, attention will be confined principally to skilled and unskilled workers and, as far as the former are concerned, primarily to categories existing during the whole period under investigation, i. e. joiners, carpenters, blacksmiths, pipe-layers, pavers, etc.

Considering then the comparability of these labour categories at different times, it seems that the actual work operations have largely remained the same all through the investigated period. There are no changes of any importance in respect of unskilled workers, the principal implements being, now as before, spades, crowbars, pickaxes, and barrows. Nor can it be said that any great changes have been introduced in respect of skilled workers, at least not among joiners, carpenters, or blacksmiths. Somewhat greater skill is perhaps required by pavers now that the old-fashioned cobbles are being gradually replaced by dressed stone as a paving material. Pipe-layers might also conceivably need to be more highly qualified than before, partly because of the heavier dimensions of pipes used, and partly because the work is more involved and difficult. Otherwise the technical improvements have apparently had little effect on the skill required from these categories. This is probably primarily due to the technical improvements having as a rule created entirely new categories of labour, while the changes in the older categories are only quantitative.<sup>1</sup>

Another question to be considered is whether, when comparing one town with another, there is any difference in the efficiency required of the categories included in the investigation. At present this is undoubtedly so, and the

<sup>1</sup> A smaller number of navvies will for instance be required when power excavators are used. Sometimes a new category was created by some technical improvement and substituted for an old one, e. g. drivers of horses are now replaced by chauffeurs.



differences are primarily due to certain circumstances connected with the order of magnitude of the towns. The demands made on the municipal workers in a small town are conceivably not as high as in a large. Less skill and working speed are obviously required for maintaining a cobbled street in a small town than for the re-pavement of a street in a large town, where the traffic is very heavy. Large towns are able to procure and make effective use of various kinds of power-driven machines, cranes, excavators, paviours, etc.; they are, in other words, in a better position to "rationalize" the work. Rationalization primarily demands increased efficiency from those workers on whom the efficacy of the work-machines depends, but it also brings in its train a higher general standard of labour. The relative size of the towns must accordingly have caused less differentiation in the workers' qualifications in the early years than at present, a circumstance which should be remembered when considering the trend of wages.

In 38 towns examined, a little over 3,700, i. e. about 42 % of all the labourers whose working time totalled at least 2,100 hours of work, could in 1928 be classified as unskilled.<sup>1</sup> But if we restrict our comparison to work under the Street Works Department, (*Byggnadskontoret*)<sup>2</sup> alone, we find that out of about 3,000 men 1,700, or about 56 %, were unskilled. For the earlier years, similar comparisons can only be made in a few of the towns. As far as Stockholm is concerned, the annual earnings of the workers who have been permanently employed by the Street Works Department<sup>3</sup> have been published since 1902, and the number of workers of different categories given in these lists can therefore be used to represent labour employed by the year. The table below gives the quinquennial percentages of unskilled and skilled workers thus employed.

<sup>1</sup> Apart from scavengers etc., men who worked in gardens and parks were then also, chiefly on account of their earnings, included in the unskilled group.

<sup>2</sup> These departments frequently also had charge of the building and maintenance of the docks and harbours etc.

<sup>3</sup> "*Byggnadskontoret*" up to the end of 1919, and afterwards "*Gatu-kontoret*", docks and harbours etc. being then delegated to a separate department.

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II

Quinquennial period	Unskilled workers %	Skilled workers %
1902—1905 . . . . .	43	57
1906—1910 . . . . .	39	61
1911—1915 . . . . .	52	48
1916—1920 . . . . .	47	53
1921—1925 . . . . .	47	53
1926—1930 <sup>1</sup> . . . . .	38	62

The two groups may be said to bear a fairly constant proportion to one another. The following percentages from Gävle differ from the above in that they refer to the average number of workers per day in each year. As most seasonal workers are unskilled, their inclusion will alter the proportion somewhat.

Year	Unskilled workers %	Skilled workers %
1899 . . . . .	66	34
1900 . . . . .	75	25
1905 . . . . .	63	37
1910 . . . . .	51	49
1915 . . . . .	60	40
1920 . . . . .	58	42
1925 . . . . .	57	43
1930 . . . . .	56	44

Speaking generally, the proportion of skilled to unskilled full-year workers under the Street Works Department can be put at 1 : 1, with some slight modification where large or small towns are concerned, the proportion of unskilled men being slightly below 50% in the largest towns, and slightly above 50% in the smaller. If, on the other hand, workers in all branches of municipal activity are included in the comparison, the unskilled group will dominate, and will probably bear a proportion of about 3 : 2 to the other.

### *The Wage Material.*

The same methods as were used in the study of manufacturing and mining have been employed in the collection

<sup>1</sup> In this period some workers who were employed in several occupations have had to be left out.

and preparation of the wage material<sup>1</sup> (cf. Wages in Sweden, Part I, p. 15). A detailed description of the primary material and its preparation is given in monographs on some of the towns (pp. 52—64). The series of selected workers from the different towns generally consist of from five to ten men in the unskilled group, and in the skilled group of five, or less if less were employed. In certain cases, of which an account is given below (p. 17), the hourly earnings have had to be estimated. Occasionally it has been possible to extend the investigation to include all the workers. The difficulties of constructing such "cross-sections" (cf. Part I) at regular intervals have, on the other hand, proved insurmountable.

The cross-sections obtained generally agree well with the series of selected workers, particularly with those of unskilled men, as will be seen in the examples from 1927 given below. The average hourly earnings of the workers in the selected occupations are expressed in per cent of the corresponding figures for all unskilled labour.

Town	%
Stockholm . . . . .	105
Gothenburg . . . . .	106
Borås . . . . .	102
Karlskrona . . . . .	102
Nyköping . . . . .	101
Visby . . . . .	100
Varberg . . . . .	101
Skara . . . . .	99

The difference is only appreciable in the large towns, probably because in them the men in the selected occupations generally are paid at piece-work rates, while other unskilled labour is as a rule only paid by the hour.

The ratios of average hourly earnings in the skilled trades most frequently represented in this investigation, viz. joiners, blacksmiths, and pipe-layers, to those of all skilled labour appear in the following table of percentages for the same towns and year.

<sup>1</sup> In a few cases the primary material has not been received in the form requested. Averages for selected workers were thus occasionally computed locally, which makes it rather hard to say whether the instructions given have been duly followed or not, but in these cases the reliability of the figures has been checked by comparison with other series.

Town	Joiners	Blacksmiths	Pipe-layers.
	%	%	%
Stockholm . . . . .	90	87	98
Borås . . . . .	87	88	88
Karlskrona . . . . .	101	96	102
Nyköping . . . . .	98	97	95
Visby . . . . .	89	—	90
Varberg . . . . .	—	—	93
Skara . . . . .	99	107	99

In some towns, e. g. in Karlskrona, Nyköping, and Skara, the selected occupations are fairly representative of the whole skilled group. In Borås and Visby, on the other hand, this is hardly the case. In Stockholm the pipe-layers conform, but not the joiners or the blacksmiths. The high wage level of skilled workers is probably chiefly due to the large piece-work earnings in certain less skilled occupations (e. g. blasters) included in the skilled group. Among blacksmiths, joiners, and pipe-layers, only the last mentioned occupation enjoyed the same opportunities for piece-work earnings. As the payment of piece-work, however, did not assume its present proportions until recent years, the skilled group was presumably better represented by the selected occupations formerly than at present. A similar comparison of the figures for earlier years cannot be made except in Stockholm, and there only in respect of annual earnings. (Average annual earnings of all skilled labour employed by the Street Works Department<sup>1</sup> = 100.)

Year	Carpenters	Joiners	Blacksmiths	Pipe-layers
1901 . . . . .	103	—		
1905 . . . . .	98	—		
1910 . . . . .	93	102	99	101
1915 . . . . .	92	97	103	105
1920 . . . . .	91	103	84	99
1925 . . . . .	93	89	96	101
1930 . . . . .	95	95	95	90

The selected occupations are accordingly, especially in the earlier years, representative of the skilled group.

<sup>1</sup> Cf. Notes 2 and 3 p. 10.

*The Working Time.*

No full-year, and sometimes not even seasonal, employment is met with in the early stages, the jobs being rather of a purely occasional character, for which any available labour was engaged. This is apparent from the small number of recorded working days, and from the corresponding earnings, which obviously only form part of the labourer's annual income. The annual period of employment was gradually extended, but this extension was not uniform for all the men. Ordinarily only part were employed the maximum time, while the periods of employment of the rest can be arranged according to their length in different groups of a seasonal nature.

When possible, the information collected refers to "full-year" work (cf. Part I, Chapter II). Failing such men, those workers have been selected who had the longest working time per year. In the large towns regular full-year employment was not general among the selected workers until the 'nineties — as early as the 'seventies in Stockholm, however — and in the small towns not until the last decades of the period investigated. (See Monographs, p. 68). Before that time the annual earnings series are not a reliable measure of the trend of the standard of living among municipal workers, as they might have had opportunities of making money elsewhere. As the averages of all the towns are dominated by the large ones, the effect of the seasonal employment on these averages will be considerably reduced. They cannot, however, be considered quite homogeneous in respect of time of employment of the included workers until about 1913.

Wages were formerly reckoned per working day, not per hour. The daily working time changed from one season to another, and the daily wage frequently varied in close association with this. In order to calculate the earnings per hour it has been necessary to some extent to estimate the daily working time during various seasons.

In the summer half of the year (April—September) the daily working time was the longest. The changes in

Västerås . . . . .	1883
Visby . . . . .	1889
Nyköping . . . . .	1890
Sundsvall . . . . .	1892
Linköping and Karlshamn . . . . .	1893
Lund . . . . .	1897
Mariestad . . . . .	1898
Hälsingborg and Söderhamn . . . . .	1900
Gothenburg and Malmö . . . . .	1907
Borås . . . . .	1908
Stockholm . . . . .	1909
Karlskrona . . . . .	1913
Skövde . . . . .	1914

In two towns, Uppsala and Gävle, only the number of days worked is given right up to the end of 1926, although for several years an hour-rate had been used in both. Information from Gävle regarding the daily working hours in different years and seasons is, however, so complete that the calculations based on it should be quite reliable.

#### *Wage Systems.*

The difficulty of estimating daily working hours is also connected with the ruling wage system.

As long as wages were paid per working day, the working hours could probably be prolonged to some extent without extra payment, although this was probably comparatively rare, and possibly also compensated by a corresponding amount of extra free time. It is also conceivable that the workers were allowed special pay for overtime work, and that this was entered on the payrolls in the form of an additional number of working days, which in some cases on account of the overtime nature of the work may have exceeded the actual time of work. If so, the extra pay thus earned per working day has not appeared as such in the accounts. The supposition that some such method was used is strengthened by the fact that occasionally a worker is stated to have worked say 340 days in a year. Such men might of course also have drawn pay for an assistant. On the other hand, contract work might well have been to some extent practised, i. e. a certain task was demanded from the worker in return for the fixed

daily wage, and that wage was paid to him even if the work were completed in less than the normal time. Such contracts are still met with in garbage collecting and street cleaning work, e. g. in Stockholm. It is practically impossible to ascertain how far the actual earnings per working hour in the early years may have been affected by such factors.

Although less used in the early days, *piece-work* has occasionally had a certain effect on the hourly earnings. In this respect too there is a good deal of uncertainty. Piece-work is sometimes recorded on the payrolls, where the total amount paid is then entered, but not the corresponding working time. If the amount substantially affected the man's annual earnings, it was included in these, and his working time increased by the number of days obtained by dividing his piece-work earnings by his average daily earnings on time-work in that year. In such cases the working time is likely to be a little too high, and the earnings per day or hour a little too low. Cases of this kind must be differentiated from those where the piece-work earnings are given in the form which has now gradually become customary, namely, that the worker is first paid at his normal time-rate for the actual time during which he has been doing piece-work, while the so-called excess piece-work pay, i. e. any additional earnings over and above the normal time-rate, is paid later, when the work has been measured.

A method of calculation similar to that indicated above for overtime work has in some places also been adopted for piece work, viz. that instead of a certain price in *kronor*, the task has been rated at a certain number of hours' work. The labourer may for instance be given 15 hours' pay for a certain task, and receives that pay even though he should only take ten hours to do it. 15 hours' work at the corresponding time rate is then entered in the payroll. This method of calculation is still occasionally used.

The classification of the earnings into various wage categories is thus attended by some uncertainty. To some extent, however, the importance of piece-work can be illus-

trated by a comparison between agreed wage rate and actual earnings. To ascertain the ratio between the time-rate fixed at any one time and the actual earnings per working hour does, however, meet with some difficulties as far as the earlier years of the period investigated are concerned. These difficulties are due to the fact that the day and hour rates paid in a given occupation are seldom the same for all the men. No general uniformity in the rates of pay is discernible until this century, although such must obviously have been introduced earlier in some of the towns, particularly in those where a large number of workers were employed. In order not to make the basis too uncertain in this respect, however, it will be best not to carry this comparison further back than the eighteenth century. Such a comparison will necessarily be confined to the larger towns (cf. the Monographs on Stockholm, Gothenburg and Malmö pp. 52—60), and seems to indicate that during this period piece-work rates have gradually come to be increasingly resorted to in municipal work.

#### *Benefits in Kind.*

The cash wages include payment during holidays. This benefit is not met with until in the second decade of this century. The holidays were at first the same, usually a week, for all the men. About 1920 the holidays were extended, and at the same time graduated according to length of service. The value of this benefit will influence the hourly earnings, as it is added to the annual income without any corresponding number of working hours being entered against it.

The cash wages also include other minor benefits, of which the bookkeeping methods used preclude the expression in the hourly earnings. The most important among them are the advantage of finishing the work earlier on the eve of certain holidays without any corresponding docking of wages, the right of pay when seeing the doctor, etc.

Benefits in kind proper seem to have been given but rarely, and chiefly in the form of working clothes for



When this was obtained, the value in *öre* per working hour could be ascertained. The product of this value per working hour of the benefits and the average working time per annum of the full-year workers then gave the annual value, which has been added to the average annual earnings of the selected workers.<sup>1</sup>

Such provision for old age as several of the towns are making for their workers in the shape of grants of pensions are not taken into account here. The reason for this is that this benefit is not enjoyed by the workers employed at the time, but by those who have retired. The value of the benefit therefore rarely corresponds to the actual amounts expended on grants or pensions in any one year. The value would probably be most correctly expressed by the cost which the worker himself would have to incur in order to secure for himself a similar benefit. In cases where the town is providing for pensions by insurance or funding, the annual expenditure or reservations will correspond to this, and might therefore be used as a measure of the value of the benefit to the workers still serving. Few towns, however, have been in a position to do this, and most of them only in very recent years. The older workers have not been included under this system, and the grant system is then still applied to them. This makes it more difficult to arrive at a value applicable to all the workers employed. In these circumstances it has been thought best to disregard this benefit altogether in the calculation of averages.

#### *The Calculation of Averages.*

In order to obtain, from the series of skilled and unskilled workers supplied by each town, averages for the whole country or for certain groups of towns, it has been necessary to take into account not only — and primarily — the number of workers represented by each series, but also the nature of the series. Considerable difficulty then

<sup>1</sup> Part of this computation has been made on the basis of total earnings. For local values of the benefits, see the appended monographs p. 52.

arose, because information regarding the total number of workers employed was only obtainable from a very few towns, and moreover only for part of the period under investigation. The question then arose whether there is any definite relation between the number of municipally employed workers in a town and the size of the town; and — if so — whether the population could be used for weighting instead of the total number of the municipal workers. Presumably they should bear a definite relation to one another, as the objects of the work might at any one time be assumed to be in all essentials of a fairly similar nature throughout the country. That, nevertheless, differences would have to be taken into account could also be anticipated. Such might, for example, be due to municipal activities having in some towns developed more than in others, and might at times increase considerably in magnitude when large new constructions or the like were undertaken, but also to circumstances such as differences in the nature of the ground, in the quality of the labour, etc. A comparison of this kind, comprising work in the streets and roads, parks and water works, was first possible in respect of the year 1927.

Town	Average number of workers employed in 1927	Population Jan. 1st, 1927 (thousands)	Number of workers per thousand inhabitants
Stockholm . . . . .	1517	453.3	3.3
Gothenburg . . . . .	828	231.2	3.6
Malmö . . . . .	315	116.8	2.7
Norrköping . . . . .	189	60.4	3.1
Hälsingborg . . . . .	246	52.5	4.7
Gävle . . . . .	188	39.4	4.8
Örebro . . . . .	163	36.5	4.5
Borås . . . . .	152	33.5	4.5
Eskilstuna . . . . .	45	30.7	1.5
Uppsala . . . . .	96	30.2	3.2
Jönköping . . . . .	99	30.0	3.3
Linköping . . . . .	33	29.2	1.1
Karlskrona . . . . .	57	27.2	2.1
Lund . . . . .	68	24.0	2.8
Karlstad . . . . .	40	20.1	2.0
Landskrona . . . . .	85	18.8	4.5
Kalmar . . . . .	65	18.7	3.5
Halmstad . . . . .	47	18.4	2.6
Sundsvall . . . . .	85 <sup>1</sup>	17.3	4.9

<sup>1</sup> Average for 1928. The 1927 figures also included dock labourers.

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Town	Average number of workers employed in 1927	Population Jan. 1st, 1927 (thousands)	Number of workers per thousand inhabitants
Uddevalla . . . . .	29	14.1	2.1
Falun . . . . .	55	13.6	4.0
Nyköping . . . . .	51	12.2	4.2
Härnösand . . . . .	18	11.7	1.5
Söderhamn . . . . .	37	11.7	3.2
Luleå . . . . .	33	11.0	3.0
Visby . . . . .	25	10.1	2.5
Oskarshamn . . . . .	17	8.6	2.0
Alingsås . . . . .	19	8.6	2.2
Varberg . . . . .	37	8.1	4.5
Karlshamn . . . . .	17	7.6	2.3
Skara . . . . .	18	6.6	2.7
Eslöv . . . . .	21	6.2	3.4
Mariestad . . . . .	18	6.0	3.0
Falkenberg . . . . .	13	5.4	2.4
Ängelholm . . . . .	11	5.2	2.1

It will be seen that the number of workers per thousand inhabitants, though varying from 1.1 to 4.9, is nevertheless distinctly concentrated round the figure 3. The wider divergencies from this figure observable in some of the towns are probably temporary, and may be due to large constructional works or the like, but special circumstances naturally might also cause more lasting divergencies. Apparently there is not much difference between large and small towns. To ascertain whether this is so, the towns have been divided into four groups according to size, and averages have been computed for each.

Population	Number of towns	Number of workers per 1000 inhabitants
Over 40000 . . . . .	5	3.4
20000—40000 . . . . .	10	3.1
10000—20000 . . . . .	11	3.4
Under 10000 . . . . .	9	2.7
All towns . . . . .	35	3.3

We note that the averages of the first three groups are fairly uniform, while that of the smallest shows a downward, though fairly slight, difference. This is not so large that we are not justified in saying that under present conditions the number of workers employed on work in streets, parks, and waterworks, are on the whole directly proportional to the population of the towns.

In respect of the early years, the data available from several towns regarding the numbers of the municipal workers and populations unequivocally indicate that changes in the number of workers has on the whole followed changes in population, though with a slight tendency to a general increase of the ratio from about 2 to about 3 workers per 1,000 inhabitants.

This increase most likely occurred slightly earlier in the large towns than in the small, but as it is fairly moderate we shall probably not be guilty of any great error if we use the populations as weights. As furthermore the changes in the relative sizes of the towns are generally insignificant, the weights have been based on the averages of the population every fifth year since 1865.

Not only the population, however, but also the quality of the material received from each town has been taken into consideration, which has resulted in the weights being slightly raised for towns from which particularly good wage data have been received. The following weights have been used: Stockholm 100, Gothenburg 46, Malmö 23, Norrköping 15, Hälsingborg 10, Gävle 10, Karlskrona 10, Lund 6, Borås 6, Uppsala 5, Västerås 5, Sundsvall 5, Linköping 5, Karlstad 4, Nyköping 3, Söderhamn 3, Visby 3, Skövde 3, Karlshamn 1, Mariestad 1.

In addition to averages for all the towns included, and in order to give a concentrated picture of any possible differences in the trend of wages, averages have also been computed for the following four groups of towns, using the same relative weights as for the computation of the general averages.

- Group I. Stockholm, Gothenburg and Malmö.
- II. Norrköping, Hälsingborg, Gävle, Uppsala, Västerås, Lund and Sundsvall.
- III. Borås, Linköping, Karlstad, Karlskrona, Nyköping and Söderhamn.
- IV. Visby, Skövde, Karlshamn and Mariestad.

On the whole, these groups conform to the cost-of-living groups prepared by the Social Board in 1923, though the

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Table 153. Annual Earnings (in *kronor*) of Municipal Workers 1890—1930.

Year	All towns		Group I		Group II		Group III		Group IV
	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Unskilled workers
1890	—	532	—	581	—	500	—	405	221
91	—	543	—	592	—	536	—	393	167
92	—	545	—	587	—	544	—	415	244
93	—	567	—	620	—	533	—	414	281
94	866	572	923	625	729	529	531	433	303
95	832	606	880	681	725	514	560	416	265
96	901	620	956	683	723	550	637	457	326
97	938	664	993	735	783	589	664	481	298
98	985	706	1044	776	833	628	668	525	382
99	1076	767	1117	838	897	695	994	553	591
1900	1056	821	1101	912	917	740	889	556	357
01	1036	846	1091	945	909	738	761	549	485
02	1130	833	1203	917	876	735	914	589	570
03	1117	843	1185	931	883	745	903	607	466
04	1136	875	1198	962	924	777	934	661	449
05	1203	910	1275	1009	930	786	1026	691	435
06	1280	952	1362	1077	963	806	1110	625	414
07	1315	1015	1393	1138	1002	846	1175	722	614
08	1386	1085	1479	1223	1052	897	1134	757	582
09	1331	1039	1413	1155	1041	901	1079	734	560
1910	1426	1126	1532	1233	1074	1025	1082	774	851
11	1423	1125	1528	1237	1066	1002	1116	787	824
12	1460	1186	1566	1301	1066	1066	1203	834	851
13	1466	1224	1580	1363	1045	1056	1203	840	815
14	1473	1266	1594	1398	1063	1101	1115	921	835
15	1546	1294	1651	1425	1159	1149	1279	916	856
16	1640	1400	1763	1567	1273	1186	1168	963	909
17	1818	1744	1900	1951	1548	1455	1469	1229	1227
18	3114	2734	3351	3044	2320	2280	2376	2063	1635
19	3929	3605	4126	3885	3301	3369	3084	2762	2150
1920	4395	4138	4586	4473	3740	3894	3604	3014	2685
21	4818	4315	5130	4731	3821	3746	3663	3307	2951
22	3818	3298	4030	3615	3146	2815	2971	2653	2085
23	3392	2974	3612	3284	2639	2450	2673	2380	2101
24	3747	3050	4078	3377	2753	2551	2548	2362	1956
25	3968	3333	4319	3734	2898	2713	2722	2477	2157
26	4202	3608	4620	4067	3002	2907	2833	2618	2212
27	4027	3637	4344	4117	3267	2850	2714	2675	2249
28	4257	3696	4625	4208	3310	2847	2854	2702	2156
29	4514	3708	4968	4214	3293	2833	2868	2746	2317
1930	4682	3832	5172	4366	3355	2938	2930	2773	2371

## MUNICIPAL SERVICES

27

Table 154. Hourly Earnings (in *öre*) of Municipal Workers  
1890—1930.

Year	All towns		Group I		Group II		Group III		Group IV
	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Unskilled workers
1890	—	19.6	—	20.9	—	19.2	—	15.8	15.7
91	—	20.2	—	21.4	—	20.3	—	16.0	15.9
92	—	20.5	—	21.7	—	20.3	—	16.3	16.9
93	—	21.0	—	22.4	—	20.2	—	16.4	17.8
94	31.9	21.1	33.8	22.7	26.1	19.9	23.1	16.2	17.5
95	31.1	23.9	32.9	26.7	25.5	19.4	22.7	16.0	18.1
96	32.7	23.8	34.7	26.1	25.5	20.3	23.0	17.5	16.5
97	34.5	25.9	36.6	28.7	26.9	21.5	24.7	18.0	17.9
98	36.0	26.9	38.1	29.4	29.3	23.2	26.2	20.0	19.7
99	38.5	28.3	39.8	30.7	32.2	25.4	36.1	21.0	22.3
1900	39.1	29.6	41.1	32.3	32.9	25.9	29.7	21.6	22.7
01	39.2	29.9	41.2	32.6	33.2	26.2	29.4	21.8	22.7
02	40.4	29.8	42.9	32.5	31.9	26.3	30.8	21.9	22.5
03	41.1	30.2	43.6	32.9	32.6	26.5	31.7	23.1	25.2
04	41.9	31.5	44.1	34.4	33.6	27.1	35.0	24.6	26.5
05	43.5	32.9	45.6	36.2	35.0	27.3	38.6	26.1	27.2
06	46.2	35.2	48.9	38.9	36.3	29.0	37.7	27.1	27.6
07	49.8	39.3	53.0	44.3	37.7	30.7	40.8	29.0	30.3
08	52.3	40.8	55.7	45.8	40.0	33.1	42.1	29.6	31.0
09	52.4	41.0	55.8	45.0	40.6	35.6	39.7	31.0	31.3
1910	52.4	42.0	55.8	46.3	41.0	36.2	39.7	31.0	31.8
11	51.9	42.0	55.1	46.1	40.5	36.4	40.4	31.6	32.0
12	53.7	43.7	57.1	48.3	41.1	37.6	43.4	31.7	32.8
13	54.1	45.4	57.3	50.4	41.9	38.8	44.6	32.7	33.1
14	55.3	47.6	58.7	53.1	42.8	39.6	45.3	34.3	33.6
15	57.5	48.7	61.2	54.4	45.2	40.7	45.1	34.7	34.2
16	60.7	52.7	64.4	59.4	46.8	42.9	51.0	36.8	36.3
17	76.7	67.6	82.0	76.8	58.2	53.8	61.4	46.2	46.5
18	119.2	107.1	127.3	120.7	90.5	85.7	95.9	79.7	61.4
19	157.2	144.2	162.6	156.3	138.4	130.2	133.2	113.6	86.3
1920	194.0	182.0	201.7	197.3	170.4	166.5	155.9	135.5	123.9
21	219.2	191.3	232.8	208.0	178.0	168.9	164.8	149.3	130.5
22	170.9	147.0	179.1	160.0	146.1	127.0	133.1	119.8	100.2
23	151.0	132.4	160.3	146.4	121.4	108.7	115.8	105.2	91.9
24	167.6	137.4	182.4	153.3	122.6	111.9	115.9	105.2	87.2
25	173.5	149.4	187.7	167.9	130.7	120.9	122.3	109.4	95.4
26	182.2	158.9	199.1	179.6	135.3	126.7	124.3	115.1	94.9
27	173.7	159.2	186.8	180.6	143.1	125.0	118.7	114.6	97.9
28	184.3	162.5	200.1	185.8	144.3	124.1	122.1	115.9	96.1
29	195.0	163.0	213.8	184.8	144.1	125.4	127.7	122.0	101.7
1930	205.2	170.9	226.1	194.9	148.6	131.0	130.2	122.4	106.0

four groups have also been made as far as possible homogeneous in respect of wage conditions. As the cost of living in a large town is usually higher than in a small, this grouping has also to some extent followed the relative size of the towns. The first group thus includes the three largest towns of the country. A comparison between these group averages may, apart from any independent interest attaching to it, be of some importance as an indication of how far actual conditions are represented by the general averages, in which the large towns have been given dominating weights.

For each of these groups, and for all the towns, averages of hourly and annual earnings have been computed. As mentioned above, the hourly earnings are partly estimated, but are nevertheless generally more representative than the annual earnings, especially in the earlier years, when the series refer only to seasonal labourers. This circumstance will naturally affect the annual earnings the most. But for the same reason the hourly earnings in early years will not be fully comparable with those of later years. As, moreover, wage series for the earliest years are only available from a few of the towns, the averages have not been taken further back than to 1890.

In that year, the town weights referring to averages for unskilled labour totalled 220. In 1891 Uppsala was added, in 1893 Linköping, in 1897 Lund, in 1901 Norrköping, in 1914 Karlstad, and in 1927 Karlshamn and Mariestad. Averages referring to skilled labour have been computed from 1894, and in that year comprised the three largest towns together with Gävle, Sundsvall, Borås and Karlskrona, with a total weight value of 200. In 1901 Norrköping was added, in 1902 Västerås, in 1903 Lund, and in 1914 Karlstad, and the total of the weights had then increased to 230.

The chain index method has been used for the computation of the averages in the same way as in the investigation of manufacturing and mining (cf. Part I, Chapt. II). The chain index numbers have been raised to the level of the direct averages at the end of the period investigated, and

consequently agree with these from 1930 for as many years back as there have been no changes in the composition of the averages. Changes in the components are few, however, and as the series from the larger towns with dominating weights are continuous from the first, the changes will not appreciably affect the general town averages. The difference between the chain index numbers and the direct average for each separate town group is generally at most 1 or 2 per cent. Group II, where in the early years the direct average is as much as 10 per cent higher owing to the changes in 1901—1903 mentioned above, is an exception. As in the chapter on wages in manufacturing and mining, and for reasons given there, we publish only the chain index series.

The rates at which earnings have been changing differ in different towns, and in order to show the dispersion of the variations, and thus also the reliability of the averages, we give in the following Table 155 the variations in per cent of the hourly earnings in certain periods, selected on account of more characteristic alterations in the general wage level.

A study of the above tables in conjunction with those given in the appended monographs reveals some interesting facts, relating both to the cyclical and secular trend of wages. They also show the relative trend of the wages in the skilled and unskilled labour groups, which could only be brought out incompletely in respect of workers in manufacturing and mining. Hourly earnings alone are made use of in the following comparisons, the annual earnings being, as mentioned above, less reliable. After the introduction of full-year employment they nevertheless show the same general trend as the hourly earnings.

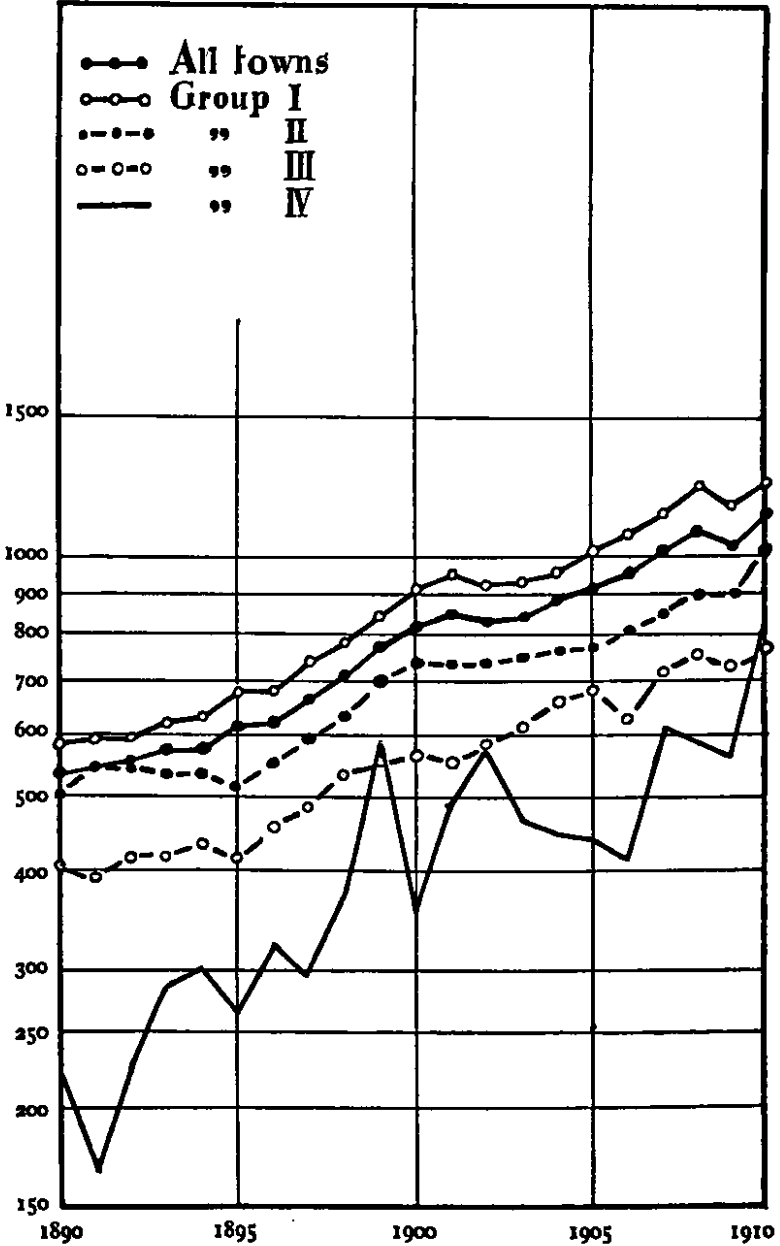
#### *Hourly Earnings of Unskilled Workers.*

The wage series that go back to 1865 throw some light on the general trend of municipal wages. As far as the unskilled workers are concerned, the present account is based on data from Stockholm, Hälsingborg, Västerås, Karls-



Kronor

Chart 19. Annual Earnings (in *kronor*) of



# MUNICIPAL SERVICES

## Unskilled Municipal Workers 1890—1930.

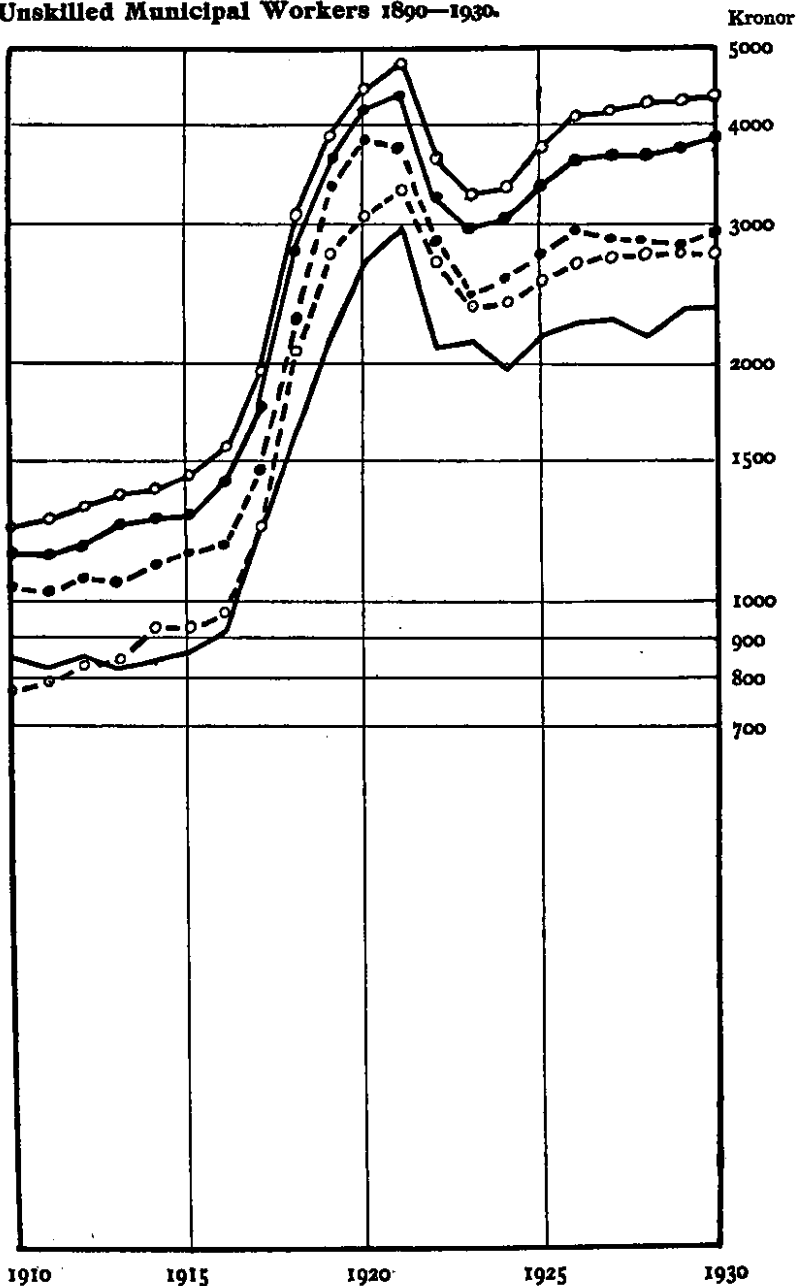


Table 155. Percentage Variations in Hourly Earnings of Un-  
(+ increase,

	1895 /00	1902 /08	1908 /13	1913 /21	1921 /23	1923 /30	1865 /95	1895 /13	1865 /13	1913 /30
<i>Unskilled Workers</i>										
Stockholm . . . . .	+14	+36	+ 8	+335	-29	+36	+166	+ 76	+369	+318
Gothenburg . . . . .	+36	+47	+10	+282	-30	+34	—	+ 98	—	+260
Malmö . . . . .	+25	+52	+25	+274	-30	+15	—	+146	—	+199
Norrköping . . . . .	—	+33	+ 9	+346	-36	+24	—	—	—	+253
Hälsingborg . . . . .	+34	+23	+30	+354	-42	+22	+ 57	+116	+240	+220
Gävle . . . . .	+45	+29	+ 8	+347	-31	+10	—	+ 93	—	+238
Uppsala . . . . .	+ 4	+12	+41	+282	-31	+17	—	+ 74	—	+210
Västerås . . . . .	+32	+37	+28	+336	-40	—	+ 71	+123	+280	+260
Lund . . . . .	+52	+22	+11	+304	-33	+12	—	+114	—	+204
Sundsvall . . . . .	+20	+19	+ 9	+329	-30	+34	—	+ 59	—	+301
Borås . . . . .	+40	+50	+ 6	+335	-35	+26	—	+122	—	+259
Linköping . . . . .	+11	+51	+14	+352	-31	+13	—	+ 99	—	+252
Karlstad . . . . .	—	—	—	—	-29	+28	—	—	—	+271
Karlskrona . . . . .	+36	+16	+ 7	+422	-26	+ 8	+ 63	+ 94	+216	+315
Nyköping . . . . .	+64	+70	+18	+292	-31	+17	—	+144	—	+215
Söderhamn . . . . .	+16	+18	+15	+353	-26	+17	—	+ 55	—	+292
Visby . . . . .	+48	+28	+ 7	+288	-29	+ 4	+ 72	+ 98	+240	+186
Skövde . . . . .	+ 5	+49	+ 6	+302	-30	+27	—	+ 69	—	+258
Karlshamn . . . . .	+38	+36	± 0	+376	-37	+11	+ 93	+ 88	+261	+232
Mariestad . . . . .	+29	+45	+ 6	+269	-44	+42	—	+145	—	+191
Group I . . . . .	+21	+41	+10	+313	-30	+33	—	+ 89	—	+287
• II . . . . .	+34	+26	+17	+335	-36	+21	—	+100	—	+238
• III . . . . .	+34	+35	+11	+357	-30	+16	—	+100	—	+274
• IV . . . . .	+25	+38	+ 7	+294	-30	+15	—	+ 83	—	+220
All towns . . . . .	+24	+37	+11	+321	-31	+29	—	+ 90	—	+276

1 1866/95. 2 1866/13. 3 1913/27. 4 1914/30. 5 1896/13. 6 1913/25.

krona, and Visby (and on certain incomplete data from Norrköping, Borås, Karlstad, and Karlshamn).

In the eighteen-sixties, an unskilled worker in the above towns earned something like 10 öre an hour. From 1865 to 1870, the average hourly earnings were thus: in Stockholm 10.9 öre, in Hälsingborg 13.0 öre, in Västerås 10.2 öre, in Karlskrona 8.2 öre and in Visby 10.9 öre. Wages remained practically the same during the whole of this period. From 1870 to 1875 they were characterized by heavy increases. In that period the earnings of unskilled workers rose by 136 % in Stockholm, 75 % in Hälsingborg, 72 % in Västerås, and 67 % in Karlskrona. In Visby wages culminated as early as 1873, and had then more

skilled and Skilled Municipal Workers during Different Periods  
— decrease).

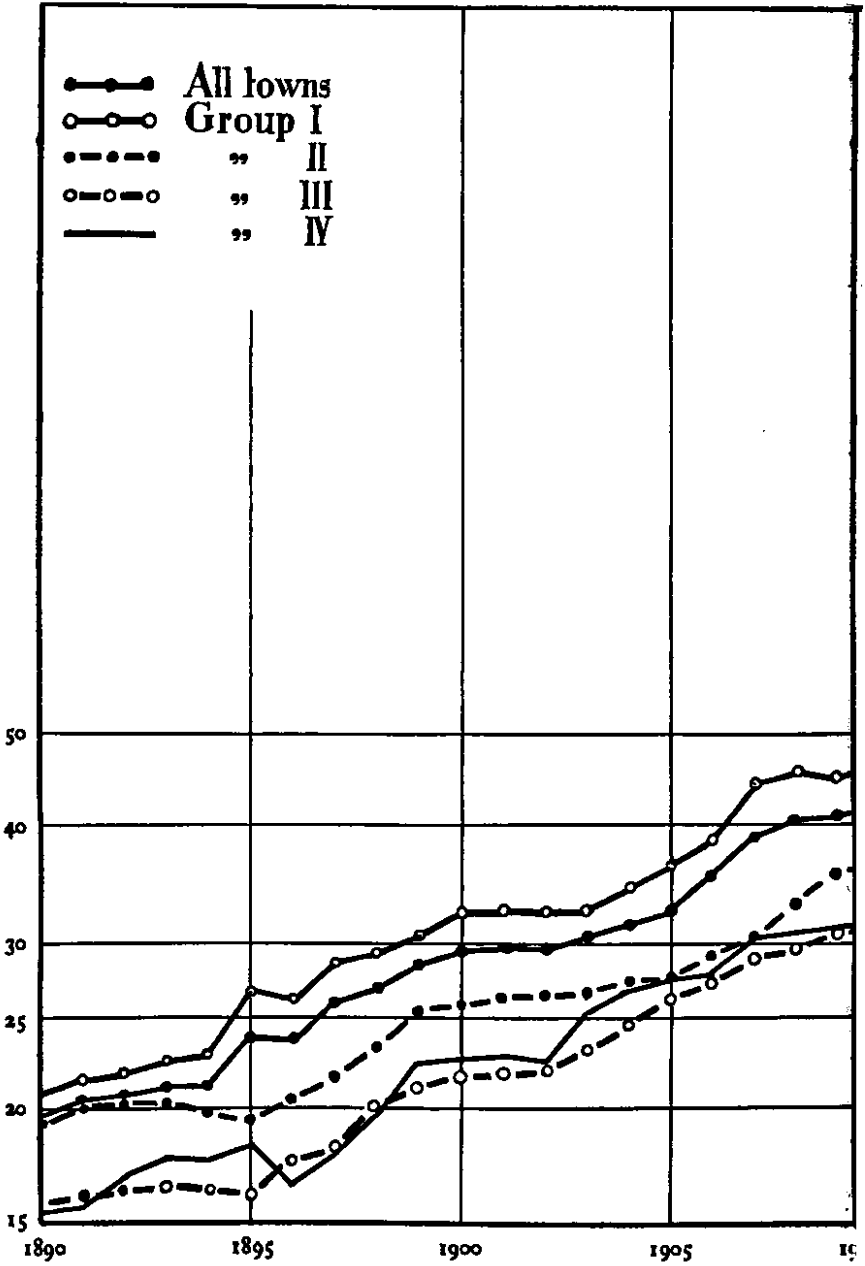
	1895 /00	1902 /08	1908 /13	1913 /21	1921 /23	1923 /30	1865 /95	1895 /13	1865 /13	1913 /30
<i>Skilled Workers</i>										
Stockholm . . . . .	+26	+24	+ 3	+334	-28	+46	+111	+ 67	+253	+353
Gothenburg . . . . .	+24	+37	- 4	+273	-37	+44	—	+ 74	—	+240
Malmö . . . . .	+23	+44	+22	+257	-32	+ 6	—	+115	—	+156
Norrköping . . . . .	—	+24	+ 2	+322	-33	+27	—	+ 22 <sup>a</sup>	—	+257
Hälsingborg . . . . .	—	—	—	—	—	—	—	—	—	—
Gävle . . . . .	+31	+12	+ 5	+360	-35	+17	—	+ 45	—	+250
Uppsala . . . . .	—	—	—	—	—	—	—	—	—	—
Västerås . . . . .	—	+69	+ 2	+324	-37	—	—	—	—	+183 <sup>a</sup>
Lund . . . . .	—	+33	+ 7	+306	-21	+31	—	—	—	+319
Sundsvall . . . . .	+24	+15	+12	+302	-28	+11	—	+ 62	—	+222
Borås . . . . .	+26	+32	+21	+261	-32	+15	—	+ 96	—	+181
Linköping . . . . .	—	—	—	—	—	—	—	—	—	—
Karlstad . . . . .	—	—	±0	+300	-30	+17	—	—	—	+225
Karlskrona . . . . .	+33	+40	- 2	+270	-28	+10	+140	+ 97	+371	+192
Nyköping . . . . .	—	—	—	—	—	—	—	—	—	—
Söderhamn . . . . .	—	—	—	—	—	—	—	—	—	—
Visby . . . . .	—	—	—	—	—	—	—	—	—	—
Skövde . . . . .	—	—	—	—	—	—	—	—	—	—
Karlshamn . . . . .	—	—	—	—	—	—	—	—	—	—
Mariestad . . . . .	—	—	—	—	—	—	—	—	—	—
Group I . . . . .	+25	+30	+ 3	+306	-31	+41	—	+ 74	—	+295
" II . . . . .	+29	+25	+ 5	+325	-32	+22	—	+ 64	—	+255
" III . . . . .	+31	+37	+ 6	+270	-30	+12	—	+ 97	—	+192
" IV . . . . .	—	—	—	—	—	—	—	—	—	—
All towns	+26	+29	+ 3	+305	-31	+36	—	+ 74	—	+279

than doubled since 1869 (from 9.2 to 18.5 öre). After 1875 a reaction set in and the earnings dropped, at first gently, but gradually more heavily, until 1879—1882. In Stockholm the hourly earnings of unskilled workers dropped by 31 % from 1875 to 1880, in Hälsingborg by 37 % from 1875 to 1881, in Västerås by 33 % from 1876 to 1879, in Karlskrona by 15 % from 1875 to 1879, and in Visby by 39 % from 1873 to 1878.

The next decade is marked by a relatively quiet progression, resulting in a total average rise from 1880 to 1889 for unskilled workers of 25 % in Stockholm, 30 % in Hälsingborg, 13 % in Västerås, 18 % in Karlskrona, and 17 % in Visby. The principal increases occurred in the

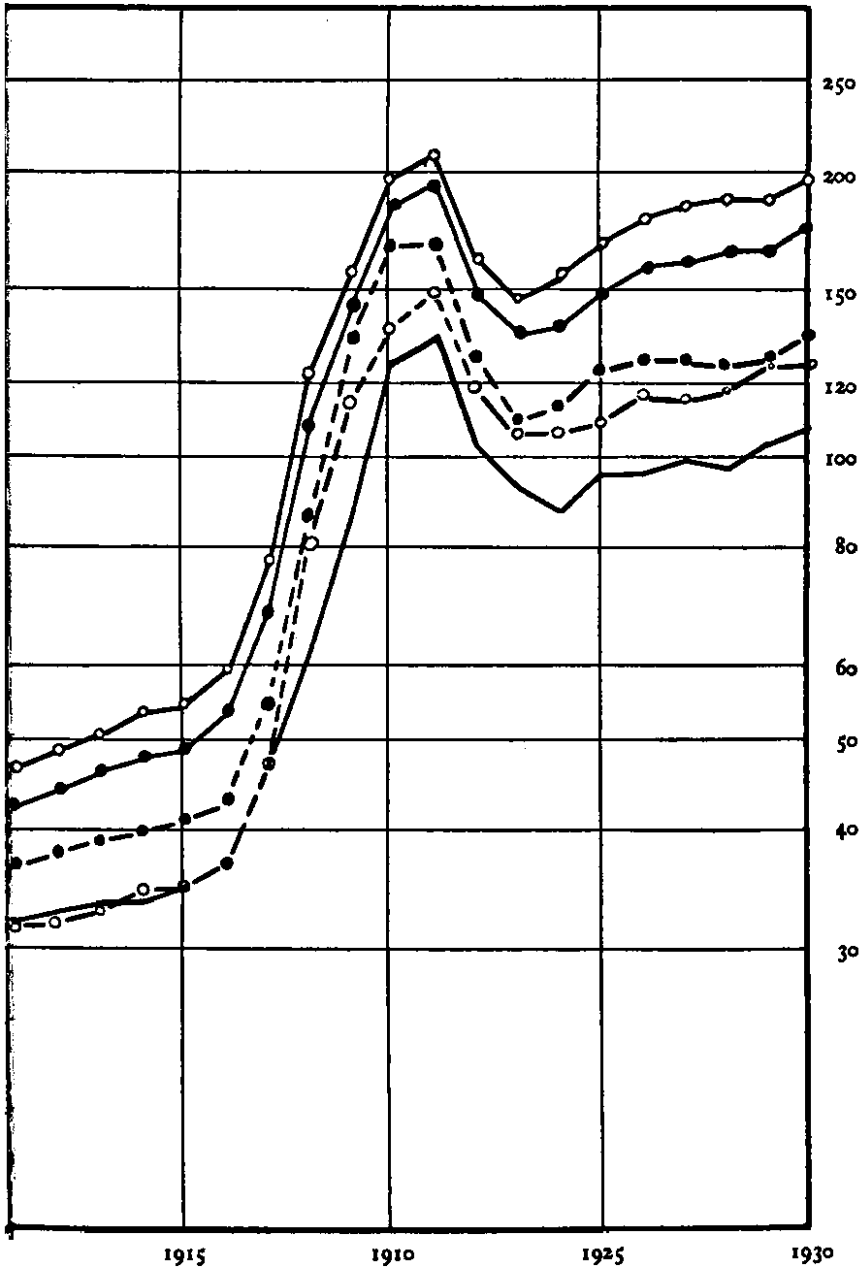
Öre

Chart 20. Hourly Earnings (in Öre)



Unskilled Municipal Workers 1890-1930.

Öre



first and last years of the 'eighties, while the intermediate years are characterized by stagnation or some slight reductions. The rise of wages towards the end of the decade was fairly uniform, and amounted to about 10 %.

From 1890 the general averages, and those computed for each of the above groups of towns, show the general trend of the earnings.

These averages show that the abovementioned increase in the earnings in the last years of the eighteen-eighties did not cease, but continued into the 'nineties. At the middle of the latter decade this increase ceased, or was even in several towns followed by a decrease. In Hälsingborg the hourly earnings thus fell 5 % from 1892 to 1895, in Gävle 13 % from 1893 to 1895, in Västerås 5 % from 1892 to 1894, in Karlskrona 5 % in the same years, and in Linköping 8 % from 1893 to 1895. Wages in Stockholm at the same time were fairly constant. In 1895 an appreciable rise of wages began in this town, which, barring slight relapses in 1896 and 1898, continued into the twentieth century. The other towns too showed appreciable increases towards the end of the 'nineties, although in the majority not until 1896 or later. As shown in Table 155, the rise was general and fairly uniform. It is possible to trace during these periods, in those towns where wages were lower (groups with higher numbers), a tendency towards a relatively strong increase of wages. From about 1900 up to 1902 or 1903 wages were stagnant or falling. A period of rising wages then began again, more particularly after 1904. This continued even after 1908, though at a considerably slower rate. The general average of the earnings of unskilled workers rose for example 37 % from 1902 to 1908, while from 1908 to 1913 the increase was only 11 %. The trend of wages varied considerably from town to town, however, as will be seen in Table 155. After 1913 the earnings continued to rise. In comparison with the immediately preceding year, the increase amounted to 4 % in 1914, 2 % in 1915, and 8 % in 1916. The subsequent rise was of quite different proportion than at any previous time during the whole period investigated. The earnings of unskilled

workers thus rose on an average by no less than 263 % in the short time from 1916 to 1921. That rise was most pronounced from 1917 to 1918, but was also well marked in 1919 and 1920. The top was reached in 1921, the increase from 1920 being only 5 %, however. A heavy fall followed in 1922 and 1923: From a maximum of 191.3 öre, the earnings of unskilled workers had in the latter year been reduced to an average of 132.4 öre, i. e. by 31 %. The subsequent years brought a new, though slower, advance. From 1923 to 1926 the average increase in the earnings of unskilled workers was 20 %. In the last named year the average hourly earnings amounted to 158.9 öre. After a slight reduction in the following year, they finally rose to 170.9 öre in 1930.

If we compare the trend of wages in the different towns from which wage series were available before 1895, the relatively strong increase of the wages in Stockholm is the most striking. The hourly earnings of unskilled workers there rose by 166 % from 1865 to 1895, while in the other towns the rise varied between 60 % and 90 %. But the relative increase of the Stockholm wages was not uniform in time. In the eighteen-sixties wages of unskilled labour were higher in several towns than in Stockholm. In 1867, for instance, they averaged 10.5 öre in Stockholm, 13.3 öre in Hälsingborg, and 12.7 öre in Visby. But after the very strong increase of 1870—1875 noted above, Stockholm was as a rule on top. In 1875 the average hourly earnings of unskilled workers were 25.2 öre in Stockholm, 23.4 öre in Hälsingborg, and 15.8 öre in Visby. In 1875 and 1890 the wages for unskilled labour in the towns then included were as follows:

	1875	1890
Stockholm . . . . .	25.2	21.7
Hälsingborg . . . . .	23.4	19.7
Västerås . . . . .	18.1	17.0
Karlskrona . . . . .	13.2	14.4
Visby . . . . .	15.8	15.0
Karlshamn . . . . .	13.3	15.0

In towns where wages were highest in 1875, the hourly earnings had apparently fallen slightly up to 1890, while



in those where earnings were lowest, Karlskrona and Karlshamn, they had risen. At that time wages in the different towns were thus tending to become equalized. But in the middle of the eighteen-nineties a new change occurred in the Stockholm wages, which is the first sign of a future differentiation between the large and the small towns.

The subsequent relative trend of earnings of unskilled labour can be illustrated by the averages calculated for several towns. The table below gives the ratio (in per cent) of the average hourly earnings in Stockholm, Gothenburg, and Malmö, and in the town groups II—IV to the corresponding general town average.

Year	Stock- holm	Gothen- burg	Malmö	Group II	Group III	Group IV
1890 . . . . .	111	106	89	98	81	80
1895 . . . . .	123	102	84	81	67	76
1900 . . . . .	113	112	84	88	73	77
1905 . . . . .	117	104	91	83	79	83
1910 . . . . .	113	107	106	86	74	76
1915 . . . . .	111	117	102	84	71	70
1920 . . . . .	116	102	89	91	74	68
1925 . . . . .	127	95	83	81	73	64
1930 . . . . .	126	102	86	77	72	62

As early as in 1895 the wages of municipal unskilled workers in Stockholm and Gothenburg were accordingly markedly higher than in the other towns. This difference was retained and, as far as Gothenburg is concerned, strengthened in 1900. Malmö, on the other hand, was still below the average of Group II in 1900. Apart from slight fluctuations, the position of Stockholm and Gothenburg in relation to the others remained unchanged until 1915. Wages in Malmö in the meantime advanced towards the large-town level. As early as in 1905 they had begun to exceed those in the other towns, and in 1910 they were on the same level as in Gothenburg.

Wages in the towns that did not belong to the large town group were also equalized in a remarkable way between 1890 and 1905. In 1890 the average earnings in Groups II—IV were thus 19.2, 15.8, and 15.7 öre respectively, i. e.

the difference between the lowest and the highest of them was 22.3 %. In 1905 the corresponding figures were 27.3, 26.1, and 27.2 öre, the difference between the lowest and the highest group-averages being then only 4.6 %. If we take the difference between the lowest and the highest wages paid in any individual town within these groups, this was 58.3 % in 1890 and 28.6 % in 1905.

The levelling of wages, on the one hand in the three large towns and on the other in the other towns, which took place up to 1910 was in the following years succeeded by a tendency to differentiation (cf. Table 154 and Chart 20). This especially applies to the group of large towns, where the difference between the wages in Stockholm and in the two other towns steadily increased. Subsequently, however, it has diminished, and was no more than 24 % in 1930.

#### *Hourly Earnings of Skilled Workers.*

Information regarding the earnings of skilled workers has only been obtainable from 11 out of the 20 towns included in the investigation, and the averages of this group are therefore correspondingly less valuable than those referring to unskilled workers. For the period 1865—1888, the data are restricted to two series: carpenters in Stockholm and in Karlskrona (cf. Tables 162 and 163). These series show that in the eighteen-sixties the earnings of skilled workers in these towns on the whole progressed similarly to those of unskilled workers. After 1870 the wages of skilled labour also increased rapidly. Although the rate of increase fell off considerably in 1875 in Stockholm, wages there were unaffected by the reduction which became general elsewhere in the following years. Wages thus continued to rise in Stockholm right up to 1879. In comparison with 1870 they had then risen by 116 %. Wages in Karlskrona culminated in 1876, i. e. a year later than for unskilled labour in the same town. They had then risen since 1869 by no less than 194 %, i. e. the earnings had almost trebled. After 1876 the earnings dropped

year by year in Karlskrona, until in 1881 they had gone down by 37 %. In Stockholm the reduction in the carpenters' wages was concentrated to 1880, when — in comparison with the year before — they fell by 36 %. Having risen in 1881 by 20 % in Stockholm and in 1882 by 8 % in Karlskrona, wages remained steady for a considerable period. In Stockholm small rises occurred in 1884 and 1885, followed by a slight reduction in 1886. The total increase in the Stockholm wages from 1881 to 1888 was 10 %. In Karlskrona the yearly changes were insignificant up to 1891 (the total increase was 7.4 % from 1882 to 1891). In Stockholm, on the other hand, a noticeable increase in the wages began in 1889, and continued until 1891. Compared to 1888, wages rose 26 %. The Stockholm carpenters were then paid unchanged wages up to the middle of the 'nineties. A similar development can be observed three years later in Karlskrona. The increase there did not begin until 1892, but continued to 1894, when, compared to 1891, it had grown to 22 %. Wages then remained unchanged for a few years.

From 1894 onwards, information is available from a sufficient number of towns to make the computation of general averages, as well as for the town Groups I—III, possible. The earnings of skilled workers show approximately the same relative progress as do those of unskilled labour in each town and town group.

The relation between the hourly earnings of skilled and unskilled labour, on the other hand, has changed very remarkably from 1895 to the nineteen-twenties. Before 1895, the hourly or daily earnings of skilled workers generally exceeded those of unskilled labour by 30 to 40 %. The few data obtained from that time differ very much, however. The changes after 1894 in all towns and in the different town groups are shown in Table 156 below. From 1895 to 1905 the relative difference between the two wage categories was fairly constant, averaging from 30 % to 35 %. About 1905 the earnings of unskilled labour began gradually to approach the earnings of skilled workers. In 1910 the average difference was thus 23 %.

five years later 17 %, and in 1920 — when this tendency ceases — it had gone down to 5 %. After 1920 the tendency — although interrupted from 1925 to 1927 — was reversed, and had in 1930 resulted in an increased difference of 20 %.

Of all the town groups, Group III alone differs appreciably from the general town average, the difference being over 30 % right up to 1917. After a rapid drop in 1917—1921, the difference has been comparatively small in recent years.

This remarkable change in the relation between the hourly earnings of skilled and unskilled labour is most likely mainly due to the increasing prevalence of piece-work. Piece-work rates have chiefly, or at least more generally, been paid to unskilled labour (e. g. blasters, etc.). A circumstance which has also, particularly in periods of rising nominal wages, contributed to this change is probably that, as far as the time-rates are concerned, the same nominal difference between unskilled and skilled labour has been maintained irrespective of the actual wage level. This will cause the relative difference to diminish when the nominal wages rise. Inversely, these differences should increase when the nominal wages go down. In Table 156 we see that the average difference increased in 1921—1922, diminished slightly in 1923, and then rose again in 1924. The break in the curve was probably connected with the reduction of the nominal wages in 1922 and 1923. Another explanation may be that the industrial depression had a more unfavourable effect on the market of unskilled than of skilled labour. The reason why the break occurred as early as in 1921, though wages were not reduced until in 1922, may possibly be that towards the end of 1920 the towns generally abandoned the system of paying cost-of-living increments, which system had been fairly commonly adopted in the immediately preceding years (cf. below). These cost-of-living increments were usually independent of the time-rates. If any attention was paid to the time-rates, this was rather in the direction of giving to the men on low time-rates a

larger increment than to those who received high time-rates. As the increment rose from 1917 to 1920, it thus had a gradually reducing effect on the relative difference between skilled and unskilled workers. The abolition of the cost-of-living increments in 1920, and the consequent adjustment of the time-wages, therefore probably contributed to some extent to the improvement in the relative earnings of skilled workers.

**Table 156. Hourly Earnings of Skilled Municipal Workers from 1894 to 1930, in per cent of the Hourly Earnings of Unskilled Workers.**

Year	All towns <sup>1</sup>	Town group			Year	All towns <sup>1</sup>	Town group		
		I	II	III			I	II	III
1894	151	149	131	143	1913	119	114	108	136
95	130	123	131	142	14	116	111	108	132
96	137	133	126	131	15	118	113	111	130
97	133	128	125	137	16	115	108	109	139
98	134	130	126	131	17	113	107	108	133
99	136	130	127	172	18	111	105	106	120
					19	109	104	106	117
1900	132	127	127	138					
01	131	126	127	135	1920	107	102	102	115
02	136	132	121	141	21	115	112	105	110
03	136	133	123	137	22	116	112	115	111
04	133	128	124	142	23	114	109	112	110
05	132	126	128	148	24	122	119	110	110
06	131	126	125	139	25	116	112	108	112
07	127	120	123	141	26	115	111	107	108
08	128	122	121	142	27	109	103	114	104
09	128	124	114	128	28	113	108	116	105
					29	120	116	115	105
1910	125	121	113	128					
11	124	120	111	128	1930	120	116	113	106
12	123	118	109	137					

<sup>1</sup> The percentages given in this column are computed on the basis of the average hourly earnings of all skilled and unskilled workers given in Table 154. Owing to the fact that skilled labour is not represented in all the towns — there is for instance none at all in the whole of Group IV — the relative difference between the hourly earnings of all the skilled and all the unskilled workers is slightly on the high side. The averages for all workers are therefore important mainly as an indication of the general trend of the changes, while the percentages for the various town groups give a more correct idea of the actual difference at any particular time between the wage levels of the two categories of labour.

*The Trend of Real Earnings.*

In order to ascertain the trend of real earnings, a cost-of-living index has been used which is a combination of one computed at the Institute for the time up to 1913 and another computed by the Social Board for the period 1913—1930.<sup>1</sup> Both these indices are primarily based on the prices in the towns, and the combined index is therefore especially suitable for our particular purpose, even though it may not take into account any specially characteristic composition of the budget of town workers. The averages for skilled workers being less reliable, this study of the trend of the real earnings has been confined to unskilled workers. The differences given above between skilled and unskilled workers in respect of the trend of hourly earnings, however, are also on the whole applicable to the annual earnings of the two categories.

**Table 157. Index of Real Annual and Hourly Earnings of Unskilled Municipal Workers 1890—1930 (1910—1913 = 100).**

Year	Annual earnings	Hourly earnings	Year	Annual earnings	Hourly earnings
1890 . . . . .	54.1	53.6	1910 . . . . .	98.8	99.1
91 . . . . .	53.6	53.6	11 . . . . .	100.2	100.7
92 . . . . .	54.8	55.4	12 . . . . .	99.1	98.2
93 . . . . .	59.3	59.1	13 . . . . .	101.9	101.6
94 . . . . .	63.1	62.6	14 . . . . .	103.9	105.1
95 . . . . .	65.7	69.7	15 . . . . .	92.5	93.8
96 . . . . .	67.7	70.0	16 . . . . .	88.6	89.8
97 . . . . .	70.3	73.7	17 . . . . .	87.6	91.2
98 . . . . .	71.3	73.0	18 . . . . .	98.5	103.7
99 . . . . .	74.2	73.7	19 . . . . .	112.4	120.8
1900 . . . . .	78.5	76.2	1920 . . . . .	128.2	151.7
01 . . . . .	82.9	78.8	21 . . . . .	156.0	185.9
02 . . . . .	80.9	77.8	22 . . . . .	147.0	176.2
03 . . . . .	80.6	77.6	23 . . . . .	142.7	170.9
04 . . . . .	84.6	82.0	24 . . . . .	146.4	177.4
05 . . . . .	86.2	81.8	25 . . . . .	157.0	189.4
06 . . . . .	88.3	88.0	26 . . . . .	176.7	209.2
07 . . . . .	89.6	93.3	27 . . . . .	179.8	211.8
08 . . . . .	94.3	95.4	28 . . . . .	181.9	215.2
09 . . . . .	91.2	96.8	29 . . . . .	184.3	218.0
			1930 . . . . .	196.4	235.6

<sup>1</sup> The Cost of Living in Sweden 1830—1930.

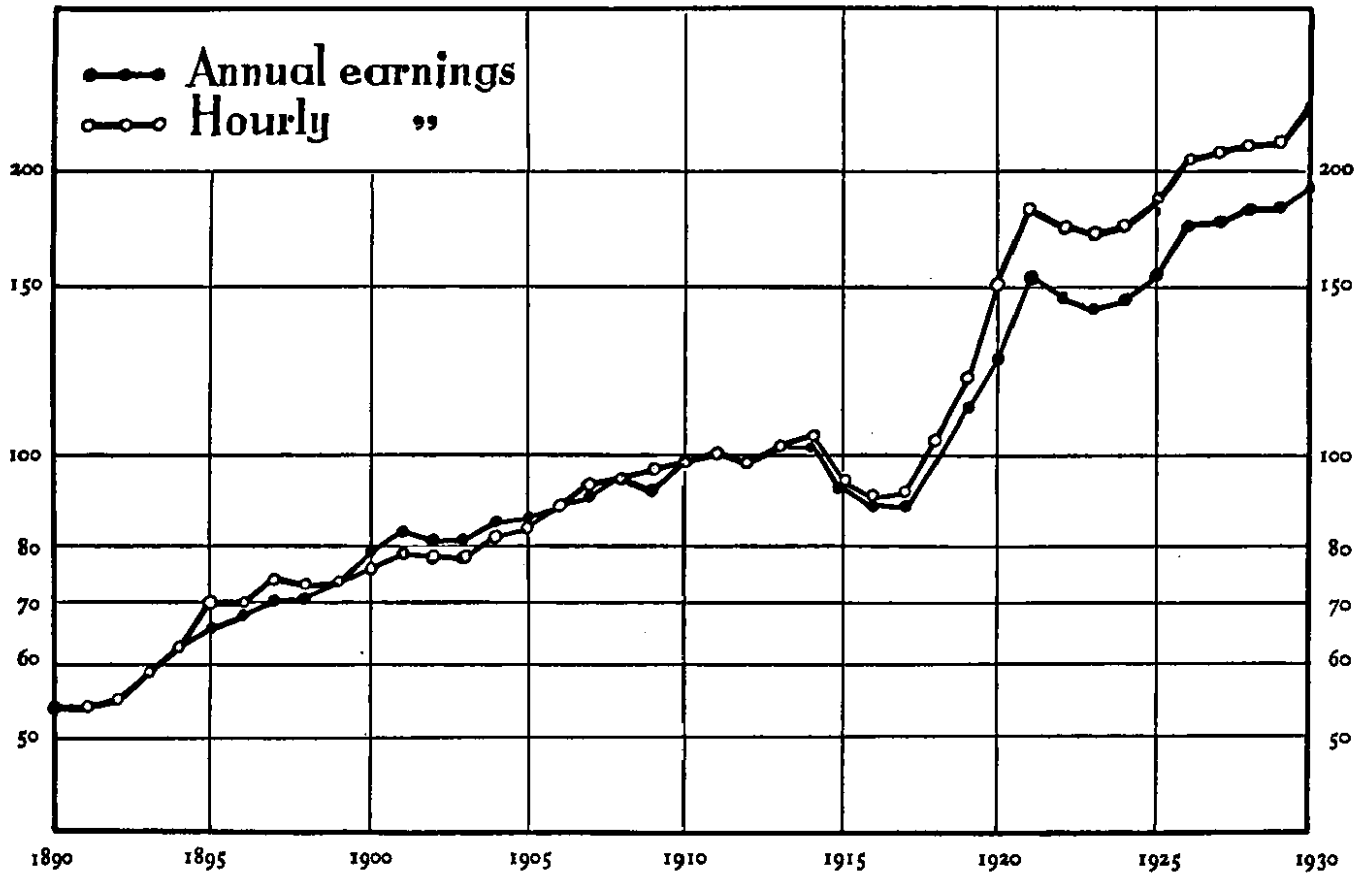
The averages include series from certain towns where in the earlier years the labour was still to some extent seasonal in character and was only later extended over the whole year. This lengthening of the annual working periods will influence the real annual earnings during the first half of the period 1890—1930, as will be seen if we compare them with the real hourly earnings, which are computed on the basis of the same cost-of-living index. From 1890—1893 to 1910—1913 the increase in the real annual and hourly earnings is almost exactly the same (80.2 % and 80.3 % respectively). If now the annual earnings had throughout referred to full-year workers, the increase of the hourly earnings should, as a matter of fact, have been larger, as the daily working hours had in the same period been reduced by at least 10 % on an average. The annual earnings have obviously been affected by the season having been extended in some of the towns. For that reason they probably — considered as a measure of the real earnings of municipal workers — indicate too great an increase during this period, for the shorter seasons of its earlier years might quite possibly have given the municipal workers opportunities to make money elsewhere, opportunities which disappeared wholly or partly as the working season was lengthened. In the later years, on the other hand, the average annual earnings are based on the earnings of full-year workers, and the greater increase in the real hourly earnings between 1910—1913 and 1927—1930 (120.4 %, compared with 85.6 % in the annual earnings) is due to the large reduction of the daily working hours which was made about 1920. For the sake of comparison, the percentages referring to the changes in the real hourly earnings are given below in parenthesis after the corresponding percentages of the annual earnings.

During the business depression in 1890—1892, the real annual earnings of unskilled municipal workers were comparatively constant. A rapid increase then began, which was but slightly checked when the cost of living began to rise in the latter half of the 'nineties. From 1891 to 1894 the real earnings thus increased by 17.7 % (16.8 %).

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Chart 21. Real Earnings of Unskilled Municipal Workers 1890-1930. (Index: 1910-1913 = 100.)

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while the cost of living in the same time fell 10.6 %, and from 1894 to 1900 the real earnings rose 24.4 % (21.7 %), while in the same period the cost of living rose 15.3 %. In 1900 and 1901, when the rate of increase of the nominal earnings was checked, the real earnings continued to rise steadily by 5.6 % (3.4 %) owing to the then falling cost of living. During the period 1901—1903 the nominal earnings remained almost unchanged, the cost of living rose slowly, and the real income fell 2.8 % (1.5 %). This was followed by another period of upward trend for both nominal and real earnings, which was not interrupted until 1909, the year of the general strike. The next period was characterized by rising nominal earnings with a parallel increase in the cost of living, and the real wages were consequently almost stationary.

After 1913 the trend of real earnings presents an entirely different picture. The comparatively steady progress of the earlier days was interrupted by rapid changes in the cost of living, and nominal wages were only slowly adjusted to these, owing to the relatively long terms of the now usual collective agreements. But owing to the rapid fluctuations in the cost of living, the periods of these were cut down in 1918, sometimes to as short a time as 3 months, and as a rule to no more than a year, a term which is still usual.

In the short time from 1914 to 1917 the rapid rise in prices which set in in 1915 thus caused a drop in the real earnings of 15.7 % (13.2 %). A steady improvement of the real income then began, which, in spite of the simultaneous rapid rise in the cost of living, had by the following year again raised the wages of municipal workers to the 1910—1913 level, and in 1921 — when a maximum was reached — to 56 % (85.9 %) above that level. The heavy fall in the cost of living following in 1921—1923 was accompanied by a slightly heavier reduction in the nominal earnings. From 1921 to 1923 the real earnings were thus reduced by 8.5 % (8.8 %). Subsequently, the cost of living fell slowly while the nominal wage level, and consequently also the real wages, rose appreciably. This rise was especi-

ally marked from 1923 to 1926, when the real wages had risen 76.7 % (109.2 %) above those of 1910—1913. By 1929 the real wages had risen to 84.3 % (118.0 %), and in 1930 they jumped to 96.4 % (135.6 %) above their pre-war level.

None of the indices used in the above calculation of real wages pays any attention to the distribution of the workers to different places, where the cost of living may have developed differently. It is quite possible that the cost of living in the places where the majority of the municipal workers were living might not have altered in exactly the manner indicated by the general cost-of-living index. The relative number of municipal workers in towns of different costs of living may also have changed during the period in question. The nature of the material has precluded these possibilities being taken into account.

For the years from 1914 to 1930, however, the cost-of-living statistics of the Social Board offer certain facilities for the computation of a more exact real income for municipal workers, which takes the above circumstances into consideration, as they give the movements of the cost of living in the different town groups. The Social Board index<sup>1</sup> is based on a budget from 1914 in which, after the re-calculation of 1920, 42.8 % are spent on food and luxuries, 15 % on rent, 4.1 % on fuel and lighting, 11.9 % on clothing, 8 % on rates and taxes, and 18.3 % on sundry expenses. The relative cost of these items has varied somewhat during the period 1914—1930, and consequently their respective shares in the budget have changed slightly. Food, fuel, and lighting amounted to 47 % of the total budget in 1914, but in 1930 to only 40 %. Rent increased in the same time from 15 to 19 %. Between them, these items represented 62 % of the budget in 1914, and 59 % in 1930.

The trend of the food prices can be followed year by year in each town and municipality from which primary material for the general cost-of-living index is collected.<sup>2</sup>

<sup>1</sup> Op. cit., p. 149 fol.

<sup>2</sup> *Sociala Meddelanden* (Bulletin of the Social Board).

From these prices the average changes in the cost of food have been computed from 1914 to 1930 for the towns included in Groups I—IV (see Table 158). To make these averages correspond to the average wages calculated for the same groups, a method of weighting similar to that used for the wages has been employed. The difference between the lowest and the highest food prices of the four groups was 17 % in 1914. In 1920 it rose to 24 %, and then gradually fell to 18 % in 1930.

**Table 158. Cost-of-food Indices in Town Groups I—IV, 1914—1930 (All Towns, 1914 = 100).<sup>1</sup>**

Year	Town group				All towns
	I	II	III	IV	
1914 . . . . .	104	93	92	89	100
15 . . . . .	129	115	114	110	124
16 . . . . .	147	133	131	127	142
17 . . . . .	190	171	169	159	183
18 . . . . .	298	257	249	234	283
19 . . . . .	343	301	294	276	327
1920 . . . . .	320	283	277	258	306
21 . . . . .	251	221	219	207	240
22 . . . . .	191	166	168	158	182
23 . . . . .	174	151	155	143	166
24 . . . . .	175	153	154	144	167
25 . . . . .	178	157	157	150	171
26 . . . . .	165	146	146	140	159
27 . . . . .	158	142	142	136	152
28 . . . . .	161	144	144	136	155
29 . . . . .	157	140	140	132	151
1930 . . . . .	145	130	129	123	140

Detailed information regarding rent in the different towns has been published for 1912—1915, 1924—1925, 1926—1927, and 1928—1929.<sup>1</sup> On the basis of these the average rent, per room and year, of all let premises has been calculated for town Groups I—IV. Table 159 shows that the rise from 1912—1915 to 1928—1929 has not been quite

<sup>1</sup> This table is based on the quarterly data published by the Social Board in *Sociala Meddelanden* regarding expenditure on food, fuel and lighting in a family with an annual income of about 2,000 kronor in 1914. The averages are weighted according to the population of the towns at the end of the period.

<sup>1</sup> *Statistisk årsbok för Sverige* (Statistical Year Book of Sweden).

uniform (108, 107, 120, and 101 % respectively). The original difference between the lowest and the highest average rent increased in the same period from 114 to 120 %.

**Table 159. Average Rent per Room and Year of All Let Premises in Town Groups I—IV.<sup>1</sup>**

Year	K r o n o r					Index (All towns, 1914 = 100)				
	Town group				All towns	Town group				All towns
	I	II	III	IV		I	II	III	IV	
1912—15	173	105	94	81	148	127	71	64	55	100
1924—25	314	196	189	146	272	212	132	128	99	184
1926—27	340	209	200	153	293	230	141	135	103	198
1928—29	359	217	207	163	308	243	147	140	110	208

With the exception of rates the remaining items, clothing, rates and taxes, and "sundry expenses", are not greatly influenced by local conditions. The cost of material and accessories for clothing may thus be assumed to be practically the same everywhere in the country. The cost of labour may of course vary, but ready-made clothing, which for the classes of people discussed here is probably of much greater importance than made-to-measure goods, is probably on the whole unaffected by local price differences. "Sundry expenses" too, include various articles costing the same all over the country, e. g. periodicals and books. This most likely also applies to subscriptions, insurance premiums, lottery tickets, interest on loans etc. The more important items of washing, cleaning, and boot repairs, on the other hand, are probably affected by local conditions.

To ascertain the relative importance of taxation in the different town groups, data published for the years 1929—1930<sup>2</sup> regarding the amounts paid in local rates by a "normal family" in various towns have been made use of to calculate the average amounts payable under this heading

<sup>1</sup> Averages weighted by the populations of the towns at the end of the period.

<sup>2</sup> Öberg, *Hysesnivå och skattetryck i städerna* (Rents and Taxation Burden in the Towns), in *Svenska Stadsförbundets Tidskrift*, 1930, p 152 fol.

in the various town groups. The results (averages weighted by the populations of the towns) were: I: 212.8 *kronor*; II: 266.1 *kronor*; III: 287.0 *kronor*; IV: 220.8 *kronor*. If we now assume that a certain proportion, say half, of the items clothing and "sundry expenses" varies in the same way as the cost of food from one group of towns to another, and add the corresponding extra expenditure in each town group to the above rates and taxes, the sums obtained will be represented by the index numbers 100.2, 99.8, 100.4, and 94.7. If the above assumptions are correct, the sum of the items clothing, rates and taxes, and "sundry expenses", should be the same in the first three town groups, while in Group IV it should be 5 % less.

Having thus calculated the increase in cost of food and rent in the four town groups for different years, and having further assumed a certain relation between the town-groups in respect of the other items of the "normal family" budget,<sup>1</sup> it is easy to calculate the average cost of living in each town group. Cost-of-living indices computed in this way are given in Table 160. The real wages entered in Table 161 have finally been obtained by division. The difference between the lowest and the highest real wages in any of the town groups was 35 % in 1914, and had in 1929 risen to 46 %. The cost of living having increased fairly uniformly in the different town groups (by 72, 69, 71, and 67 % respectively), the larger difference must obviously be due to increased differentiation of nominal wages.

**Table 160. Cost-of-living Indices in Town Groups I—IV for the Years 1914, 1925, and 1929 (All Towns, 1914 = 100).**

Year	Town groups				All towns
	I	II	III	IV	
1914 . . . . .	104	93	91	86	100
1925 . . . . .	184	162	162	151	177
1929 . . . . .	179	157	156	144	171

<sup>1</sup> For changes in the various items of the "normal family" budget, see the reports in *Sociala Meddelanden*.

If we compare the above computed real wages for all towns with those calculated from the general cost-of-living index (cf. Table 157), which, making 1914 = 100, give the index numbers 151 and 177 for the years 1925 and 1929, it will be seen that the difference is increasing in the later years. In 1925 the difference is only two units, but in 1929 it has grown to six. As regards the different town groups we might mention that the real-wage index for town Group I (the large towns) would have been 182 for 1929 if the general cost-of-living index had been used, while the special cost-of-living index computed for the group gave 175.

**Table 161. Index of Real Wages of Unskilled Municipal Workers in Town Groups I—IV in 1914, 1925, and 1929.**

Year	Town group				All towns
	I	II	III	IV	
a) Index (all towns = 100)					
1914 . . . . .	106	94	80	77	100
1925 . . . . .	108	89	81	76	100
1929 . . . . .	109	83	81	74	100
b) Index (1914 = 100)					
1914 . . . . .	100	100	100	100	100
1925 . . . . .	151	141	151	147	149
1929 . . . . .	175	152	174	166	171

## MONOGRAPHS ON SELECTED TOWNS.

In order to show how far the wage series on which the averages for municipal workers are based can be considered representative, we are giving below full details of their construction in some typical instances, and will at the same time take the opportunity of discussing certain of the special features of the trend of wages.

*The Wage Material.*

*Stockholm.* From 1860 to 1873 the unskilled workers group in Stockholm is represented by all helpers engaged on municipal street work. From 1874 to 1899 the averages are based on individual data for 3—9 navvies. Judging by the names of these two categories, one might possibly think the latter a more qualified section of the unskilled group. It is, however, probable that the term "helper" was at that time used in a more general sense than at present. Their wages were anyway then fairly equal to those of the navvies, as will appear from the following comparison for the years 1870—1873.

Year	Street navvies		Helpers	
	Number	Earnings per hour <i>Ore</i>	Number	Earnings per hour <i>Ore</i>
1870 . . . . .	5	12.0	20	10.7
1871 . . . . .	3	11.9	23	12.3
1872 . . . . .	5	13.7	18	13.6
1873 . . . . .	5	17.2	25	15.7

The difference is, as we see, insignificant, and consequently the two series can be used alternatively. The navy series is thus substituted from 1874, and continued up to 1899. In view of the preponderating weight of Stockholm in the general town average, it would have been desirable to obtain for this period a broader basis for the wage data. But this was impossible until in 1901, from which year wage statistics are available from the Street Works Department (*Byggnadskontoret*) on the annual earnings of the workers. The annual averages of this department are based on individual data regarding every permanently employed worker in the different trade groups, and have therefore proved suitable for use, as they comprise just the class of men that is the particular object of this investigation. These statistics

cannot, however, be used directly in their available form, as no average working times corresponding to the annual earnings have been computed. From 1909 on, the men to whom the statistics apply were entered in separate ledgers, and with the assistance of these the number of working hours could be extracted from the payrolls. A few slight changes in the selection of workers were made at the same time. For the years 1901—1908 the data supplied by the Street Works Department regarding navvies, helpers, and sundry workers in the streets have thus been made the basis of the annual averages for the unskilled groups, while the average hourly earnings have been computed in the usual way on the basis of data for a number of selected workers.

From the beginning of 1901 the series referring to unskilled labour may be said to be fully representative in respect of annual earnings, and from the beginning of 1909 in respect of hourly earnings too. Blacksmiths and carpenters are also well represented from the latter year onwards. The reliability of the method can be checked in respect of the carpenters by comparing the results obtained for five selected workers with the average annual earnings of all workers, published in the statistics of the Street Works Department.

Year	Average annual earnings of		The latter averages in per cent of the former %
	All workers <i>Kronor</i>	Selected workers <i>Kronor</i>	
1901 . . . . .	1315	1172	89
1902 . . . . .	1216	1308	106
1903 . . . . .	1206	1259	104
1904 . . . . .	1202	1273	106
1905 . . . . .	1284	1386	108
1906 . . . . .	1420	1460	103
1907 . . . . .	1462	1382	95
1908 . . . . .	1511	1474	98

For most years the agreement is good. The average earnings of the selected workers are generally a trifle higher. This is due to the fact that the more skilled workers are better represented than the less skilled. The brisker turnover of the latter makes a representative choice more difficult. The lower figures of 1901 and 1907 prove on closer inspection to be due chiefly to a reduction of the working hours of the selected workers, the average hourly earnings for these years showing no difference.

Some wage material from yet another period, viz. from 1886 to 1893, is available for comparisons. This was collected for a special Unemployment Committee appointed by the Governor of Stockholm in 1894. The data included the average annual earn-



ings of from five to ten workers of the following trades: brick-masons, stonemasons, dock constructional labourers, carpenters, blasters, and helpers.<sup>1</sup>

The average earnings of the last of these categories are given below, side by side with the annual averages of unskilled workers (navvies) in Stockholm for the same period given in Table 162 below.

Year	Helpers <i>Kronor</i>	Navvies <i>Kronor</i>
1886 . . . . .	622	558
1887 . . . . .	614	542
1888 . . . . .	610	512
1889 . . . . .	637	574
1890 . . . . .	716	601
1891 . . . . .	728	615
1892 . . . . .	740	586
1893 . . . . .	732	640

It will be observed that the Committee's figures are slightly higher all round. This is probably due to the method of computing the averages. It is stated that in the first instance care was taken to select representatives of the best as well as of the middling and less good workers, but the men who had been out of municipal employment for long or short periods have been assumed to have been in receipt during their absence of their ordinary rates of pay, no piece-work pay or other occasional earnings having accordingly been included. The figures thus represent the possible earnings of a worker engaged all the year round, i. e. working about 3,060 hours in the year. If we reduce these full-time annual earnings to what corresponds to the average recorded working hours of the navvies mentioned above, the annual earnings in for instance 1886 would be 556 kronor, and in 1893 658 *kronor*, i. e. the agreement would be quite satisfactory.

In respect of carpenters, the annual averages of the Committee agree better with those computed for this investigation:

Year	Average annual earnings of carpenters	
	according to Unem- ployment Committee <i>Kronor</i>	selected workers <i>Kronor</i>
1886 . . . . .	915	846
1887 . . . . .	874	854
1888 . . . . .	842	856
1889 . . . . .	864	911
1890 . . . . .	897	879
1891 . . . . .	896	928
1892 . . . . .	860	924
1893 . . . . .	886	927

<sup>1</sup> Appendix 27 to *Beredningsutskottets utlåtande och memorial för år 1895*, p. 212 fol.

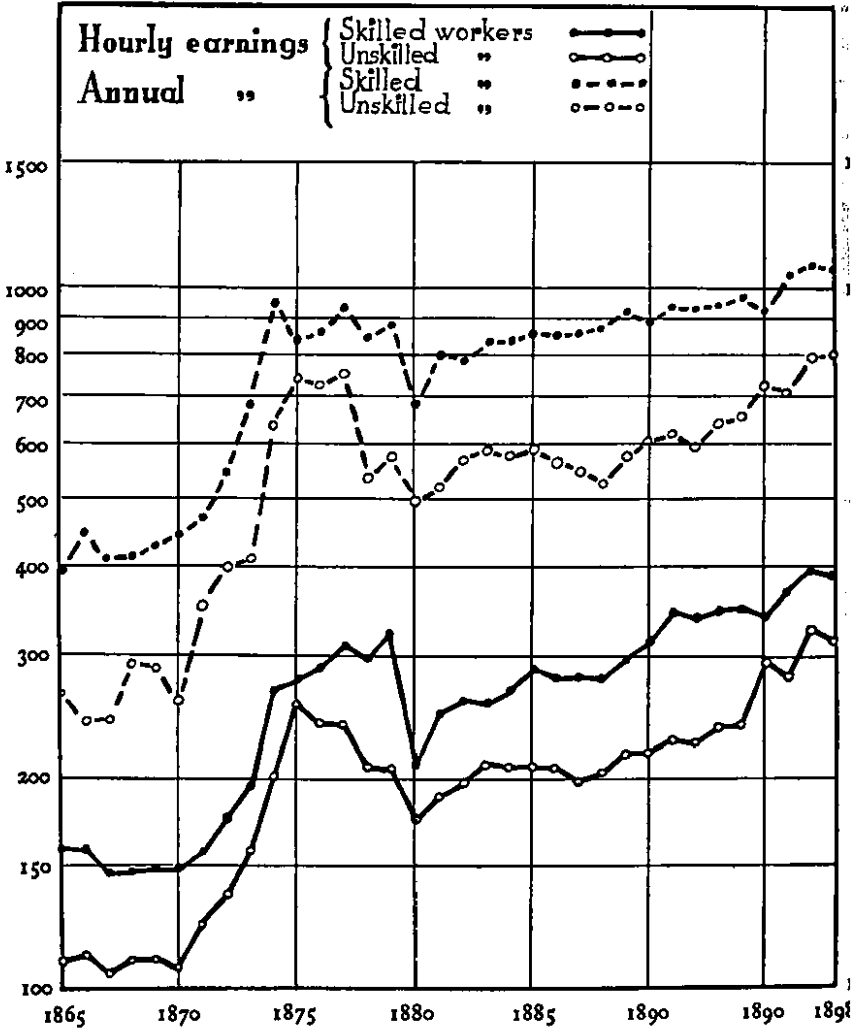
Table 162. Hourly Earnings (in öre) and Annual Earnings (in kronor) of Skilled and Unskilled Municipal Workers in Stockholm 1865—1930.

Year	Hourly earnings		Annual earnings		Year	Hourly earnings		Annual earnings	
	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers		Skilled workers	Unskilled workers	Skilled workers	Unskilled workers
1865	15.9	11.0	394	263	1900	42.3	33.5	1188	970
66	15.9	11.2	445	240	01	42.6	33.5	1172	1007
67	14.5	10.5	407	243	02	43.8	35.2	1308	1007
68	14.6	11.0	409	289	03	44.8	35.2	1259	1011
69	14.9	11.0	429	282	04	45.3	37.2	1273	1053
					05	47.2	38.6	1386	1074
1870	14.9	10.7	440	256	06	50.2	42.3	1460	1172
71	15.6	12.3	462	350	07	51.7	48.0	1382	1239
72	17.4	13.6	537	395	08	54.4	48.0	1474	1281
73	19.4	15.7	676	413	09	55.2	48.1	1313	1171
74	26.4	20.0	944	643					
75	27.3	25.2	826	741	1910	55.0	47.4	1458	1251
76	28.5	23.9	853	722	11	54.6	47.7	1468	1274
77	30.8	23.8	919	746	12	56.1	49.5	1511	1323
78	29.6	20.5	841	532	13	56.1	51.6	1517	1391
79	32.2	20.3	881	574	14	57.4	52.7	1548	1396
					15	59.1	54.3	1580	1431
1880	20.7	17.3	675	491	16	61.2	59.7	1650	1590
81	24.8	18.6	795	517	17	82.4	79.0	1631	2008
82	25.5	19.6	782	562	18	127.7	121.0	3275	3121
83	25.2	20.7	829	580	19	170.4	161.6	4217	4050
84	26.5	20.6	833	574					
85	28.1	20.6	854	581	1920	202.9	210.6	4591	4801
86	27.2	20.4	846	558	21	243.4	224.4	5063	5052
87	27.5	19.3	854	542	22	191.3	170.3	4100	3802
88	27.3	20.1	856	512	23	174.1	158.3	3760	3473
89	29.6	21.6	911	574	24	207.9	170.8	4399	3640
					25	212.1	189.8	4693	4112
1890	31.9	21.7	879	601	26	228.6	205.9	5251	4690
91	34.3	22.5	928	615	27	204.6	202.3	4760	4653
92	33.1	22.2	924	586	28	227.1	207.3	5237	4710
93	34.0	23.3	927	640	29	244.0	206.2	5623	4710
94	34.9	23.5	958	646					
95	33.6	29.3	907	721	1930	254.3	215.5	5790	4817
96	36.8	27.8	1025	700					
97	39.2	32.2	1082	789					
98	38.5	31.0	1059	799					
99	41.5	32.3	1185	879					

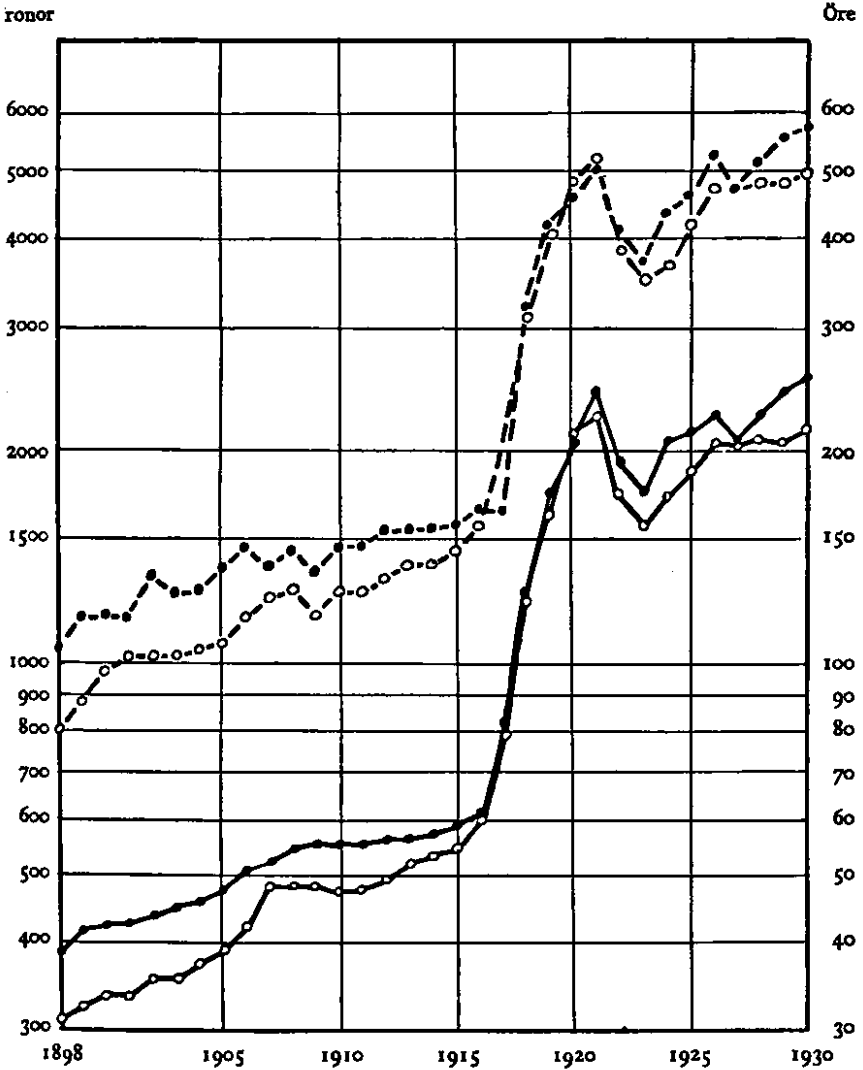
The working hours ought consequently to show a corresponding agreement. This also proves to be the case from 1886 to 1889. In the first two of these years the working hours were 3 111, and in the last two years 3 131 and 3 080 respectively, while the Com-

Chart 22. Hourly Earnings (in öre) and Annual Earnings Stockholm

Kronor



(in *kronor*) of Skilled and Unskilled Municipal Workers in 1865--1930.



mittee's averages can be assumed to correspond to about 3 060 working hours. From 1890 to 1893, on the other hand, the selected carpenters worked a less number of hours yearly, varying from 2 700 to 2 800 hours. The lower figures of the Committee must either be due to the selection of workers being less representative, or else the periods of absence being not allowed for in the same way as in the earlier years.

Disregarding the discrepancy in the wages of carpenters in the last years, the comparison has thus confirmed the representativity of the averages from about 1890 onwards.

*Gothenburg.* The Gothenburg records comprise ordinary unskilled workers, pipe-layers, and pavers. The unskilled labour series begins in 1888. From 1891 to 1893 it is based on the earnings of park labourers, which on comparison with the immediately preceding and subsequent years are found to correspond closely to the average earnings of ordinary unskilled workers. From the payrolls from 1888 to 1893 it has, on the other hand, not been possible to extract any data for selected workers except total daily earnings at different seasons of the year. The selected workers, however, who numbered 8—10, invariably had an average annual working time of about 300 days in the subsequent years. This number of days has been used as a basis for computing the annual earnings in the years 1888—1893. No data are available for pipe-layers for the years 1900, 1901, 1904, and 1905. As the trend of wages was otherwise at that time quite regular, it has been deemed possible to use estimated averages to complete the series for these years. In 1915—1918 too, a few corrections had to be made owing to the fact that the cost-of-living increments (*dyrtilägg*) paid then had not been included in the original data.

For part of the time the reliability of the method of selected workers can be tested by comparisons with the average annual earnings published by the Gothenburg Statistical Bureau from the beginning of 1920. Taking first the unskilled workers, we give below

Year	All full-year navvies and sundry workers	8—10 selected unskilled workers	Average earnings of the latter in per cent of the former
	<i>Kronor</i>	<i>Kronor</i>	%
1914 . . . . .	1401	1448	103
1920 . . . . .	4239	4209	99
1921 . . . . .	4531	4376	97
1922 . . . . .	3185	3323	104
1923 . . . . .	2899	3061	106
1924 . . . . .	3146	3127	99
1925 . . . . .	3441	3336	97

(p. 58) the average annual earnings of all navvies and sundry workers employed by the year under the Street Works Department (*Byggnadskontoret*), and of 8—10 selected workers, as well as the latter figures expressed in per cent of the former. On the whole, the agreement is fairly satisfactory.

Similar data for pipe-layers are given in the following table.

Year	All full-year pipe-layers	5 selected pipe-layers	Average earn- ings of the latter in per cent of the former %
	<i>Kronor</i>	<i>Kronor</i>	
1914 . . . . .	1539	1564	102
1920 . . . . .	4288	4791	112
1921 . . . . .	4992	5508	110
1922 . . . . .	3477	3873	111
1923 . . . . .	3039	3481	115
1924 . . . . .	3352	3668	109
1925 . . . . .	3649	3923	108

We find here that the average earnings of the selected workers are about 10 % higher practically throughout than those of all pipe-layers. The more comprehensive average probably includes less qualified men not included among the selected workers. Among the pavers, finally, the agreement is closer, as will be seen from the comparison below.

Year	All full-year pavers	8—10 selected pavers	Average earn- ings of the latter in per cent of the former %
	<i>Kronor</i>	<i>Kronor</i>	
1914 . . . . .	1879	2049	109
1920 . . . . .	4730	4868	103
1921 . . . . .	5233	5418	104
1922 . . . . .	3866	3936	102
1923 . . . . .	3517	3564	101
1924 . . . . .	4005	4130	103
1925 . . . . .	4197	4301	102

As there is no reason why the agreement in the earlier years should be less good than it was in 1914 and from 1920 to 1925, the Gothenburg data may be considered very satisfactory.

*Malmö.* From the Malmö records for the years before 1909 it is not possible to extract any such details regarding selected

workers, nor can any totals be obtained. From the beginning of 1886, however, the Street Works Department (*Byggnadskontoret*) has computed the annual earnings of steadily employed unskilled workers, carpenters, and blacksmiths. The Street Works Department has supplied information regarding the average annual earnings of all workers of the same occupations engaged by the year from 1909 to 1927.

*Norrköping.* In preparing the wage material from Norrköping, it was only in a few exceptional cases possible to trace any selected workers year after year during the period 1865 to 1900, as it was difficult to identify them in the payrolls, presumably because most of the work at that time was more or less seasonal in character. No annual working time, for instance, reaches 200 days until the eighteen-eighties. The method adopted has therefore necessarily been that of tracing the changes in the number of workers and the earnings of one or more gangs. Each year totals for working hours and earnings, and the average number of workers per pay-period have thus been obtained for each occupation, and from these data the average earnings per working day and year has then been calculated. From 1901 on, it has been possible to trace selected workers of the different occupations year after year, and "cross-sections" have also been made covering all the workers employed by the Street Works Department (*Byggnadskontoret*) in the years 1905, 1910, 1915, and 1921. This gives an opportunity to compare the average earnings of the selected workers with those of all the men employed. Taking unskilled workers first, the table below gives a) the average annual and hourly earnings of all full-year workers, b) corresponding datas for selected workers, and finally c) the average earnings of the latter in per cent of the former.

Year	Annual earnings			Hourly earnings		
	a) Kronor	b) Kronor	c) %	a) Ore	b) Ore	c) %
1905 . . . . .	765.23	803.70	105.0	26.4	26.8	101.5
1910 . . . . .	974.50	996.70	102.3	34.6	35.9	103.8
1915 . . . . .	1169.58	1186.00	101.4	37.6	38.1	101.3
1921 . . . . .	3750.40	3880.00	103.5	167.1	167.6	100.3

It will be seen that the agreement is excellent except for the 1905 annual earnings. A similar comparison cannot be made for the other occupational categories, viz. joiners, pavers, rammers, and blacksmiths, as far as annual earnings are concerned, since the selected workers there either include all the men engaged by the year, or else those not working sufficiently long time to allow the

computation of average annual earnings. The latter was the case with pavers and rammers. The comparison below consequently only applies to the average hourly earnings of these categories of workers.

Year	Pavers			Rammers		
	Hourly earnings <i>Ora</i>		Average earnings of the latter in per cent of the former	Hourly earnings <i>Ora</i>		Average earnings of the latter in per cent of the former
	All workers	4-6 selected workers		All workers	4-6 selected workers	
1905 . . .	71.5	71.7	100.3	41.7	42.0	100.7
1910 . . .	73.8	73.8	100.0	51.7	52.0	100.6
1915 . . .	91.7	91.5	99.8	54.0	57.0	105.6

In 1921 the selected workers included all those employed, as in the case of the pavers in 1910. Otherwise, the comparison shows very satisfactory agreement.

*Hälsingborg.* The information regarding municipal work in Hälsingborg refers only to unskilled workers. Selection of workers could be made from 1876 on. For the previous years, however, sufficient information is supplied on the daily earnings at different work and seasons, or on the total amount of wages paid, to take the series back to 1866. From 1920 on, the Street Works Department (*Byggnadskontoret*) has computed the average earnings of all its continuously employed workers. The following table shows how these averages compare with the average annual earnings of the selected workers.

Year	All unskilled workers	7-10 selected unskilled workers	Average earnings of the latter in per cent of the former %
	<i>Kronor</i>	<i>Kronor</i>	
1920 . . . . .	3768	4092	109
1921 . . . . .	3736	4529	121
1922 . . . . .	2714	2823	104
1923 . . . . .	2540	2622	103
1924 . . . . .	2640	2706	103
1925 . . . . .	2935	3018	103
1926 . . . . .	3019	3277	109

The figures apparently do not agree so well in 1920, 1921, and 1926. On closer inspection, however, we find that the averages from the Street Works Department include workers of very differ-



ent qualifications. Some years stone breakers of 70, and workers whose pay was reduced on account of diminished working capacity, were for instance included. The series obtained from the selected workers will under such circumstances probably be of more value.

*Gävle.* In preparing the wage material available in Gävle, the method of selected workers was consistently used right up to 1926. The Street Works Department (*Byggnadskontoret*) exercised the utmost care in the selections. The difference between the annual earnings of the selected workers and the general average is consistently comparatively small. For unskilled workers it thus averaged 3.7 % in 1890, 5.9 % in 1900, 4.3 % in 1910, and 6.4 % in 1920. Unskilled labour is all the time represented by 10 workers. Joiners, carpenters, blacksmiths, and pipe-layers, on the other hand, are represented by only one man each. Considering the care with which this material has on the whole been collected, any differences from an average of a larger number of workers which these skilled individuals might possibly show would, however, probably have kept within very narrow limits. Such an assumption is at least supported by the figures for the dispersion of wages among unskilled workers given above.

The working time, which is stated in days, was 72 hours per week in the eighteen-nineties, and 60 hours from 1899 to May 1st 1908. In the four winter months the work was as a rule reduced to about  $46\frac{1}{2}$  hours per week. After May 1st 1908 the working time was 57 hours per week, and was on May 1st 1918 cut down to 52, and on Jan. 1st 1920 to 48 hours. After 1908 too, it used to be  $46\frac{1}{2}$  hours per week in the four winter months up to the end of 1919, and has since averaged  $45\frac{1}{2}$  hours per week.

*Västerås.* No regular all the year round employment on municipal labour is met with in Västerås until 1889, when the authorities engaged a couple of men and a foreman to do, with the assistance of such casual labour as might be required, all the work of the town. Before that time, workers were only hired as and when needed. The data given for the period 1865—1868 thus refer to casual labour, which is also indicated by the low and very fluctuating number of working hours. In some years the records include only one worker. 3 workers could be selected from 1874, and 5 from 1900. After 1910 the number could again be increased to 10. The agreement between the selected workers is generally very good, as evidenced by the following figures for the dispersions, in per cent, from the average: 1880 7.9 %, 1890 1.5 %, 1900 2.2 %, 1910 3.3 %, and 1920 6.3 %. One of the reasons for this is probably that piece-work was not used to any great extent before 1924.

Before 1902 some of the unskilled workers used to do all joinery

work required without increase in their hourly wage, but since then special joiners have been engaged. The amount of work varied considerably, however, so that none could be actually engaged by the year until about 1915, after which time most of the rolls include 4 joiners.

*Sundsvall.* No payrolls of earlier date than 1888, referring to municipal work in Sundsvall, have been preserved. From that year on, information is available regarding unskilled workers, carpenters, and pipe-layers. Five of the first category are included. A greater number was out of the question, because the majority of the unskilled workers were usually employed in the winter months on stonebreaking for the roads and similar work, which was more in the nature of relief work than of ordinary employment. The irregularity of this work is another reason for trying to avoid the averages being influenced by it. Only two carpenters are included before 1921, as they were the only fully competent ones engaged all the year round. The others who were engaged by the year had a lower rate of pay. Only two pipe-layers were permanently employed — in some years only one.

*Karlskrona.* The information from Karlskrona covers the whole period of the investigation, and it has been possible to use the method of selected workers in respect of unskilled labour and carpenters. The former have numbered five or six, but as now and again their working time has been short, some of them have had to be left out in certain years, leaving only two or three. As a rule their respective annual earnings differ but slightly. The mean deviation from the averages only exceptionally exceed 10 %. It was thus 10.0 % in 1865, 8.1 % in 1870, 4.2 % in 1880, 6.1 % in 1890, 7.8 % in 1900, 13.9 % in 1910, and 1.7 % in 1920. The carpenters were 2 or 3 in number. Some of these have also had to be left out on account of short working time, and in certain years this trade has been represented by only one worker. Data regarding pipe-layers, finally, are available from 1902 onwards, but their exact working time is not known.

*Borås.* The Borås accounts contain information regarding municipal work done from 1868. For the early years, however, it has not been possible to select any individual workers, as all the work was of a casual nature, and performed now by one group of men, now by another. No annual earnings can therefore be ascertained for the time before 1890, nor has it been possible to compute average hourly earnings from this heterogeneous material. From 1890 on, information is supplied on the number of days' work, at stated daily rates of pay, for which the unskilled workers and the joiners were paid on each pay day. Most years, the number

of workers employed during each such period is also given. Such material can be used for obtaining the average annual earnings if, from the number of workers employed during each wage period, we determine how many men it has been possible to employ for 26, 25, 24 etc. wage periods. The average annual earnings can then be calculated for those workers who were employed more than, say, 21 wage periods. The average number of days of employment for the men who have been thus included is then transformed into hours as described earlier. The result will be practically the same, however, if instead we divide the total number of working days by the average number of men employed each wage period during the year, and then convert the resulting average number of working days into hours. The latter method has generally been used in this investigation.

**Table 163. Hourly Earnings (in öre) of Skilled and Unskilled Municipal Workers in Hälsingborg, Västerås, Karlskrona, and Visby 1865—1889.**

Year	Unskilled workers				Carpenters
	Hälsingborg	Västerås	Visby	Karlskrona	Karlskrona
1865 . . . . .	—	10.6	10.3	8.8	9.6
66 . . . . .	12.9	11.4	10.2	8.5	9.2
67 . . . . .	13.3	10.3	12.7	8.0	9.4
68 . . . . .	12.6	9.4	11.5	8.1	11.2
69 . . . . .	12.8	9.0	9.2	7.7	8.8
1870 . . . . .	13.4	10.5	11.6	7.9	9.4
71 . . . . .	15.3	12.0	13.9	9.0	9.9
72 . . . . .	20.0	12.8	16.2	10.1	12.8
73 . . . . .	21.5	15.1	18.5	9.9	13.1
74 . . . . .	21.5	18.1	17.7	11.5	19.4
75 . . . . .	23.4	18.1	15.8	13.2	20.5
76 . . . . .	20.2	19.5	14.4	13.0	25.9
77 . . . . .	17.7	18.7	12.8	12.7	23.9
78 . . . . .	17.0	16.2	11.2	12.5	22.2
79 . . . . .	15.7	13.1	13.1	11.2	20.5
1880 . . . . .	15.5	14.2	12.6	12.4	18.2
81 . . . . .	14.8	15.2	13.9	12.1	16.3
82 . . . . .	16.5	14.1	13.9	11.6	17.6
83 . . . . .	19.0	14.8	13.9	12.4	17.5
84 . . . . .	17.9	15.4	13.9	12.4	18.0
85 . . . . .	18.0	15.8	14.1	12.4	18.0
86 . . . . .	18.0	15.4	14.0	13.1	18.5
87 . . . . .	18.0	15.3	13.9	13.7	18.5
88 . . . . .	18.8	15.2	14.0	13.5	18.6
89 . . . . .	20.1	16.1	14.7	14.6	19.4

**Chart 23. Hourly Earnings (in öre) of Unskilled Municipal Workers in Hälsingborg, Västerås, Visby, and Karlskrona 1865—1889.**

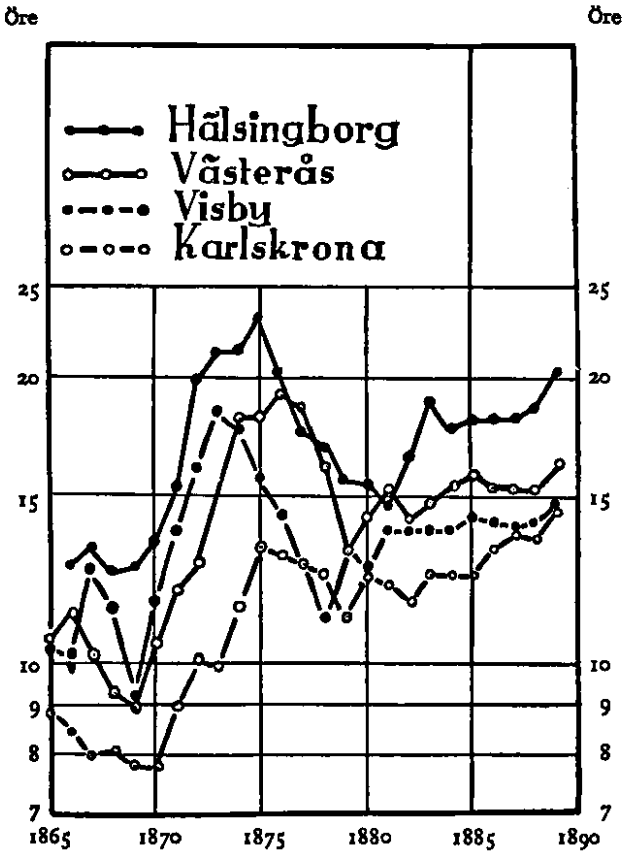


Table 164. Hourly Earnings (in öre) of Unskilled Municipal Workers in Different Towns 1890—1930.

Year	Gothenburg	Malmö	Norrköping	Hälsingborg	Gävle	Västerås	Sundsvall	Borås	Karlskrona
1890	20.8	17.5	—	19.7	19.8	17.0	22.8	15.2	14.4
91	21.1	17.5	—	21.2	22.2	17.3	22.0	14.9	14.6
92	21.4	20.0	—	21.3	22.1	17.4	22.0	15.2	15.1
93	21.6	20.0	—	20.7	22.3	17.1	22.0	15.3	14.8
94	22.2	20.0	—	20.9	21.2	16.5	22.0	15.5	14.3
95	24.4	20.0	—	20.3	19.3	18.1	22.0	15.7	14.3
96	25.4	20.0	18.0	21.3	20.7	19.9	22.0	16.3	16.3
97	25.4	20.0	20.0	23.9	22.1	20.3	22.0	16.9	17.2
98	29.5	22.5	22.0	26.3	23.0	23.5	23.9	20.4	17.7
99	29.9	25.0	25.0	27.5	26.3	25.0	25.0	21.5	17.9
1900	33.2	25.0	25.0	27.3	28.0	23.9	26.3	22.0	19.4
01	34.0	26.0	25.0	27.3	28.4	25.0	27.0	22.7	19.6
02	30.0	26.0	25.8	27.4	26.9	23.0	27.0	21.9	22.4
03	30.5	27.5	25.6	27.3	29.0	24.0	27.0	22.7	22.5
04	31.7	27.5	26.9	27.3	29.5	24.2	28.1	25.5	23.4
05	34.1	30.0	26.8	29.6	27.0	25.9	29.0	30.1	23.4
06	34.2	33.3	28.5	30.5	29.7	27.8	29.6	28.4	25.0
07	39.7	37.4	30.2	31.0	33.0	30.5	31.2	30.5	26.1
08	44.1	39.4	34.4	33.6	34.6	31.5	32.0	32.8	25.9
09	38.9	43.9	36.6	38.9	36.2	34.1	32.0	33.0	27.7
1910	44.8	44.6	35.9	40.2	37.0	34.9	32.0	33.0	26.2
11	42.2	46.8	35.6	43.5	35.9	33.0	32.0	33.0	27.2
12	45.8	48.3	37.1	43.7	36.5	33.0	36.3	34.7	25.6
13	48.3	49.1	37.6	43.8	37.3	40.3	35.0	34.9	27.8
14	55.7	49.8	37.4	47.0	37.5	40.0	35.0	36.5	30.2
15	56.9	49.7	38.1	48.1	40.0	39.0	34.9	37.0	29.5
16	61.1	54.8	39.1	49.1	45.0	40.4	36.4	40.4	31.5
17	79.2	62.1	46.1	60.1	60.7	59.0	52.3	49.9	40.7
18	128.2	104.6	76.8	98.5	94.1	107.0	77.9	73.6	80.3
19	154.7	136.1	140.9	140.8	123.8	127.6	119.9	112.3	107.4
1920	185.9	162.2	173.6	179.9	168.6	152.2	146.8	137.8	135.5
21	184.6	183.8	167.6	199.0	166.8	175.6	150.1	151.9	145.0
22	143.7	147.9	127.6	129.7	143.0	112.9	122.1	123.0	117.5
23	129.9	127.8	106.8	114.8	114.8	105.8	105.0	99.3	107.1
24	131.4	120.9	111.8	117.9	116.0	116.1	101.8 <sup>1</sup>	106.2	104.5
25	142.0	124.4	120.2	131.6	121.3	127.9	113.1 <sup>1</sup>	114.5	105.2
26	146.8	131.2	125.6	142.2	121.9	—	132.3	123.5	117.3
27	154.7	137.8	124.3	135.5	121.9	123.5	132.1	125.2	110.2
28	160.6	142.7	122.5	136.7	118.8	—	130.4	126.3	109.9
29	161.5	138.5	124.2	139.8	121.7	—	129.8	129.8	121.1
1930	173.9	147.0	132.9	140.3	126.0	—	140.2	125.3	115.3

<sup>1</sup> During the greater part of 1924 and 1925 there was a labour conflict, and the work was then performed by temporary employees. The figures given refer to selected workers. The earnings of full-year workers are estimated to have been 105.6 öre in 1924 and 116.9 öre in 1925.

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Table 165. Hourly Earnings (in öre) of Skilled Municipal Workers in Different Towns 1890—1930.

Year	Gothenburg	Malmö	Norrköping	Gävle	Västerås	Sundsvall	Borås
1890 . . . . .	—	23.7	—	—	—	28.7	27.9
91 . . . . .	—	23.7	—	—	—	28.8	25.3
92 . . . . .	—	26.0	—	27.3	—	28.8	32.8
93 . . . . .	—	26.0	—	26.9	—	28.8	24.9
94 . . . . .	35.3	26.0	—	27.7	—	28.8	24.1
95 . . . . .	34.8	26.0	—	26.9	—	28.8	22.8
96 . . . . .	34.5	26.0	—	26.9	—	28.8	23.9
97 . . . . .	36.1	26.0	—	28.8	—	29.5	25.1
98 . . . . .	41.6	29.7	—	31.8	—	31.1	26.4
99 . . . . .	40.2	31.9	—	35.0	—	34.0	29.2
1900 . . . . .	43.1	31.9	—	35.2	—	35.8	28.8
01 . . . . .	42.9	31.9	33.1	35.6	—	36.2	28.1
02 . . . . .	46.3	31.9	31.8	33.4	25.0	36.2	28.1
03 . . . . .	45.4	34.7	31.4	34.3	29.0	36.2	27.0
04 . . . . .	46.3	34.7	32.2	34.5	32.0	37.4	33.3
05 . . . . .	45.9	38.0	33.2	33.2	39.5	38.2	40.6
06 . . . . .	50.0	40.9	35.0	33.7	41.4	38.3	36.2
07 . . . . .	59.5	45.5	36.1	34.5	42.0	40.5	36.4
08 . . . . .	63.3	45.9	39.5	37.4	42.3	41.8	37.0
09 . . . . .	59.1	52.1	39.7	39.6	42.0	41.8	37.0
1910 . . . . .	58.8	53.0	41.0	39.0	42.0	41.8	37.0
11 . . . . .	57.5	52.7	40.3	38.2	40.0	43.5	40.0
12 . . . . .	60.7	53.9	40.9	38.0	41.0	46.0	44.3
13 . . . . .	60.7	55.8	40.4	39.1	43.0	46.7	44.8
14 . . . . .	63.0	56.1	39.5	40.9	43.0	47.4	46.7
15 . . . . .	68.6	55.7	44.6	43.1	42.0	48.7	47.0
16 . . . . .	73.2	60.8	44.7	46.0	44.0	50.1	50.6
17 . . . . .	85.1	73.9	52.9	59.9	55.0	69.9	58.9
18 . . . . .	136.3	107.5	84.1	91.6	90.0	99.4	84.1
19 . . . . .	154.9	144.2	147.2	120.2	132.0	153.5	122.1
1920 . . . . .	212.6	174.9	171.0	165.5	156.7	182.5	149.1
21 . . . . .	226.5	199.0	170.5	179.9	182.2	187.8	161.9
22 . . . . .	159.6	165.0	146.9	143.3	131.9	155.1	131.1
23 . . . . .	143.0	134.8	113.7	116.9	114.0	135.0	109.8
24 . . . . .	150.3	135.6	112.3	116.3	109.9	129.2 <sup>1</sup>	119.0
25 . . . . .	160.8	135.4	120.7	122.7	121.6	141.5 <sup>1</sup>	128.4
26 . . . . .	166.3	136.4	128.6	125.3	—	148.2	126.2
27 . . . . .	170.6	141.2	132.2	133.7	—	146.1	114.6
28 . . . . .	171.1	141.0	134.7	134.9	—	143.0	119.3
29 . . . . .	185.3	139.7	136.1	134.0	—	143.2	125.3
1930 . . . . .	206.3	143.1	144.1	137.0	—	150.3	125.9

<sup>1</sup> During the greater part of 1924 and 1925 there was a labour conflict, and the work was then performed by temporary employees. The figures given refer to selected workers. The earnings of full-year workers are estimated to have been 133.5 öre in 1924 and 146.1 öre in 1925.

*Number of Working Days per Year.*

We have already mentioned that the number of working days per annum gradually grew from the eighteen-sixties up to 1900. As will be seen from the following table, giving quinquennial averages for selected unskilled workers, the increase varies very much in the different towns.

Years	Stock- holm	Hälsing- borg	Västerås	Karls- krona	Norr- köping
1865—1870 . . .	217	101	181	215	175
1871—1875 . . .	278	96	214	230	164
1876—1880 . . .	276	219	196	218	204
1881—1885 . . .	268	256	194	219	208
1886—1890 . . .	253	302	191	244	—
1891—1895 . . .	248	308	214	267	—
1896—1900 . . .	263	323	244	300	—

Stockholm differs from the others in that, as early as the eighteen-seventies, constant work was available as much as in the eighteen-nineties. The increase must thus have begun earlier there than in other towns. The number of working days in 1860—1864 averaged 166. Full-year employment cannot be said to exist until after 1880 in Hälsingborg, after 1886 in Karlskrona, and somewhere about 1900 in Västerås, in which years the number of working days begins to approach 260.

*Wage Systems.*

The primary material on which this investigation is based does not permit the earnings being divided into their various component parts. It has thus been impossible to say how much of the earnings are derived from time-rate pay, from piece-work pay, or from overtime pay. To some extent, however, the importance of, for instance, piece-work can be illustrated by comparing time-rates with actual earnings, though such a comparison must be restricted to the large towns. It is rather difficult to do this for the early part of the period investigated, as it is comparatively seldom possible to discern any uniform day or hour rates for all the workers in one occupation. Uniformity of wages did not become general until in this century, although in certain towns it must obviously have been introduced earlier, particularly in those where a larger number of men were employed. In order to keep on firm ground, however, an investigation of this kind could not be carried further back than to the eighteen-nineties.

The differences in per cent (quinquennial averages) between actual earnings per working hour and the time-rate are given below for unskilled and sundry workers, and carpenters, under the Street Works Department<sup>1</sup> in *Stockholm*.

Years	Unskilled and sundry workers	Carpenters
1891—1895 . . . . .	20	13
1896—1900 . . . . .	24	11
1901—1905 . . . . .	22	4
1906—1910 . . . . .	15	3
1911—1915 . . . . .	15	7
1916—1920 . . . . .	24	18
1921—1925 . . . . .	39	36
1926—1930 . . . . .	65	65

As far as the unskilled workers are concerned, it should be noted that in the periods 1901—1905 and 1906—1910 the average earnings are partly estimated on the basis of the relation between time-rates and actual earnings for the year next preceding or following. The other percentages indicate a rather remarkable tendency in the relation between time-rates and actual earnings. In the eighteen-nineties, and increasingly so in the following decade, the time-rate has decided the earnings, particularly of carpenters. But after 1910 the trend is in another direction. Piece-work was obviously beginning to be used to an increasing extent, and the actual earnings differ more and more from the time-rate, which in the period 1926—1930 may be said to be of no direct significance to the earnings. That this trend is connected with the increasing use of piece-work is proved by the fact that in the beginning of the nineteen-twenties only about  $\frac{3}{4}$  of the work done by the Street Works Department was piece-work, while ten years later the proportion had risen to about 80 %.

As far as *Gothenburg* is concerned, the relation between time-rates and actual earnings can only be examined as far back as 1891 for the unskilled workers employed by the Street Works Department. Up to 1905 that examination must be based on time-rates calculated from the daily earnings. A similar comparison for pipe-layers and pavers cannot be undertaken until 1906 and 1907, as before that time the work was either done exclusively on piece-work rates, or else the daily wages varied so much that averages are practically useless. Below we give, in quinquennial averages, the excess in per cent of the average earnings of these occupational categories over the time-rates.

<sup>1</sup> C. Note 3, p. 10.



## PUBLIC SERVICES

Years	Unskilled workers	Pipe-layers	Pavers
1891—1895 . . . . .	4	—	—
1896—1900 . . . . .	20	—	—
1901—1905 . . . . .	14	—	—
1906—1910 . . . . .	14	9	83
1911—1915 . . . . .	25	10	73
1916—1920 . . . . .	59	40	84
1921—1925 . . . . .	24	22	49
1926—1930 . . . . .	40	31	73

The high percentages of all these categories in 1916—1920 are explained by the circumstance that the monetary inflation did not lead to any immediate corresponding increase of the time-rates, while earnings were passably adjusted to the altered purchasing power of money by cost-of-living increments and family allowances (cf. above). It will be noted that the position of the pavers is different to that of the other categories, the reason being that practically all their work is done at piece-work rates. Developments were otherwise somewhat similar to those in Stockholm. Up to about 1910 there is a relative falling off in the additional earnings, but later this changed — disregarding — for reasons given above, the high percentages of 1916-1920 — into a slow increase up to conditions at the present time. Recent changes in Gothenburg, however, have not been as far-reaching as in Stockholm.

The wage material available from *Malmö* is less suitable for an investigation of the changing relation between time-rates and actual earnings than that from the two other towns. The situation in *Malmö* seems to have differed from that in Stockholm and Gothenburg, in that work on time-rates predominated during the whole period. Piece-work thus does not seem to have been common enough to affect the average earnings noticeably until recent years. Right up to 1925 the unskilled workers did not earn more than about 10 % over the time-rate pay. In subsequent years, however, their additional earnings have risen every year, and reached in 1930 about 28 %.

### *Benefits in Kind and Cash.*

*Stockholm.* Before 1909 no account was taken in the calculation of the averages of the benefits in kind enjoyed by the workers. Certain benefits in kind were of course enjoyed earlier too, in the form of medical assistance and the like, but their pecuniary value cannot be stated. The most important benefit — cash sick-pay — does, however, enter into the average annual earnings. The same applies to 1909 and after, though the value of medical assistance, nursing and medicines, and dressings, can then also be ascertained. The following figures show the increase in the value of these

benefits since 1909, giving the costs in per cent of the total wages paid by the Street Works Department.

	1909	1915	1919	1925	1928
Cash sick-pay . . . . .	0.47	0.75	1.42	1.63	1.60
Cash compensation for accidents . . . . .	0.15	0.13	0.39	0.28	0.22
Medicines and dressings . . . . .	0.09	0.13	0.21	0.13	} 0.59
Medical assistance . . . . .	0.26	0.38	0.47	0.32	
Hospital treatment . . . . .	0.04	0.09	0.10	0.15	} 0.02
Burial grants . . . . .	0.01	0.03	0.03	0.03	
All benefits	1.02	1.52	2.63	2.55	2.43

From 1918 on, the workers have been entitled to holidays. In that year, the holiday wages paid by the Street Works Department amounted to about 1 % of the total wages, and rose the next year to about 2 %. In 1928, 2½ % of the total wages were holiday-pay.

*Gothenburg.* It has been impossible to include in the average earnings the total value of the sickness benefits, as cash sick-pay and expenditure on medical and hospital attendance, medicine etc. cannot be differentiated in the accounts. The cash payments, which are entered in the payrolls, are included in the average earnings, but no evaluation of medical services has been possible. The workers received sick-pay as early as 1892, at that time amounting to 90 öre per day. Free medicine dates from the same year. Not until 1909 is it possible to evaluate the total expenditure on sickness benefits, which then amounted to 2.3 % of the total wages paid, and has in recent years grown to 3—4 % of that sum. The privilege of holiday-pay was introduced in 1912, and was first applied to workers engaged by contract, the majority of whom were foremen and drivers. The length of the holiday was six days. In 1917 this privilege was extended to most of the workers, while at the same time the holiday-pay was raised. A further extension was made in 1924. Holiday-pay averaged 0.2 % of the total wages paid from 1912 to 1916, 1.6 % from 1917 to 1923, and 3.2 % from 1924 to 1926. In 1928 the holiday-pay was 2.8 % of the total wages paid. The variations are of course partly accounted for by the number of seasonal workers employed.

*Malmö.* As far as the workers employed by the Malmö Street Works Department are concerned, information is available from 1909 to 1927 regarding the total municipal expenditure for various benefits, e. g. cash sick-pay, burial grants, medical attendance, medicine, hospital treatment, etc., as well as the total wages paid each year. In that period the value of the benefits grew from about 2 % to about 3 % of the total wages. The value of

holiday-pay in relation to total wages grew in the same time from barely 1 % to about 2 $\frac{1}{2}$  %.

*Norrköping, Hälsingborg, Gävle, Västerås, Sundsvall, Karlskrona, Söderhamn.* Free medical services and holiday-pay were mostly introduced in the second decade of this century, and their value in relation to the total wages paid shows a slight increasing tendency. Except for an odd year now and again, the value of each of these benefits has been from 1 to 3 % of the total wages paid.

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## CHAPTER XV.

### STATE RAILWAYS.

THE building of the Swedish State Railways began in 1855, and the first line was ready for use in 1856. As far as length is concerned, the State Railways have, up to recent times, been extended at a fairly even rate ever since. The construction of private railway lines, on the other hand, has been more unevenly distributed over the different periods. Their expansion was particularly rapid from 1872 to 1878, and in these years their length increased from about half to double that of the State Railways. This proportion has remained fairly constant from the end of the 'seventies until recent years, when the state-owned part of the railway lines has grown in relative size.

The records available do not throw much light on the wage conditions of the employees of private railways, Nor do the wage agreements, as they give no particulars of the division of the staff into wage classes, classification of stations according to the local cost of living, etc. The inquiry into the wages of railway workers has therefore been confined to the conditions prevailing on the State Railways, where a great wealth of both official and other material has been at our disposal.

The inquiry into the wage conditions of the State Railways is mainly concerned with certain categories of labour connected with operating the railways, the "railway staff"; it also deals to a certain extent with the workers engaged on railway construction. The Statistics of the Swedish State Railways<sup>1</sup> contain complete records for the period

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<sup>1</sup> *Statens Järnvägstrafik*, published by the Royal Railway Board in *Bidrag till Sveriges officiella statistik*.

1906—1919 of money wages paid to all permanent and certain supernumerary staff-categories of the State Railways, as well as the value of the benefits in kind received by them. The average number of employees during the year in each category being known, the average wages for the year can be calculated. With regard to the wages paid for constructional work on the State Railways, neither the official statistics nor the special reports published on railway construction contain any data covering the period before 1912. For both categories it has therefore been necessary to make use of unpublished data for earlier years.

#### I. RAILWAY STAFF.

##### *Method of Compilation.*

The best method of obtaining reliable material regarding the money wages earned by the permanent railway workers would be to procure data direct from the account books. The book-keeping system employed, however, has made it practically impossible to obtain any satisfactory averages in that way, as it would have been necessary to go through the particulars from every station. Nor has it been possible to select a small number of workers from each occupational category, as there was no practical way of making a truly representative choice. Information regarding regular wages has instead been obtained from the staff rolls, which are preserved from 1863 (except for the years 1869—1872). These give the names, date of birth, and year of appointment of every man, and also his regular wages each year. The staff rolls of the First Railway-District, which in 1863 comprised the Stockholm—Hallsberg line, and in 1906 had been extended to the Stockholm—Uppsala—Krylbo and the Krylbo—Frövi—Hallsberg—Mjölby lines, have been gone through. In some selected occupations the number of workers in the district on each different rate of pay was determined, and a weighted average for each year was computed on that basis.

*Selection of Occupations.*

At the beginning of the period of investigation, only about 25 % of the total number of workers employed could be considered skilled. Since then, the relative number of skilled workers has grown considerably, and was 33 % in 1890, 38 % in 1900, and 42 % in 1925. In this group the wages of the two principal categories, engine-drivers and firemen, have been included. Last century they represented 30—35 % of the skilled workers, but the percentage has since increased, remaining between 45 and 50 % from 1900 to 1915. The numbers of engine-drivers and firemen engaged on the State Railways have been approximately equal all through, with but minor variations. The engine-drivers are far more highly qualified than the firemen, and are almost exclusively recruited by promotion of the oldest and best firemen. The qualifications required in either of these two groups have in all probability been very much the same throughout the period. The engine-drivers seem to compare most closely to foremen, and the firemen to the skilled workers in the manufacturing industries.

Linemen and station-staffs unquestionably constitute the largest number of unskilled workers, comprising as they do about 80 % of the total, and our investigation has therefore been confined to a study of their wages. As regards qualifications, both are on approximately the same footing, and neither the nature of their work nor the qualifications required in recruits have changed much during the entire period under consideration. These workers can best be compared to the "unskilled" workers of other industries.

The averages for these occupations obtained in the First District may be regarded as fairly representative of the whole State Railway staff. Their reliability may be judged by comparison with the average wages of linemen and station-staffs of the entire State Railway system obtainable from the State Railway Commemorative Publication

of 1906.<sup>1</sup> This publication gives a schedule of regular wages in these two groups every fifth year from 1860 to 1905. A comparison shows that the averages computed for the First District bear the following proportions in per cent to the averages for the whole country:

	Year: 1865	1875	1880	1885	1890	1895	1900	1905
Linemen . . . . .	92.2	107.1	100.2	99.8	101.1	99.4	102.4	101.2
Station-staff . . . . .	104.5	100.7	98.9	99.1	99.1	98.1	101.0	100.9

Except for the first few years, the margin of error in computing the averages from the First District data alone is thus fairly small.

### *Benefits in Kind and Cash.*

The aggregate earnings of the railway staff are made up of a large number of other items over and above the regular wages. In allowing for these items we have had to be content with approximate calculations. The value of bonuses and mileage grants, of housing benefit or billeting allowance, and of clothing or allowance in lieu thereof, have had to be estimated. Other important benefits enjoyed by the staff, the value of which we have considered it impossible to determine, are: right of pension, free medical services, free railway passes, and sometimes free conveyance of goods by rail.

Ever since 1863, free housing accommodation or rent-allowance has been guaranteed to all clerks and workers employed by the State Railways.

In 1863 the rent allowance was 20 % of the pay (including service pay) at the main stations of Stockholm, Gothenburg and Malmö, 15 % in intermediate main line towns, and 10 % at other stations. The allowance was subsequently increased to 20 % at all stations. The free housing consisted for engine-drivers of 2 rooms, for firemen, linemen, and stationstaff of 1 room, in each case with kitchen, cellar, and larder etc. accommodation. The housing benefit invariably included free fuel up to a certain fixed quantity.

<sup>1</sup> *Statens Järnvägars Festskrift*, Vol. IV, Stockholm 1906.

We may assume that practically all engine-drivers and firemen were in receipt of a rent allowance, and that all linemen had free dwellings. The conditions of the station-staff group have altered considerably; the percentage in receipt of free housing accommodation has gradually increased.

It is rather difficult to determine satisfactorily the average value of the linemen's and station-staff's housing benefit. Particulars, dating from the 'seventies, are available of the cost of building new dwelling-houses. The interest and maintenance costs of these amounted to 30 % of the current wages. The staff-rolls occasionally contain notes as to the rent paid for hired accommodation, and this too usually comes to the same percentage. We have therefore assessed the annual value of the housing benefit to the linemen throughout at 30 % of the wages. In calculating the average value of rent allowances and housing benefits to the station-staff, in per cent of their wages, we have taken the numbers in receipt of free housing, and have obtained the following percentages: prior to 1875: 15 %, 1875: 20 %, 1876—1880: 21 %, 1881—1885: 23 %, 1886—1897: 24 %, and 1898—1906: 26 %.

The bonuses and mileage allowances received by engine-drivers and firemen, which vary widely from year to year, must also be added to their regular wages. The sum paid on this account cannot be expressed directly in per cent of the wages. The official statistics publish the total sums paid each year to engine-drivers and firemen in the form of bonuses and hourly wages. An attempt to apportion these amounts to the known numbers of engine-drivers and firemen did not, however, produce a plausible result, as it is not known how much was paid to the permanent staff and how much to supernumeraries. The only alternative was therefore to make a detailed study of the accounts. This study was also restricted to the First District, and to one summer and one winter month in each of certain years (1875—1880, 1885, 1887, 1890, 1893, 1895, 1900, 1903, and 1905), averages being struck for each month studied. This limitation of the scope of the inquiry was



necessitated by considerations of time. Neither bonuses nor mileage allowances are totalled anywhere in the account books, and the sums paid out during the periods investigated have therefore had to be extracted from each individual account, in which the bonuses are moreover booked under several headings. For the years covered by the investigation it has been possible to calculate what percentage of the total bonuses and mileage allowances had been paid to the permanent staff. On the basis of these, we have estimated that the following percentages of the total sums paid in bonuses have been paid to the permanent staff:

Period	%
1865—1877 . . . . .	90
1878—1880 . . . . .	100
1881—1893 . . . . .	95
1894—1896 . . . . .	85
1897—1906 . . . . .	70

The total bonuses paid to the permanent staff have been calculated on this basis, and have been apportioned to engine-drivers and firemen according to their relative numbers in each year, and on the assumption that a driver receives 50 % more than a fireman. Although the sums thus obtained are only approximate, they should be quite accurate enough for our purpose.

To the total wages must finally be added the clothing allowances paid to linemen and station-staff and, prior to 1906, the clothing in kind supplied to engine-drivers and firemen (the value of the latter has been estimated to be equal to the clothing allowance).

#### *Trend of Wages.*

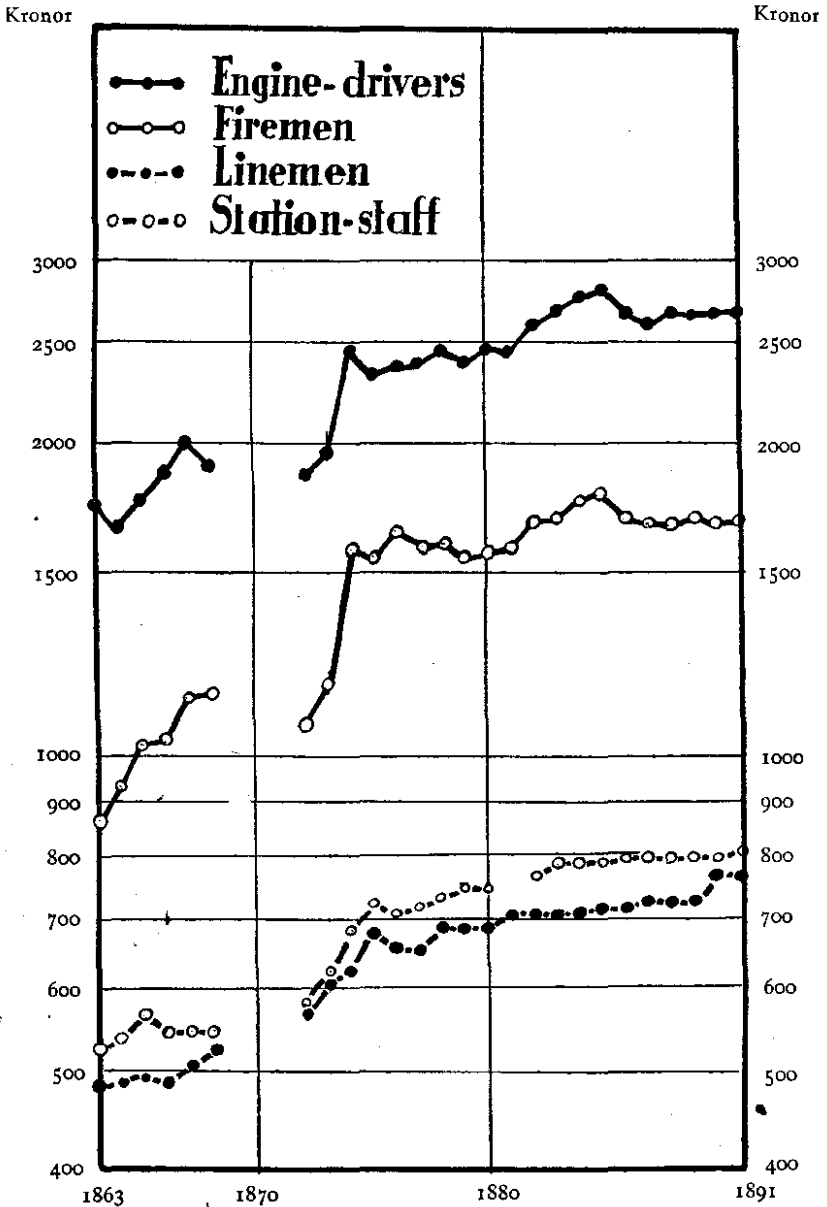
Table 166 contains particulars of the average earnings from 1863 to 1906 of each of the four staff-categories investigated, including the computed or estimated values of benefits in kind and cash in the First Railway-District. The data for the years 1906—1919 have been extracted from the Official Statistics, and refer to the entire State Railway system.

Table 166. Annual Earnings (in *kronor*) of the State Railway Permanent Staff 1863—1919.

Year	En- gine- drivers	Fire- men	Line- men	Station- staff	Year	En- gine- drivers	Fire- men	Line- men	Station- staff
1863	1725	863	481	518	1894	2585	1585	761	796
64	1639	927	484	530	95	2620	1633	764	795
65	1731	1014	490	556	96	2639	1631	767	802
66	1847	1032	488	540	97	2539	1556	900	805
67	1998	1124	501	543	98	2516	1534	857	843
68	1898	1137	521	543	99	2206	1350	915	877
—	—	—	—	—	1900	2228	1331	962	906
1872	1813	1060	559	569	01	2238	1332	934	899
73	1932	1162	603	617	02	2189	1319	920	910
74	2446	1556	616	682	03	2264	1358	942	934
75	2291	1538	668	716	04	2285	1380	939	933
76	2346	1606	647	702	05	2294	1384	953	954
77	2350	1564	651	708	06	2254	1397	949	938
78	2411	1588	686	733	1906	2171	1388	1027	1025
79	2366	1513	693	736	07	2720	1522	1324	1301
1880	2422	1550	694	735	08	2699	1801	1391	1354
81	2410	1578	699	—	09	2661	1801	1331	1335
82	2588	1664	701	763	1910	2730	1869	1326	1322
83	2659	1698	698	778	11	2784	1869	1349	1370
84	2731	1747	702	779	12	2838	1822	1327	1369
85	2768	1750	712	783	13	2908	1899	1354	1388
86	2608	1676	714	786	14	2928	1875	1347	1374
87	2584	1664	716	787	15	2970	2012	1488	1527
88	2609	1636	718	790	16	3036	2114	1494	1601
89	2603	1666	718	791	17	3225	2287	1681	1771
1890	2608	1637	762	793	18	5308	3750	3023	3150
91	2621	1643	759	796	19	6106	4499	3841	3927
92	2612	1630	757	797					
93	2672	1649	759	795					

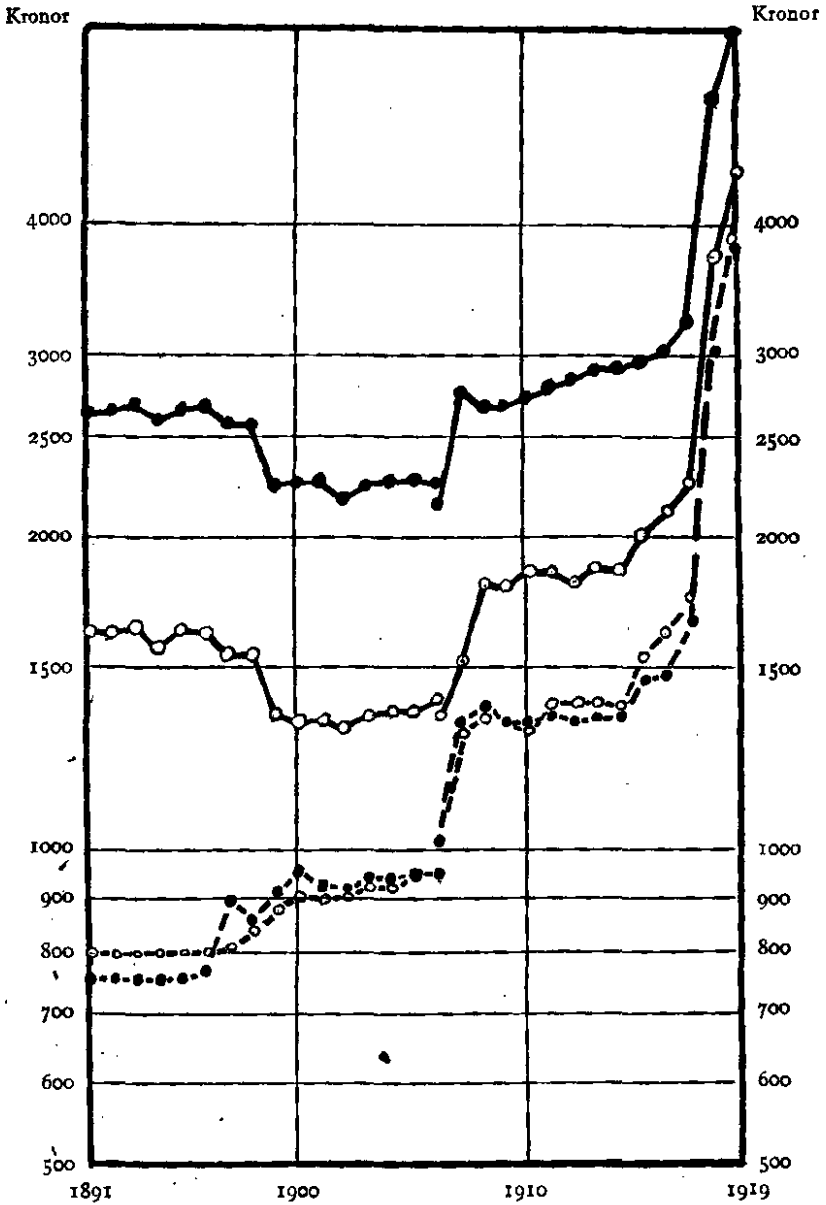
As we have already mentioned, the data for the years before and after 1906 have been obtained in different ways. It will be seen, however, that in the year in which the change was made the two series agree fairly closely, though the estimated additions to the regular wages prior to 1907 are apparently somewhat too low in respect of linemen and station-staff. This may conceivably be largely due to the fact that, in the years immediately preceding the long-awaited settlement of the wage question in 1907, these lowest paid categories of workers had had opportunities of earning additional income, the amount of which it has not been possible to estimate. The margin of error is apparently not as wide at any time during the entire

Chart 24. Annual Earnings (in *kronor*) of



# STATE RAILWAYS

the State Railway Permanent Staff 1863—1919.



preceding period as in the years immediately before 1907. As far as the station-staff is concerned, the estimated annual earnings are nevertheless probably somewhat too low all the way through, as some of the station-staff earn mileage allowance as supernumerary guards, loaders, etc. Owing to the fact that all the men are included in the averages, these will vary with the number of the employed. The fall in engine-drivers' and firemen's wages in 1899 was due to a heavy increase in the number of employees, a number of less skilled and lower paid men having been taken on in that year.

On the whole, it may be said that the wages of the two skilled groups, drivers and firemen, have followed the same course. In the 'sixties the annual earnings of drivers were 70 to 80 % above those of firemen; during the boom in the 'seventies there was a temporary change in the ratio, which was then reduced to 46 %, but from 1877 right up to the war it was fairly constant, ranging — with only minor variations — around 60 %. During the war the difference again diminished, and in 1919 it was reduced to 36 %.

Throughout the entire period from 1863 to 1919 the annual earnings of the two unskilled groups remain approximately on the same level, though with a small difference in favour of station-staff, except from 1897 to 1910, when the linemen's wages were as high or even slightly higher. The relation of the earnings of skilled to those of unskilled occupations, on the other hand, has changed considerably. From 1897, a marked levelling process is apparent, and the difference between them becomes less and less. Whereas the earnings of the drivers had up to that year exceeded those of the linemen by about 182 %, that percentage had by 1900 dropped to 132 %, and by 1910 to 106 %. While the annual earnings of engine-drivers rose 31 % and of firemen 62 % from 1863 to 1906, those of the linemen increased 97 %, and of the station staff 81 %. At the time of the great rise of wages in 1917—1919 the levelling process became still more rapid, and the relative difference between engine-drivers and linemen dropped from 92 % to 59 %, while the absolute difference increased.

The general business cycles are not very clearly reflected in these wage series, the trend of which is very even owing to the lack of flexibility which from the very outset has marked the wage policy of the State Railways. Nevertheless, the most marked increases in wages coincide with the general business booms. Wages rose for all categories in 1872—1875, 1881—1885, 1906—1908 and 1917—1919, and in 1896—1900 for linemen and station-staff. The earnings suffered no appreciable reductions, except in respect of engine-drivers and firemen in 1898—1899 (12 %), which was presumably entirely due to the substantial increase in the number of men (40 %) and the accompanying accession of less highly skilled labour.

## 2. WORKERS ON RAILWAY CONSTRUCTION.

In the early years of railway building, any unskilled locally available labour was primarily employed, this being usually well qualified to do the work. The only difficulty, particularly in the sparsely populated districts where the work frequently had to be done, was to obtain a sufficient number of men. A special class of workers, who were exclusively or chiefly employed on such work wherever it could be found, eventually arose during the extensive railway-building operations of the eighteen-seventies. A rather mobile social group thus arose, closely associated with other labour groups, primarily with the unskilled workers of the towns — chiefly in the building trade — and with the agricultural labourers and forestry workers of the rural districts. The number of workers on road and waterway construction was estimated at 12,000 in 1920, about 2,000 of whom were employed by the State Railways.<sup>1</sup>

### *Method of Compilation.*

Daily work-lists and other forms of records relating to the railway construction work are preserved in the State

<sup>1</sup> Cf. *Löner och levnadskostnader vid Statens järnvägsbyggnader etc.* (Wages and Cost of Living in Constructional Work on the State Railways), *Socialstatistik, Sveriges officiella statistik*. Stockholm 1924.

Railway archives. From these, the earnings of railway labourers can be computed up to 1889, but after that year no details whatever can be derived from the accounts, which after that date contain only the piece-work rates and the total sums paid to each gang. Each job was in fact let out on contract to a gang of workers, or to a contractor, who in that case himself had to engage men to do the work. When the job was completed, payment was made to a representative of the gang or to the contractor, who then distributed the money earned amongst the several workers. The amount received by each was thus an entirely private affair between the workers, and did not appear in the railway accounts. Nor do these, after 1889, contain any particulars of the size of the gangs or the number of working days spent on a contract, and even approximate estimates of the earnings are therefore impossible. Prior to 1889, on the other hand, each worker was engaged by the railway authorities direct, and all the daily earnings — whether on time- or piece-work rates — were consequently entered in the books. The more extensive railway-building operations were apportioned to the several administrative districts concerned. The men working on contract received a certain sum per day (usually from 72 öre to 1 krona) on account. On completion of the contract, the money already paid on account was deducted from the agreed price, and the surplus was distributed according to the number of days' work each man had done under the contract.

As regards the building operations examined in the course of this inquiry, we have gone through all the work-lists for six wage periods evenly distributed over the year, and have counted the number of working days for each wage class receiving time-rate pay, at the same time recording separately the number of working days for which payments on account were made. We have also added together all the more important contracts, and the number of working days spent on each, and from these totals we have calculated the average percentage of surplus in each period. After adding this average surplus to the

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**Table 167. Daily Earnings (in öre) at Constructional Work on the State Railways.**

	Year	Daily earnings in summer	Daily earnings on piece-work in summer	Average for the whole year	
				Weighted	Not weighted
Western main line from Gothenburg	1855	90	—	96	94
	56	122	127	125	127
	57	135	163	131	129
	58	164	192	157	151
	59	164	192	157	151
	1860	200	—	196	196
	61	185	214	219	217
	62	152	—	146	143
Southern main line from Malmö	1855	106	161	105	105
	56	112	174	109	106
	57	126	183	115	120
	58	166	—	154	158
	59	147	149	138	139
	1860	—	—	134	134
	61	167	184	163	163
	62	193	203	191	182
	63	203	232	170	187
	64	168	157	165	164
Western main line from Stockholm	65	137	148	134	135
	1858	175	192	174	159
	59	158	175	159	150
	1860	186	199	177	171
	61	165	182	159	158
	62	168	231	174	175
	63	165	—	166	167
Southern main line from Falköping	1858	143	145	145	145
	59	135	134	136	137
	1860	146	145	142	139
	61	154	151	150	146
	62	155	152	157	155
	63	165	179	160	158
	64	167	184	158	150
Connecting line, Örebro—Hallsberg	1860	150	159	145	140
	61	167	163	154	150
	62	171	184	163	161
Northwestern main line, Laxå—Kristinehamn	1864	—	—	163	166
	65	202	205	195	184
	66	—	—	170	167
	67	145	149	144	145
Connecting line through Stockholm	1864	196	226	189	192
	65	211	230	193	192
	66	275	191	265	260
	67	—	189	256	238
	68	242	169	205	207
	69	249	172	239	233
	1870	296	176	274	274
	71	271	188	253	250



Table 167. (Cont.). Daily Earnings (in öre) at Constructional Work on the State Railways.

	Year	Daily earnings in summer	Daily earnings on piece-work in summer	Average for the whole year	
				Weighted	Not weighted
Northwestern main line, Kristinehamn—Arvika	1867	136	—	—	—
	68	146	146	152	168
	69	177	178	161	151
	1870	167	168	154	160
	71	174	175	156	165
	72	208	207	201	201
Eastern main line, Norrköping—Nässjö	1871	168	170	162	148
	72	198	199	190	195
	73	213	214	203	201
	74	278	290	255	254
Northern main line, Uppsala—Sala—Storvik	1871	—	—	150	148
	72	212	227	199	189
	73	215	226	203	205
	74	276	294	268	245
	75	225	229	210	208
	76	242	254	214	218
Northern main line, Storvik—TorpsHAMMAR	1875	210	212	205	198
	76	231	238	207	208
	77	245	259	227	225
	78	207	230	178	190
Main line through Norrländ	1879	195	189	175	176
	1880	190	191	177	174
1st District	81	243	261	219	200
Northern main line TorpsHAMMAR—Riks- gränsen	1875	315	388	323	328
	76	281	296	262	268
	77	257	254	236	237
	78	261	267	229	234
	1876	295	295	298	277
	77	341	364	352	327
	78	323	339	326	327
	1879	233	235	238	233
3rd District	1880	219	219	237	219
	81	274	276	261	248
	82	270	272	268	262
	83	290	356	284	294
	1882	—	244	227	228
	83	249	249	239	232
Northern main line, Bräcke—Sollefteå	84	257	252	246	242
	85	256	257	240	223
	86	238	240	229	216
	87	243	188	225	220
	1887	245	246	242	238
	88	275	268	247	255
Main line through Upper Norrländ, Långsele—Vännäs	89	—	263	242	239

total amount paid on account for the working days employed, we thus get a complete record of the number of working days and the amounts earned per day. Multiplying the numbers of working days by the corresponding earnings, and adding the products, we get the total amount paid in wages, and are able to calculate from that the average daily earnings during the wage period in question. The reason why we have had to employ this complicated method of calculation is that the railway book-keeping system does not distinguish between the costs of labour and other costs, and consequently not even the foremen's returns could furnish any details of the wages paid.

#### *Trend of Wages.*

Average daily earnings have been computed for the whole year, irrespective of whether time- or piece-work rates were paid. We have worked out both unweighted averages and averages weighted by the volume of work performed in each wage period. The unweighted averages represent the average daily earnings of workers engaged on railway construction throughout the year. The weighted averages, on the other hand, essentially express the average cost of a day's work in each particular year. Because the summer earnings are of special interest we have calculated not only the average of all day-works during the summer months, but also the average daily earnings on piece-work during the summer. The averages for each section of railway line of course only cover the few years while work was in progress there.

Owing to the various series being so short, it is difficult to speak of any uniform trend of wages. We find, however, generally a rise in the earnings during the first half of the 'seventies, followed by a fall towards the close of that decade, after which the daily earnings again show a general upward tendency.

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**BOOK III**  
**AGRICULTURE AND FORESTRY**

## CHAPTER XVI.

### AGRICULTURE 1860—1914. SOURCES AND METHODS.

#### *Wage Systems. Period of Employment.*<sup>1</sup>

THE following are the main forms of pay met with in agriculture:

1. Daily wages, with or without free quarters and allowances in kind.
2. Fixed annual cash wages combined with free housing and fixed annual quantities of certain products, such as milk, rye, wheat, barley, oats, potatoes, malt, herrings (*stat*).<sup>2</sup>
3. Farm servants' pay, which is an annual or monthly cash wage, with free board and lodging.

As another form of pay might also be mentioned the croft system, in that the crofters, i. e. tenants of small holdings, have to perform a certain number of day-works per annum for the landowner.

There is no sharp distinction between these main forms. Day-labourers thus often receive, besides their daily wage, certain quantities of articles of consumption, e. g. milk and potatoes, while the *statare* (labourers paid cash wages combined with *stat*) sometimes are not paid a fixed annual cash wage, but so much per day's work. For a general appreciation of agricultural wages, all these differences must be understood.

Payment in kind has probably become much rarer in agriculture during the period 1870—1930. This is apparent

<sup>1</sup> For a description of the structure of agriculture and the development of the different classes of agricultural labour, see Book IV, Chapt. XXI.

<sup>2</sup> Cf. Appendix to Chapter XVIII, Table 208, where examples are given.

already from the fact that farm servants and labourers living-in (*inhysesshjon*),<sup>1</sup> who in 1870 amounted to about half of all the agricultural labourers, had in 1920 been reduced to about one fourth.<sup>2</sup> Payments in kind are nevertheless still of very great importance both on small and large farms. Small and medium sized farms mainly employ servants receiving board and lodging beside their cash wages, and day-labourers, who are usually boarded by the employer while working for him, the daily rate being then slightly lower than if they find for themselves. On large farms married labourers are usually paid on the *statare* system, and to some extent the day-labourers also receive free lodging and a patch of land, as well as fuel and certain provisions. Young labourers living with their parents usually get part of their wages in the form of provisions for the family, e. g. a couple of litres of milk per working day. The agreements with day-labourers occasionally entitle these to purchase farm produce at less than market prices.

Detailed information how far different forms of pay were practised in the years after the war is obtainable from a Social Board inquiry into conditions on large and medium-sized farms in 1921.<sup>3</sup> Of the 18,365 male labourers included, 53 % were *statare* and 31 % day-labourers. Only 3 % were servants boarded by the employer, while the remaining 13 % were crofters. Of the day-labourers about three fifths were paid cash wages only, about one fifth received housing, fuel, and a plot of land, while another fifth had certain other benefits in addition. Out of 2,144 female labourers about 89 % were day-labourers, 6 % farm servants boarded by their masters, and 5 % *statare*. Among the female day-labourers about one third received benefits in kind. It will be seen from this that, even on large farms, a goodly proportion of the earnings are obviously still paid in kind. This is important

<sup>1</sup> Cf. p. 198.

<sup>2</sup> Cf. Table 185.

<sup>3</sup> *Arbetartillgång, arbetstid och arbetslön inom Sveriges jordbruk* (Labour Supply, Working Hours, and Wages of Agricultural Labour in Sweden); annual reports published by the Social Board in *Sveriges officiella statistik*, 1911—1928. Cf. vol. 1922, p. 61.

to remember when comparing agricultural and other wages, or agricultural wages at different times. In every comparison of this kind, the value of the benefits in kind must of course be estimated, a procedure which for obvious reasons must always give approximate results.<sup>1</sup>

The pay of permanently employed hands being usually considerably less than that of casual labourers, the period and nature of the employment must be taken into account when considering the trend of agricultural wages, especially as considerable changes have occurred in these respects since the 'seventies. Servants, and *statare* who are engaged by the year, are the most important of the permanently employed groups, together with day-labourers who have either contracted to work for the full year, or are employed for the whole summer half-year, on one farm. Labourers engaged for shorter periods are, however, often also regarded as 'permanently' employed, and there is no definite line of demarcation.<sup>2</sup> The group of permanently employed day-labourers has certainly increased, particularly in the industrialized parts of the country, but this is mainly due to the *stat*-system being gradually replaced by cash wages, more especially on the company-owned estates (*Bruk*),<sup>3</sup> where practically only permanently employed day-labourers are now engaged. With respect to conditions of employment and pay, they have approximately the same status as the industrial workers. In the farming districts proper, the permanent day-labourers seem to be of less importance, although the large estates fairly commonly let small cottages or crofts rent-free to agricultural labourers who undertake to work for some considerable period at a fixed daily wage. Crofters, and the sons and daughters of *statare* and smallholders, are also frequently engaged more or less permanently. The large majority of day-labourers, however, should

<sup>1</sup> Cf. p. 106 fol.

<sup>2</sup> *Lantarbetarnas arbets- och löneförhållanden inom olika bygder och de typiska lantegendomar* (The Conditions of Work and Wages of Agricultural Workers in Different Districts and on Typical Farms), published by the Social Board in *Sveriges officiella statistik*, Stockholm 1915, p. 107 and *Arbetsartillgång* etc. 1911, p. 42.

<sup>3</sup> See p. 214.

properly be regarded as casual or seasonal labourers, working on the farms for short periods in the summer, and earning their living in the other seasons as lumbermen or road-makers, etc.<sup>1</sup> The number of casual day-labourers seems to have augmented even more than that of permanently employed day-labourers. The great increase in the number of all day-labourers since the 'seventies is therefore equivalent to an increase in the relative importance of casual to permanent labour, this circumstance being of the greatest significance to the trend of wages.

The farm servants can be divided into those who are employed by the year, and those who are engaged for short periods. The Domestic Servants' Act (*tjänstehjónsstadgan*)<sup>1</sup> only referred to annual engagements. According to the Social Board inquiry into the work and wages of agricultural labourers, three fourths of all the farm servants and *statare* in 1911 were engaged in accordance with the stipulations of the Domestic Servants' Act in its original form, and were thus permanently employed. In districts where small-holders and freehold farmers predominate, e. g. in Småland, northern Sweden, and certain portions of western Sweden, the majority was still greater. Farm servants were nevertheless, even in these districts, sometimes engaged for shorter periods, i. e. on other conditions than those stipulated in that law. On small farms, summer service is sometimes preferred to annual service by the farmer, who then does not need to board a servant all the year round when he is really needed only in the summer. It is also preferred by the unmarried worker, whose pay for the summer's work will be only slightly (at most a third) less than for a full year, and who then can obtain other casual work in the winter.<sup>2</sup> The trend may therefore be towards shorter periods of employment even in respect of servants. However, most of them are probably still employed by the year.

The rate of pay is less in the winter than in the summer for both permanent and casual day-labour, partly because

<sup>1</sup> Cf. p. 198.

<sup>2</sup> Cf. *Lantarbetarnas arbets- och löneförhållanden* etc., p. 58.

the daily working hours are shorter. The difference between summer and winter pay is greater than the difference in working hours per day, however, which is obviously due to the greater demand for labour in the summer, and possibly also to the more strenuous work required for completing the necessary operations in the farming season proper.

The relation of male to female labour in agriculture, and the wages paid to each, are also of interest when considering the trend of wages. Women's wages are considerably lower than those of men, both in respect of the cash annual pay for domestic service and of the rates which apply to permanent and casual day-labour. Farm-work, however, is largely of such a nature that there is no competition between the sexes. Female labour is naturally of most importance on small or medium-sized farms where the work is mainly performed by the family and the servants, the women servants usually tending the cattle and helping with the milking, besides doing the housework. On larger farms, the *statare* wives assist in the milking. Relatively few women are permanently employed as day-labourers. The principal work for which female labour is employed is occasional assistance in harvesting. In the counties of Malmöhus and Kristianstad, however, a large number of women are employed in the sugar-beet fields.<sup>1</sup>

Some interesting data regarding the variation of wages with the age and capacity of the labourers are found in the report of the Social Board on an inquiry made in 1922 into certain conditions of labour and wages in agriculture.<sup>2</sup> This shows that the earnings of the young men rise until the age of 25 or 30, when they attain to the usual level of able-bodied workers. For *statare*, the wages then remain fairly constant until they are about 55 years old, when they begin to drop; for farm servants and day-labourers they begin to go down a little earlier. Women seem to receive standard wages at as early an age as 20 or 25, and continue to do so until they are 40 or 50. The fact that a compara-

<sup>1</sup> *Lantarbetarnas arbets- och löneförhållanden* etc., pp. 121 and 122.

<sup>2</sup> *Arbetartillgång* etc. 1922, p. 110.



tively large number of labourers in the 'fifties were in receipt of the highest pay, may show that not only physical strength, but also skill and experience, affect the wages.<sup>1</sup>

In order to assign their proper significance to these variations of agricultural wages, it is necessary to know what proportion of the labourers belong to the different age and occupational groups. With regard to the age groups, the only data available are unfortunately those found in the 1921 Report of the Social Board, which is dealing mainly with permanently employed labour on large farms. We find that no less than 64 % of the *statars* were between 25 and 50 years old, while the majority of the day-labourers were younger or older. The highest ages were more numerous among the day-labourers who received housing accommodation from the employer than in the group receiving other forms of pay. The prevalence of different ages in the different wage-groups is due to the fact that the labourers circulate to some extent between the several wage systems. The young men generally first go out as day-labourers for cash wages, or as boarded servants. When they subsequently marry, they as a rule become *statars* or crofters, and as they grow older usually revert to work for a daily wage. Then they are sometimes allowed to retain their old house, or move into a day-labourer's cabin.<sup>2</sup> According to the same authority, the age distribution of female labourers is approximately the same as that of the men. In the age-groups below 25 years, however, the proportion of women is slightly lower, probably because many young girls find employment as domestic servants in the towns and industrial centres.<sup>3</sup>

The age-distribution among the casual labourers cannot be ascertained for lack of exact information, nor can the changes in this since 1870 be determined except on the basis of certain assumptions. At least during the first period

<sup>1</sup> *Arbetartillgång* etc. 1922, pp. 101 and 110.

<sup>2</sup> *Arbetartillgång* etc., p. 69.

<sup>3</sup> According to a private inquiry of 1930 into the working of the *statars*-system in Södermanland, the average age of the girls who had left home was 16.5 years, and of the boys 18.5. (Cf. *Den sörmändska statarklassen*, The *Statars* Class in the County of Södermanland, Stockholm 1931, p. 91.)

of the large exodus, i. e. before the end of last century, the number of young and middle-aged men, who more easily could find employment in industry, can be assumed to have dropped relatively more rapidly than the number of old men.

Skilled labourers on the large farms, i. e. joiners, blacksmiths, engineers, and gardeners, as well as those who hold positions as foremen, i. e. land stewards, bailiffs, and head cattlemen, are paid considerably higher wages than other labour. Grooms and cattlemen are also as a rule paid higher wages than field labourers, although the higher rate is balanced by longer working hours, so that their earnings in a year, if reduced to hourly earnings, will be even less than those of field labourers.<sup>1</sup> According to the Social Board inquiry in 1921, about 20 % of the total permanent staff on large farms were foremen or skilled workers. About 15 % were grooms and cattlemen, and about 65 % field labourers.<sup>2</sup>

### *Sources and Methods.*

An investigation into agricultural wages meets with great difficulties, partly on account of the nature of the material, and partly because of the great divergencies in both the size and the composition of the wages. The resulting wage series cannot without qualification be accepted as an expression of the general trend of wages. In each instance, one should possess a thorough knowledge of which particular wages are included in the annual averages, and of the significance of all the different types of wages from which these are calculated. The investigation is, however, largely based on material of such a nature that that knowledge is necessarily rather difficult to acquire, and consequently the degree of reliability of the averages and their variations cannot always be stated.

The inquiry into agricultural wages is based on two parallel wage series contained in the Official Statistics: the *Markegång* Scales, and statistical information from the

<sup>1</sup> Op. cit., pp. 62 and 63.

<sup>2</sup> *Arbetarilgång* etc. 1922, p. 66.

Agricultural Societies, the latter starting in 1865. For the period after 1910 the Board of Trade and the Social Board have published wage statistics for agricultural labour. An account of these statistics, in this chapter called the "Social Statistics", will be given in Chapter XIX.

The *Markegång* Scales are official annual lists, giving the value in cash of various commodities and services, determined as prescribed by law. The principal object of these Scales was to fix the cash value of all dues in kind from tax-payers to Government or Communal Authorities etc.<sup>1</sup> The Scales, which also included the prices of agricultural labour, were fixed in each county for one year at a time by special deputies, elected by the County Councils concerned and representing various interests. They were based on market-price returns from the Communal Authorities to the High-Bailiff (*Kronofogde*) of each bailiwick (*fögderi*). These prices were summarized in averages and, together with the primary data and the observations of the High-Bailiff, forwarded to the County Government. Having received similar returns from the Municipal Councils, the County Government determined, from them and from the bailiwick-averages, the county averages, on the basis of which the market-price deputies finally fixed the Scales of Market-Prices (*Markegången*).

One drawback of these Scales, when it is a question of determining the agricultural wages, is that the day-rates paid in the towns have influenced the pricing. This drawback we have eliminated by selecting in the primary material — which is preserved in the Land Revenue Board (*Kammarkollegium*) archives — the rural data. The bailiwick averages have then been used for the computation of county averages. The figures used for the purpose of this inquiry are thus not those of the *Markegång* Scales, but county averages of the rural prices on which the Scales were originally based. This, however, does not eliminate another weak point of the material: as furnished for the evaluation of public and private dues of various nature,

<sup>1</sup> For further information on this subject, see Myrdal, *The Cost of Living in Sweden 1830—1930*, Stockholm 1932, pp. 25—32.

the primary price data can hardly be expected to be absolutely objective, but might conceivably be affected by individual economic interests. The object of the above procedure was just to prevent local or private interests affecting the final scales. But it is quite impossible to say if, or to what extent, the authorities that supplied the primary data were biased by such interests.

The *Markegång* Scales use various designations for the day-labour rated, such as *jordboksdagsverke*, *hjälpedagsverke*, *årligt dagsverke*, *drängedagsverke*. By *jordboksdagsverke* is meant such day-labour as formed part of the annual land-tax or geld payable by each homestead according to the Land-Register (*Jordeboken*), as distinct from *hjälpedagsverke*, which in certain parts of the country was compulsory for the peasantry beside the ordinary land-taxes.<sup>1</sup> The money equivalent of the day-work tax having in 1855 been assessed, the designations *jordboksdagsverke* or, synonymously, *årligt dagsverke*, seem nevertheless to have been retained in the assessment of the value of the actual labour by means of which the ordinary land-tax could be paid. *Hjälpedagsverke*, which has gradually disappeared or been replaced by money-taxes,<sup>2</sup> occasionally appears to have been assessed in the *Markegång* Scales on different principles than *jordboksdagsverke*. From the wage statistics point of view, it is obviously more expedient to consider only such labour as had to be performed regularly, and the rates given for *hjälpedagsverke* have therefore been left out. The *Markegång* material, however, usually gives the price of *drängedagsverke*,<sup>3</sup> irrespective of what kind of taxes could be paid by means of the day-work thus assessed. In certain counties the *Markegång* returns give both *jordboksdagsverke* and *drängedagsverke* side by side. These are generally exactly alike year after year throughout the whole period. For the occasional years when the two prices differ, their arithmet-

<sup>1</sup> Cf. *Linder, Sveriges finansvärt*, Stockholm 1887, p. 252 fol. and p. 270 fol.

<sup>2</sup> Cf. *op cit.*, p. 292.

<sup>3</sup> I. e. the labour performed by one man in one day, as distinct from *ohedagsverke*, which is the work done in a day by a man and a horse.

ical mean has been considered to represent the current day-rate in that year. The difference never exceeds a few per cent, however. The *Markegång* returns usually give the annual average rate for day-work.<sup>1</sup> Any special prices given for harvest day-work, *slätterdagsverken*, have been disregarded.

The *Markegång* rates are to some extent supplemented by the figures given in the annual *Agricultural Statistics*<sup>2</sup>, which from 1865 on give the average wages of labour employed in agriculture, computed for each county by the Agricultural Societies (*Hushållningssällskap*).<sup>3</sup> They give for each district the annual wages of male and female farm servants boarded by the farmer, the value of the cash wages and *stat* of male and female *statare*, and the day-rates in summer and winter for male and female agricultural labourers finding for themselves. Right into the 'nineties (at different times in different counties), however, the data of the Agricultural Societies suffer from the weakness that they state the highest and lowest values only.

The extreme differences between the highest and the lowest rates of the Official Statistics, and the circumstance that the figures given are frequently rounded off and exactly the same for several years running, even when there is reason to believe that wages have varied considerably, give rise to the assumption that the official wage-data are largely a result of more or less arbitrary estimates of the wages. No definite information has been obtainable regarding the interpretation of these figures, as the primary material has not generally been preserved. Only from the counties of Uppsala and Kopparberg has it been possible to obtain the original data on which the official figures were founded.<sup>4</sup> A comparison between the day-rates of the *Agricultural Statistics* and the primary

<sup>1</sup> The day-work tax was formerly paid by working an equal number of days winter and summer.

<sup>2</sup> *Jordbruk och boshapsskötsel*, in *Bidrag till Sveriges officiella statistik*.

<sup>3</sup> Semi-official societies for the promotion of agriculture. There is one Agricultural Society in each county, except in the counties of Kalmar and Älvsborg, where there are two.

<sup>4</sup> Cf. Charts 25 and 26.

Chart 25. Day-rates (in öre) of Male Agricultural Workers in the County of Uppsala 1860—1912.

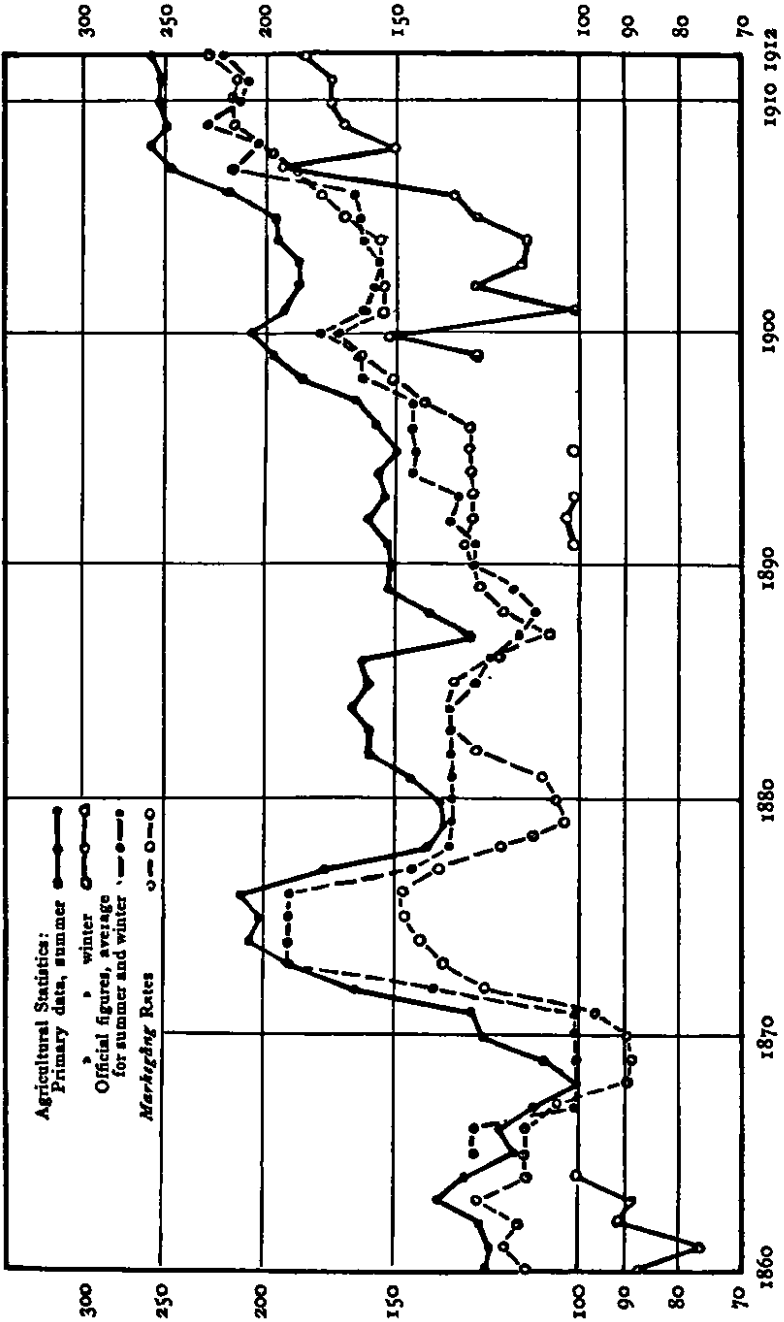
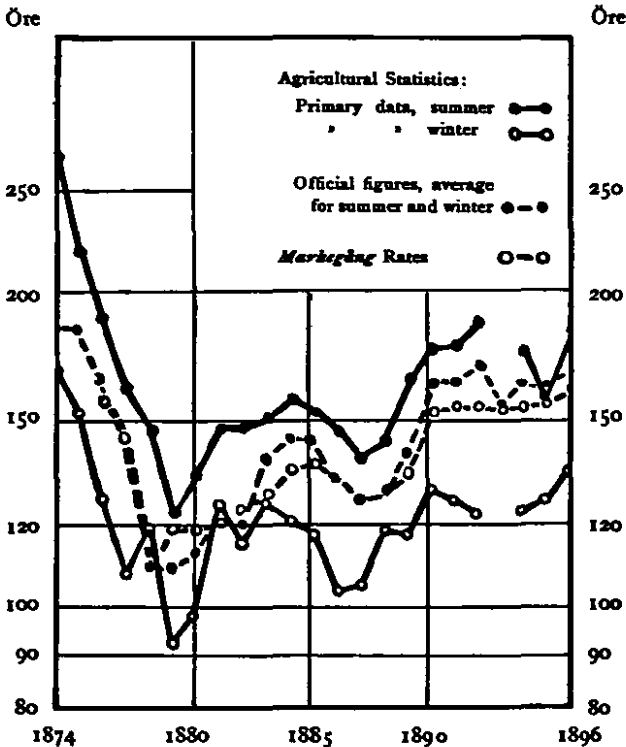


Chart 26. Day-rates (in *öre*) of Male Agricultural Workers in the County of Kopparberg 1874—1896.



material discloses both that the Statistics rest on very scanty primary information, and that this information has not always been used by the Agricultural Societies as the basis of their wage statistics. The wage data of the Agricultural Statistics, at least for the time before 1900, must therefore be considered of comparatively small value. With regard to the assessments for the *Marktegång* Scales, on the other hand, the procedure adopted — which has long been established by law — constitutes a guarantee that the bailiwick-averages used in this investigation are really based on the information supplied by every commune on the current local rates. For the early years, at least, the *Marktegång* rates can therefore be considered to be a more reliable guide to the wages actually paid in agriculture.

In order to check the reliability of the available wage data, a questionnaire was sent out to all the Agricultural Societies, and to a large number of private persons, requesting information as to the value of the *Markegång* rates and the Agricultural Statistics as the basis of an inquiry into farm wages, and on the nature of the work for which prices were stated (permanent or casual, quality of the evaluated work, summer or winter wages, etc.). Detailed replies to these questions were received from eight Agricultural Societies representing the more important agricultural districts, namely the counties of Malmöhus, Kristianstad, Gothenburg and Bohus, Älvsborg, Blekinge, Gotland, Östergötland, and Västmanland. A number of land-owners, to whom the questionnaire was sent on the recommendation of the Societies, also replied.

On the whole, the wage data of the *Markegång* material, and of the Agricultural Societies are both regarded as reliable, although it is generally considered that the *Markegång* is more representative of the general wage level, as well as of its annual variations. Only two statements from private persons indicate the prices of the *Markegång* as being respectively above and below the actual day-rates.

It also seems clear that the value assigned by the Agricultural Statistics to the *statare* wages is not considered very reliable, as such values have also been assessed for districts where the *statare*-system is hardly used at all, and where — for lack of actual data — the values of the benefits in kind have been quite arbitrarily fixed. Consistent undervaluation of the benefits in kind is said to have been fairly common, at least in the early part of the period. An exact calculation of the value of the benefits, which generally comprise a good many different products, is of course also a much lengthier and more complicated procedure than a simple statement of the current day-rates, or of the annual cash wages of servants.

A further point of importance when considering the wage material is the nature of the work to which the day-rates refer, and above all whether it is casual or permanent. A



circumstance which indicates that the day-rates of the Statistics cannot be applicable to full-year or half-year employment is that they apparently refer to work for which no other remuneration than cash wages is received. Permanently employed men usually enjoy at least some benefits in kind. A comparison between the Agricultural and the Social Statistics for the period after 1910 shows, however, that the wage-data of the former tally with the averages of the Social Statistics for such permanent and casual labourers as board themselves. Whether the day-rates given in the Agricultural Statistics refer to the average wages of both permanent and casual labour in the earlier years too, cannot be said with any certainty.

As to the *Markegång* rates, the question whether they relate to permanent or casual labour will be discussed in Chapter XVIII. Both the *Markegång* rates and the statistical data from the Agricultural Societies, moreover, probably refer rather to ordinary unskilled labour than to the relatively more qualified work performed by cattlemen and craftsmen. This applies chiefly to the day-labourers' wages, but also to those of farm servants and *statare*.

As it seemed desirable to supplement the wage series of the Official Statistics by primary material extracted from such book-keeping accounts as may have been preserved, the Institute tried to obtain data from individual farms through the good offices of the Agricultural Societies. Only about 30 farms could supply such extracts, however, and these were in addition incomplete in several respects.

The rates, even if derived from the same counties, differ considerably both from one another and from the official figures. They are generally considerably lower than those given in the *Markegång* Scales and by the Agricultural Societies, probably because they only refer to permanently employed labour. One general conclusion can nevertheless be drawn from the records received, viz. that the actual prices paid for agricultural labour cannot have been very uniform, even in the same county, and that consequently the figures of the Official Statistics must be regarded as very rough averages. In respect of *statare* wages, the in-

dividual material has proved rather valuable for a study of the benefits in kind.

From the county averages of the *Markegång* rates, and the average day-rates from the different Agricultural Society districts given in the Agricultural Statistics, *national annual averages* have been calculated. Each series of county averages has been weighted in two different ways: a) by the share, in per cent, of each county in the total agricultural population as determined by the censuses 1870—1910, and b) by the share, in per cent, of each county in the total area under cultivation in the country, according to the farm census 1927. These two weighting methods have given practically the same results.<sup>1</sup> By the method a) the weights are biased in favour of the northern counties, as the cultivated area there is relatively small and the agricultural population relatively large in comparison to the farming districts in southern Sweden. Agricultural wages being considerably higher in the north of Sweden than in the south, the averages given by weight system a) will be somewhat higher than those given by system b).

On the basis of the data supplied for the Agricultural Statistics by the Agricultural Societies, national annual averages have been similarly computed of *the annual cash wages of farm servants*, the county averages being then weighted by the relative number of farm servants in each county as per the decennial censuses 1880—1920. The national averages of the *statare* wages specified in the Agricultural Statistics have been weighted by the relative number of *statare* in each county. In cases where one county is divided between two Agricultural Societies, the arithmetic mean of the data given by each Society has been taken as the average for that county.

As the *Markegång* returns do not specify the value of the labour of *statare* and farm servants, the data given in the Agricultural Statistics regarding these wage-categories have had to suffice. The information obtained from individual farm-accounts on the cash wages of *sta-*

<sup>1</sup> Cf. Table 169. The weights used are given in Table 168.

*tare*, however, has been considered sufficiently comprehensive to be used for one series of averages. This was all the more desirable, as the Agricultural Statistics data, as indicated above, are considered rather incomplete.

Table 168. Weights used in the Computation of National Averages of Agricultural Wages.

County of	Weights for day-rates		Weights for farm servants' wages <sup>3</sup>	Weights for <i>statars</i> wages <sup>4</sup>
	a <sup>1</sup>	b <sup>2</sup>		
Malmöhus . . . . .	9	6	11	11
Kristianstad . . . . .	6	6	7	4
Blekinge . . . . .	2	3	2	1
Kronoberg . . . . .	3	4	2	1
Jönköping . . . . .	4	5	4	2
Kalmar . . . . .	5	5	4	6
Gotland . . . . .	2	1	2	1
Halland . . . . .	4	4	3	2
Gothenburg and Bohus . . . . .	2	4	3	1
Älvsborg . . . . .	6	7	5	3
Skaraborg . . . . .	9	6	7	5
Östergötland . . . . .	7	5	9	13
Södermanland . . . . .	5	3	6	13
Stockholm . . . . .	4	3	5	10
Uppsala . . . . .	4	2	4	6
Örebro . . . . .	4	4	4	5
Västmanland . . . . .	4	3	4	7
Värmland . . . . .	5	7	5	4
Kopparberg . . . . .	3	5	2	2
Gävleborg . . . . .	3	3	3	1
Jämtland . . . . .	2	3	2	1
Västernorrland . . . . .	3	4	3	1
Västerbotten . . . . .	3	4	2	0
Norrbotten . . . . .	1	3	1	0
	100	100	100	100

The greatest difficulty has of course been to estimate the value of the benefits in kind specified in the private accounts. In computing the total annual wages, the

<sup>1</sup> According to the share, in per cent, of each county in the total area under cultivation in the whole country.

<sup>2</sup> According to the share, in per cent, of the county in the total agricultural population, according to the censuses of 1870, 1880, 1890, 1900, and 1910.

<sup>3</sup> The county's share, in per cent, of the total number of farm servants in the whole country, according to the 1870, 1900, and 1920 censuses.

<sup>4</sup> The county's share, in per cent, of the total number of *statars* in the whole country, according to the 1870, 1900, and 1920 censuses.

cash values of the commodities included in the latter have been determined yearly on the basis of the county price-lists collated by the Institute.<sup>1</sup> The only product which could not be evaluated in this way was milk. The milk-prices available from the early part of the period are probably derived from purchases made on behalf of public institutions, or else they refer to urban conditions, and are therefore presumably considerably higher than in the agricultural districts. The price of butter has instead been used as a basis. One litre of unskimmed milk was then taken as the equivalent of  $\frac{1}{30}$  kg. of butter, and 1 litre of skimmed milk as the equivalent of  $\frac{1}{3}$  litre of unskimmed.<sup>2</sup> Whenever it has been possible to check this basis of computation, it has proved to conform well to the actual prices. At certain farms, *statare* have for instance some years received cash in lieu of milk. The amount has then proved to be in close agreement with the estimated cash value of milk during the years immediately before and after. The value of a potato-patch has been approximately estimated, not according to the probable value of the yield, but according to the amount the labourer presumably would have had to pay for renting a similar patch elsewhere, since he would expend a certain amount of labour on the cultivation of the patch. The annual value of sufficient land for four barrels of seed-potatoes has been estimated at 5 *kronor*. Potatoes included in the *stat* have been valued at market prices. A tolerably good estimate being extremely difficult to make, the value of housing and fuel has been left out, although it probably almost invariably forms part of the wages of permanently employed labour.<sup>3</sup> When occasion-

<sup>1</sup> Myrdal, *op. cit.*

<sup>2</sup> According to present collective agreements, 3 litres of skimmed milk are usually regarded as equivalent to 1 litre of unskimmed (*Arbetar-tillgång* etc. 1926).

<sup>3</sup> Attempts to estimate the value of free housing were made in the 1910 and 1911 inquiries into agricultural labour, and the average annual value for the whole country was found to be 80 *kronor* in the former and 64 *kronor* in the latter year. The differences are stated to be due to different standards of evaluation (the higher average was obtained by inquiries from land-owners, the lower from the chairmen of the District Councils, the *Kommunalstämma*).

ally the value of housing and fuel has been included in the accounts, however, the amounts have been comparatively small, at least in the early days. Entries in the wage books of Nyhammars Bruk, in the county of Kopparberg, show for instance that in the 'sixties and 'seventies some labourers received 10, sometimes 5, *kronor* for one year's house rent. This was probably paid to workers who lived in their own cottages.

After computing as described above the total annual pay of each *statare* included in the private material received, annual averages of them all have been calculated. As the different counties are very unequally represented in that material, no special weighting method has been used. The averages are thus unweighted arithmetical means. But as the majority of the farms that have sent in extracts from their accounts are situated in districts where the *statare* system is predominant, the drawbacks of this method are of no great importance.<sup>1</sup>

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<sup>1</sup> 8 farms in the county of Malmöhus, 2 farms in that of Kristianstad, 1 in Halland, 2 in Östergötland, 1 in Södermanland, 1 in the county of Stockholm, 4 in Västmanland, and 4 in Värmland have sent particulars of *statare* wages.

## CHAPTER XVII.

### WORKING HOURS IN AGRICULTURE, 1860—1914.

No continuous statistics of agricultural working hours have been published for the period before 1910. In connection with the present investigation, we have therefore sent out a large number of questionnaires regarding working hours in earlier years to Agricultural Societies and individual farmers. The statements in the replies received are summarized below.

The actual working time is rather difficult to determine on the basis of the information received, more especially for the period before 1890. One informant is perhaps not far wrong in saying that there were no fixed working hours in agriculture, but that they probably varied considerably from place to place according to the size of the farms, methods of cultivation used, etc. During the latter part of the period the working conditions in some of the districts might also have become to a certain extent industrialized, which may have helped to produce differences in the number of working hours.

In the first twenty years after 1860 the net working hours were probably seldom less than 14 hours a day in the summer, i. e. from 5 a. m. to 9 p. m., with 2 hours for meals etc. The longest working time is reported from the counties of Malmöhus and Älvsborg, and amounts to 15 hours, while in some instances, where no exact time is stated, there is reason to suppose that the hours were approximately the same. It is an open question whether this maximum working time was enforced except in the very height of the season, i. e. for something like 3 months (June, July, and August), but the hours may on the other

hand occasionally have been still longer for special reasons e. g. unsuitable harvesting weather, or the like.

Most reports speak of 14 working hours per day up to at least the 'eighties or 'nineties. In some cases no definite working time is stated, although from the context it seems to have been about 14 hours. The general impression is thus that a 14-hour day was the rule at this time, at least for a considerable portion of the summer.

After 1880 the working hours were gradually shortened, at first only here and there, but later more generally. The reduction was made in two stages, viz. the first to 12 hours, and the second to about 10 hours. There is some indication that the 12-hour day was at least partly applied in Östergötland as early as 1880. Two replies from large farms in Västmanland state that the working time was reduced there to just under 12 hours a day about 1885. In the county of Kronoberg the hours were shortened towards the end of the 'eighties, in the counties of Kopparberg and Kristianstad in the early 'nineties. In the county of Älvsborg the longer working hours were apparently retained until just before or about 1900. The working hours of the 19th century seems to have been retained the longest in the county of Malmöhus, in fact right up to 1903—1907, and the intermediate 12-hour stage was consequently very short there, lasting only a very few years.

The second general shortening of the working hours, when the 10-hour day was introduced, was more simultaneous in the various counties, and the transition period was shorter. It seems to have been carried through everywhere in the first decade of this century, usually between 1905 and 1910, except possibly in the county of Västmanland — where one or two replies indicate its arrival as early as 1895 — and in the county of Älvsborg, where it was delayed until 1914.

Apart from the all-round shortening of the working time, the relation between summer and winter working hours was also changed. Judging by the majority of the replies, the difference between winter and summer in respect of the length of the working day was less in the

early part of the period than later. Occasionally the hours seem to have been the same both in summer and in winter. The Agricultural Society of southern Älvsborg states that at the middle of last century the 14-hour day was usual all the year round. Definite information regarding the winter working hours, especially during the early years, is comparatively rare, however. There is also reason to believe that it may be less reliable than that referring to summer working hours, as the long winter working hours may not have been retained at so late a date that the persons supplying the information can have had any personal experience of them, although they may be able to remember the longer summer working hours.

This relative change was probably due to technical advances. The introduction of, for instance, the threshing machine must surely have more or less revolutionized labour conditions on the farms, as it rendered superfluous a large portion of the manual labour which previously had to be done in the winter. Unless the demand for labour in the summer was simultaneously reduced to the same extent — the general introduction of mowing and harvesting machines probably came much later — this may well have resulted in an earlier shortening of the working hours in the winter than in the summer.

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## CHAPTER XVIII.

### WAGES IN AGRICULTURE, 1860—1914.

THE wage series that have been computed for various categories of agricultural labour on the basis of the data available for the period before 1914 will be found in Table 169. To facilitate comparisons between the several series, and between the trend of wages in agriculture and in industry, index numbers are also given expressing the annual average of each series in percentages of the 1910—1913 averages (= 100).<sup>1</sup> These index numbers will be found in Table 170.

The table below gives the average wages in 1865—1869 and in 1910—1913, as well as index numbers of each wage category, with 1910—1913 and 1865—1869 respectively as base years.

	Average wages		Index numbers	
	1865—69	1910—13	1910—13 = 100	1865—69 = 100
<i>Male day-labour (in öre)</i>				
Markegång rates a) . . . . .	89	243	36.6	273
b) . . . . .	91	243	37.4	267
Agricultural Statistics a) . . . . .	96	232	41.4	242
b) . . . . .	96	237	40.5	247
<i>Female day-labour (in öre)</i>				
Markegång rates a) . . . . .	47	142	33.1	302
b) . . . . .	51	151	33.8	296
Agricultural Statistics a) . . . . .	53	142	37.3	268
b) . . . . .	53	144	36.8	272
<i>Male farm servants (annual cash wage in kronor) . . . . .</i>				
	106	306	34.6	289
<i>Female farm servants (annual cash wage in kronor) . . . . .</i>				
	47	192	24.5	409
<i>Statars (total annual wage in kronor)</i>				
Agricultural Statistics . . . . .	276	612	43.7	229
The Institute material . . . . .	256	586	43.7	229

<sup>1</sup> Although from certain points of view the years 1860—1870 would have been more suitable as a base period, we have preferred 1910—1913 in order to make the indices directly comparable to the corresponding industrial wage indices. Cf. Wages in Sweden Part I, p. 3, and Table 2.

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Table 169. Average Annual and Daily Wages in Agriculture 1860—1914.

Year	Day-rates of male workers (öre) according to				Day-rates of female workers (öre) according to				Annual cash wages of farm servants (kronor) according to Agricultural Statistics		Total annual wages of <i>statare</i> (kronor) according to	
	Mark-gång returns		Agricultural Statistics		Mark-gång returns		Agricultural Statistics		Male	Female	Agricultural Statistics	Institute material
	a)	b)	a)	b)	a)	b)	a)	b)				
									c)	c)	d)	
1860	90	91	—	—	49	53	—	—	—	—	—	215
61	94	95	—	—	50	55	—	—	—	—	—	235
62	97	99	—	—	51	56	—	—	—	—	—	242
63	95	96	—	—	51	56	—	—	—	—	—	220
64	95	96	—	—	51	56	—	—	—	—	—	215
65	94	96	103	103	49	50	56	57	114	52	270	221
66	93	95	102	101	50	56	55	55	113	48	268	238
67	89	90	95	94	49	53	51	51	107	47	278	270
68	84	86	91	91	40	45	51	51	99	43	285	293
69	84	86	91	91	47	52	51	51	97	43	279	259
1870	88	89	94	95	50	55	51	52	100	45	281	247
71	92	93	109	111	53	58	56	56	116	50	295	263
72	110	110	139	142	58	63	68	69	141	59	338	283
73	134	137	160	165	69	74	76	78	160	65	368	308
74	139	143	158	162	77	84	77	79	159	65	363	336
75	139	139	161	164	72	75	77	80	165	66	364	324
76	140	141	160	163	69	74	78	81	163	68	375	333
77	139	140	145	147	74	79	74	77	158	68	363	346
78	117	118	127	129	66	72	65	67	146	60	348	321
79	105	105	121	122	61	65	65	66	135	61	348	319
1880	109	111	119	121	64	70	66	66	138	62	356	356
81	113	114	124	124	63	68	68	68	140	62	352	369
82	123	124	127	128	67	75	68	70	154	65	352	342
83	131	131	134	135	73	81	69	71	160	66	356	342
84	129	130	134	134	70	77	72	73	158	69	359	335
85	127	128	125	126	70	78	71	73	150	69	343	328
86	119	121	124	126	69	77	72	73	142	67	349	311
87	111	114	120	122	67	76	71	73	138	65	333	307
88	114	116	124	126	69	78	73	74	143	69	345	318
89	119	121	128	132	70	79	75	77	148	71	357	327
1890	127	128	140	143	71	79	80	83	159	76	376	345
91	131	133	142	145	69	79	82	85	163	80	381	359
92	138	138	146	148	80	87	83	86	165	81	384	376
93	136	137	145	147	74	82	84	87	169	85	382	356

- a) National averages weighted by the cultivated area of each county.
- b) " " " " the agricultural population in each county.
- c) " " " " the number of farm servants in each county.
- d) " " " " the number of *statare* in each county.

Table 169. (Cont.). Average Annual and Daily Wages in Agriculture 1860—1914.

Year	Day-rates of male workers (öre) according to				Day-rates of female workers (öre) according to				Annual cash wages of farm servants (kronor) according to Agricultural Statistics		Total annual wages of <i>statars</i> (kronor) according to	
	Mark-gång returns		Agricultural Statistics		Mark-gång returns		Agricultural Statistics		Male	Female	Agricultural Statistics	Institute material
	a)	b)	a)	b)	a)	b)	a)	b)				
									c)	c)	d)	
1894	138	138	147	149	79	86	87	90	174	88	384	353
95	139	140	147	149	77	84	87	89	175	90	389	361
96	140	141	149	152	79	86	88	90	178	92	392	376
97	146	148	157	160	89	95	91	93	186	98	406	385
98	160	161	172	175	91	100	100	102	202	106	444	400
99	174	176	183	187	100	109	102	105	217	112	460	427
1900	183	186	184	190	109	119	104	107	222	117	472	430
01	177	179	181	186	110	120	105	109	223	119	466	426
02	175	177	178	183	102	111	107	110	225	122	473	439
03	181	182	180	185	103	113	108	112	227	125	486	434
04	184	185	188	192	112	118	114	117	237	134	500	440
05	189	190	194	198	109	118	114	117	240	135	509	473
06	200	201	210	213	120	127	123	125	257	148	547	497
07	223	222	218	223	129	138	129	131	278	161	588	522
08	230	228	221	226	133	141	132	135	284	170	607	541
09	233	230	226	229	131	139	136	138	289	173	612	553
1910	237	235	226	229	136	142	137	137	293	178	623	557
11	239	238	230	233	133	144	141	142	301	188	633	576
12	243	244	230	235	144	153	141	143	312	198	665	612
13	252	253	243	249	155	165	150	152	317	203	608	597
14	250	251	242	248	157	165	151	153	319	205	624	—

Table 170. Index of Annual and Daily Wages in Agriculture 1860—1914 (1910—1913 = 100).

Year	Day-rates of male workers according to		Day-rates of female workers according to		Annual cash wages of farm servants according to Agricultural Statistics		Total annual wages of <i>statars</i> according to	
	Mark-gång returns	Agricultural Statistics	Mark-gång returns	Agricultural Statistics	Male	Female	Agricultural Statistics	Institute material
1860	37.5	—	35.1	—	—	—	—	36.7
61	39.2	—	36.4	—	—	—	—	40.1
62	40.8	—	37.1	—	—	—	—	41.3
63	39.6	—	37.1	—	—	—	—	37.6
64	39.6	—	37.1	—	—	—	—	36.7
65	39.6	43.6	33.1	39.7	37.3	27.1	42.7	37.7
66	39.2	42.7	37.1	38.3	37.0	25.0	42.4	40.6
67	37.1	39.7	35.1	35.5	35.0	24.5	44.0	46.1

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Table 170. (Cont.). Index of Annual and Daily Wages in Agriculture 1860—1914 (1910—1913 = 100).

Year	Day-rates of male workers according to		Day-rates of female workers according to		Annual cash wages of farm servants according to Agricultural Statistics		Total annual wages of <i>statare</i> according to	
	Marke- gáng returns	Agri- cultural Statist- ics	Marke- gáng returns	Agri- cultural Statist- ics	Male	Female	Agri- cultural Statist- ics	Insti- tute mater- ial
1868	35.5	38.5	29.8	35.5	32.4	22.4	45.1	50.0
69	35.5	38.5	34.4	35.5	31.7	22.4	44.1	44.2
1870	36.7	40.2	36.4	36.2	32.7	23.5	44.4	42.2
71	38.4	46.9	38.4	39.0	37.9	26.1	46.7	44.9
72	45.4	60.0	41.7	48.1	46.1	30.8	53.5	48.3
73	56.5	69.8	49.0	54.4	52.3	33.9	58.2	52.6
74	59.0	68.5	55.6	55.1	52.0	33.9	57.4	57.4
75	57.3	69.3	49.7	55.7	54.0	34.4	57.6	55.3
76	58.1	68.9	49.0	56.4	53.3	35.5	59.3	56.9
77	57.7	62.2	52.3	53.7	51.7	35.5	57.4	59.1
78	48.7	54.5	47.7	46.7	47.8	31.3	55.0	54.8
79	43.3	51.6	43.0	46.0	44.2	31.8	55.0	54.5
1880	45.8	51.2	46.4	46.0	45.1	32.3	56.3	60.8
81	47.0	52.4	45.0	47.4	45.8	32.3	55.7	63.0
82	51.1	54.1	49.7	48.8	50.4	33.9	55.7	58.4
83	54.0	57.1	53.6	49.5	52.3	34.4	56.3	58.4
84	53.6	56.7	51.0	50.9	51.7	36.0	56.8	57.2
85	52.8	53.3	51.7	50.9	49.1	36.0	54.3	56.0
86	49.9	53.3	51.0	50.9	46.4	34.9	55.2	53.1
87	47.0	51.6	50.3	50.9	45.1	33.9	52.7	52.4
88	47.8	53.3	51.7	51.6	46.8	36.0	54.6	54.3
89	49.9	55.8	52.3	53.7	48.4	37.0	56.5	55.8
1890	52.8	60.5	52.3	57.8	52.0	39.6	59.5	58.9
91	54.8	61.3	52.3	59.2	53.3	41.7	60.3	61.3
92	56.9	62.6	57.6	59.9	54.0	42.2	60.7	64.2
93	56.5	62.2	54.3	60.6	55.3	44.3	60.4	60.8
94	56.9	63.0	57.0	62.7	56.9	45.9	60.7	60.3
95	57.7	63.0	55.6	62.0	57.2	46.9	61.5	61.7
96	58.1	64.3	57.0	62.7	58.2	48.0	62.0	64.2
97	61.0	67.7	62.9	64.8	60.8	51.1	64.2	65.8
98	66.4	74.0	66.2	71.1	66.1	55.3	70.2	68.3
99	72.6	79.1	72.2	73.2	71.0	58.4	72.8	72.9
1900	76.7	80.3	78.8	74.6	72.6	61.0	74.7	73.4
01	73.8	78.6	79.5	76.0	72.9	62.1	73.7	72.8
02	73.0	77.4	73.5	76.7	73.6	63.6	74.8	75.0
03	75.1	78.2	74.8	78.0	74.2	65.2	76.9	74.1
04	76.3	81.2	78.1	81.5	77.5	69.9	79.1	75.1
05	78.4	83.7	78.1	81.5	78.5	70.4	80.5	80.8
06	82.9	90.1	84.1	87.1	84.1	77.2	86.5	84.9
07	91.5	94.3	91.4	91.3	90.9	84.0	93.0	89.2
08	94.0	95.6	93.4	94.1	92.9	88.7	96.0	92.4
09	94.8	96.8	92.1	96.2	94.5	90.2	96.8	94.4
1910	96.9	96.8	94.0	95.5	95.8	92.8	98.5	95.1
11	98.1	98.5	95.4	99.0	98.4	98.0	100.1	98.4
12	100.6	99.4	101.3	99.7	102.0	103.3	105.2	104.5
13	104.3	105.3	109.3	105.9	103.7	105.9	96.2	102.0
14	103.5	104.9	109.3	106.6	104.3	106.9	98.7	—

Chart 27. Day-rates of Male Workers in Agriculture 1860—1914. (Index: 1910—1913 = 100.)

Index

Index

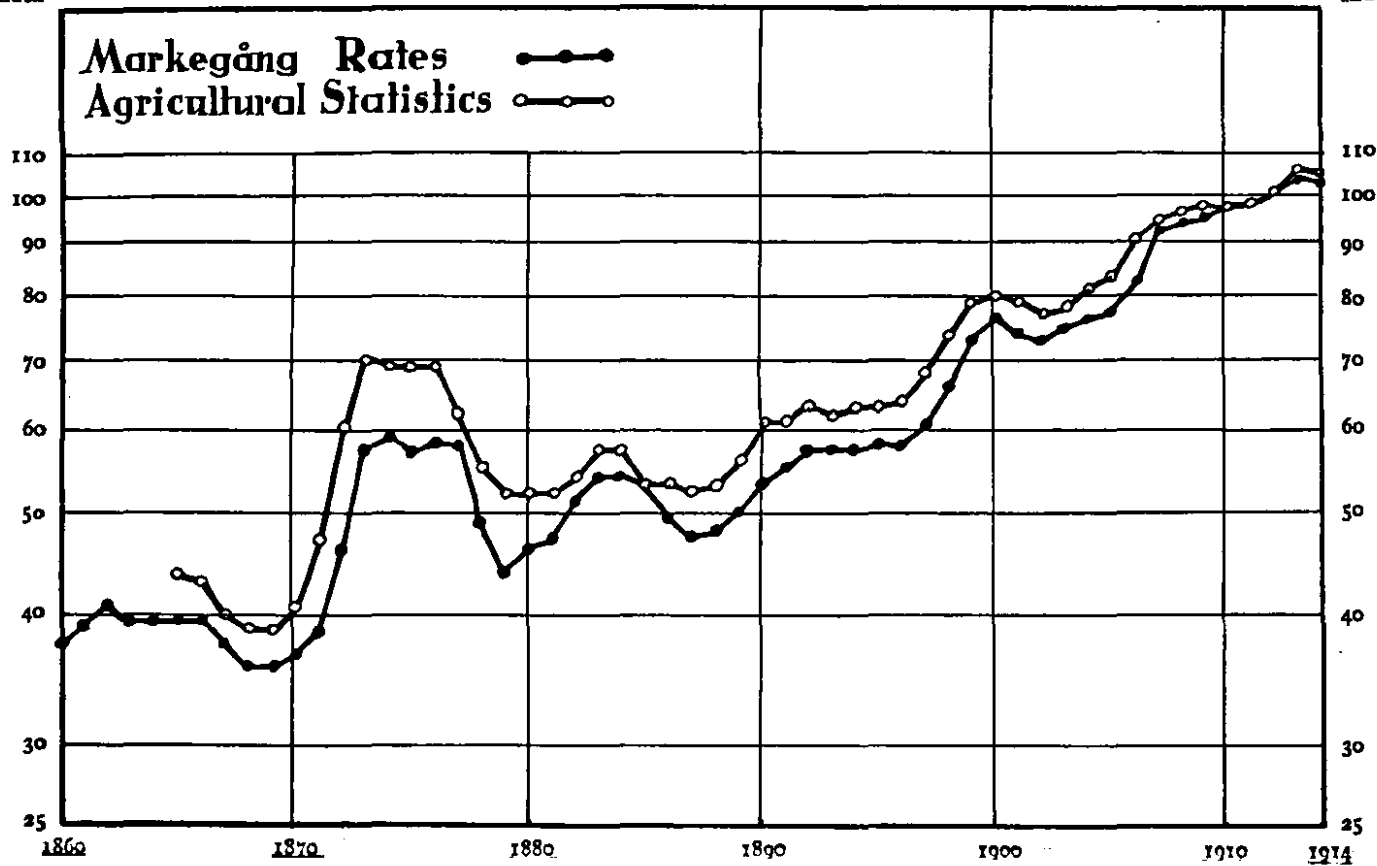


Chart 28. Day-rates of Female Workers in Agriculture 1860—1914. (Index: 1910—1913 = 100.)

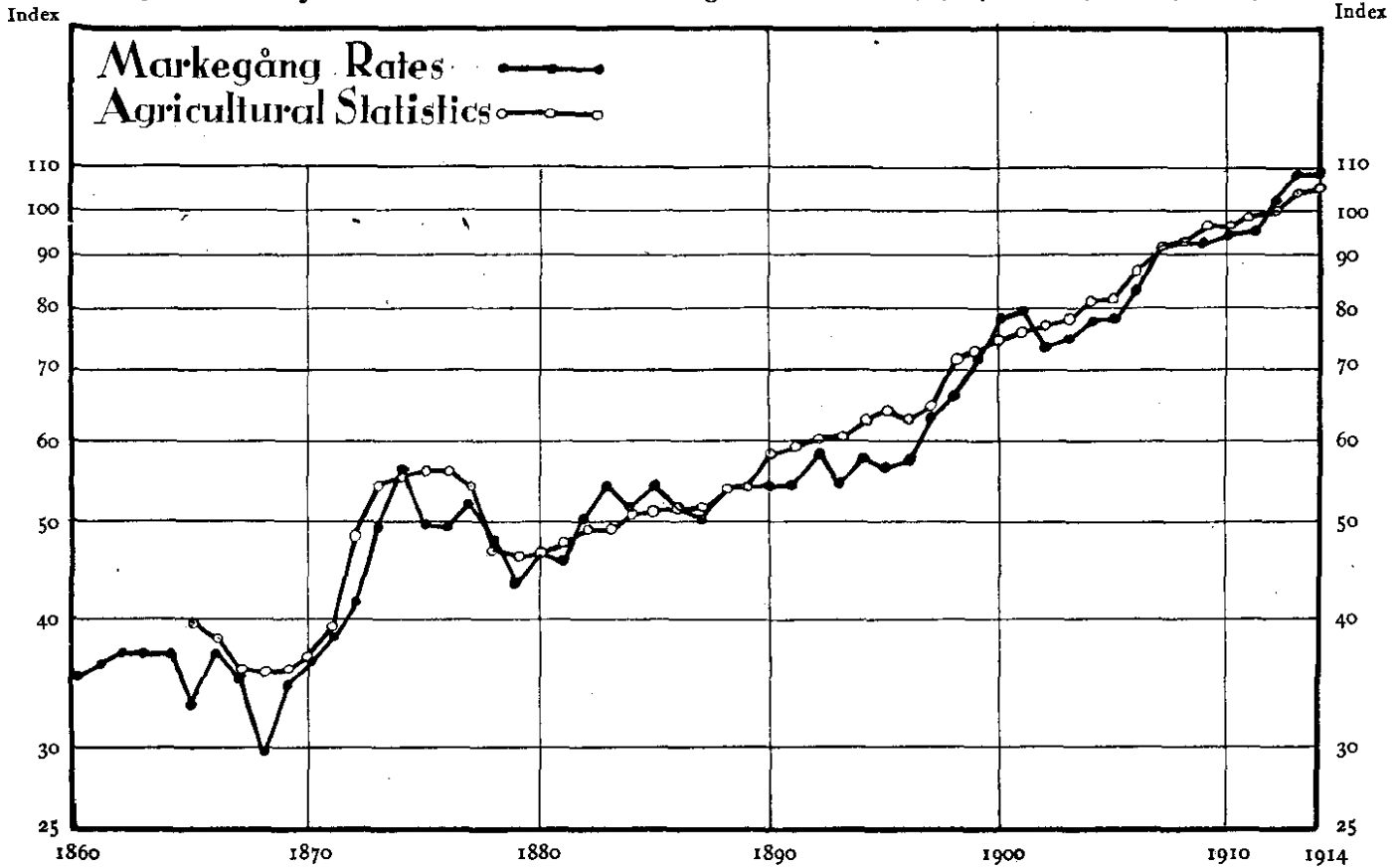


Chart 29. Annual Wages of Farm Servants 1860—1914. (Index: 1910—1913 = 100.)

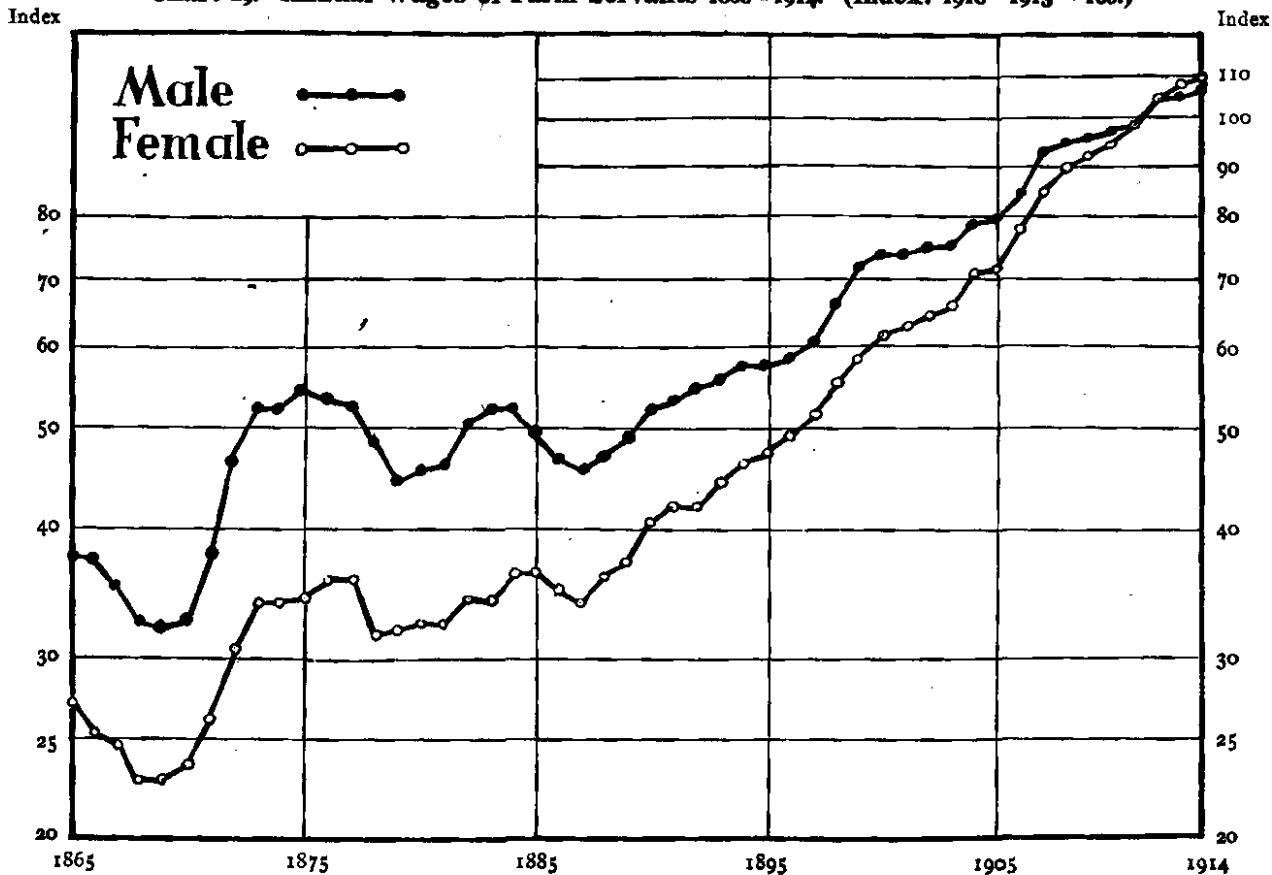
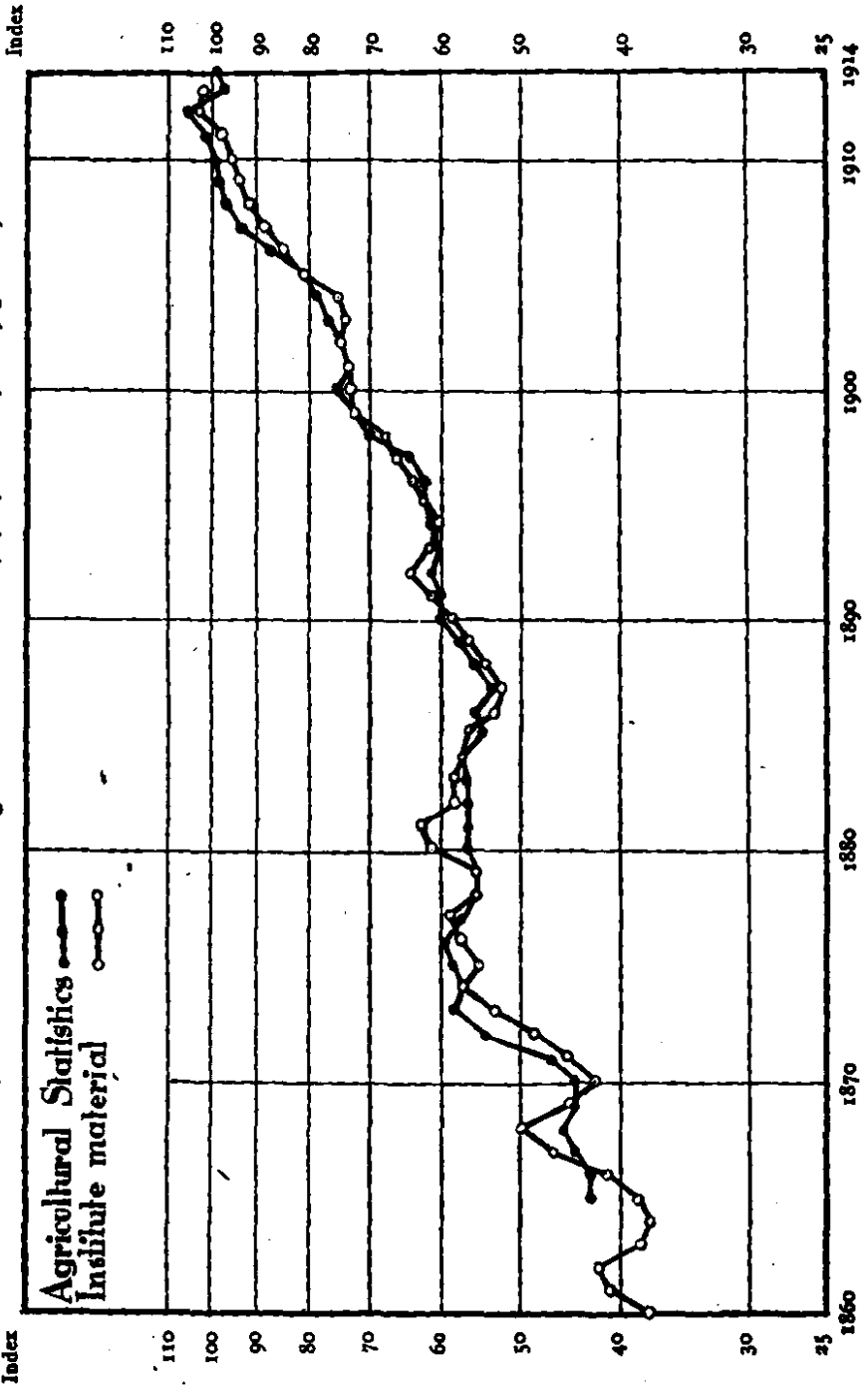


Chart 30. Total Annual wages of *Statens* 1860—1914. (Index: 1910—1913 = 100.)





These figures seem to indicate that farm servants' wages have risen the most, while the rates for day-labour have risen slightly less, and *statare* wages the least. The data referring to farm servants' wages, however, only include the cash pay, and not the value of board and lodging. If we take into account that the value of these benefits in kind has not risen nearly as much as the cash wages, or perhaps not at all, we find that the heavy increase in farm servants' wages compared to those of other agricultural labour is only apparent. On the other hand, the relatively smaller increase of *statare* wages is explained by the market value of the benefits in kind included in them being only slightly higher in 1910—1913 than in the 'sixties.<sup>1</sup>

The considerably higher rate of increase in female than in male wages is, however, very striking. This applies especially to farm servants. While the annual cash wages of female servants quadrupled from 1865 to 1913, those of male servants were not quite trebled in the same period. The trend of the day-rates displays the same difference in respect of men and women, irrespective of whether we go to the *Markegång* rates or to the Agricultural Statistics. This is not astonishing, as the same tendency can be noticed in all other branches too. One reason why women's wages rose comparatively more was probably that, as the industries developed, women found a great many openings in other branches of work than agriculture, branches which had previously offered little room for them. Another important cause of the increase of especially female farm servants' wages was obviously the increasing demand for young domestic servants in the towns, which were rapidly expanding at that time. It is also probable that the improving social standard of certain groups of the rural population gradually made their women less willing to seek work in the open market, with the consequence that the supply of available female labour declined.

As far as the *day-rates for male workers* are concerned, the trend according to the *Markegång* differs slightly

<sup>1</sup> Cf. *Myrdal*, op. cit. The average cost of food, according to Myrdal's index, was 12.4 % higher in 1910—1913 than in the 'sixties.

from that indicated by the Agricultural Statistics. During the first part of the period, the absolute prices of the *Markegång* are considerably lower than those given in the Statistics. The difference grows less towards the end of the period. From 1900 onwards, the national averages of the *Markegång* and of the Agricultural Statistics are practically alike until 1910, after which date the *Markegång* figures rise somewhat above those of the Statistics. The quinquennial average differences between the two series, by the two weighting methods, are shown in the table below, which gives the difference, in per cent, between the Agricultural Statistics and the *Markegång* returns.

	1865	1870	1875	1880	1885	1890	1895	1900	1905	1910
	169	174	179	184	190	194	199	104	109	114
a)	+8.6	+17.2	+11.6	+5.5	+5.3	+7.5	+6.5	+1.2	-0.6	-4.1
b)	+6.0	+18.0	+12.8	+5.2	+5.3	+8.6	+7.4	+3.0	+1.7	-2.2

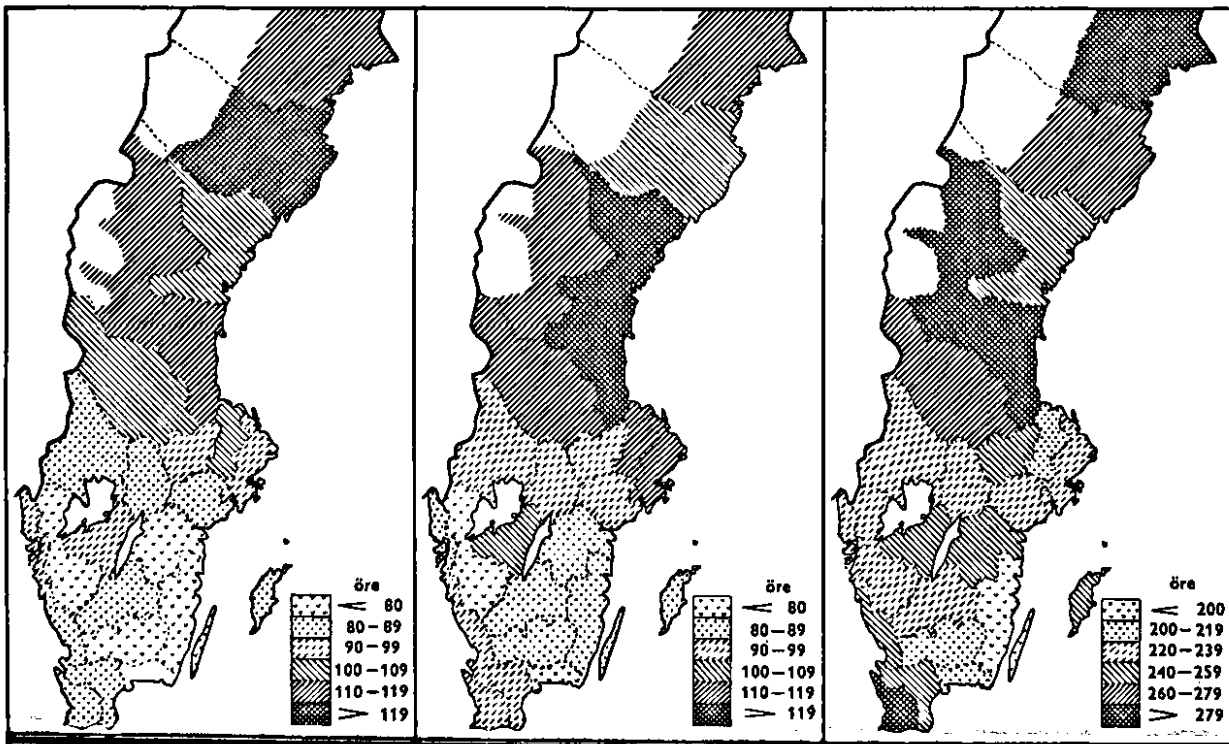
The two weighting methods thus give only slightly different results.

The figures show that the day-rates as given in the *Markegång* returns have a stronger upward tendency than the data of the Agricultural Societies. The index numbers given on page 112 show that according to the *Markegång* returns the rise of the day-rates for male labour was about 170 %, whilst according to the Agricultural Statistics it was only about 145 %. With regard to female labour, the difference is similar. According to the *Markegång* they rose about 200 %, and according to the Agricultural Statistics about 170 %. This is not easily explained, as it is difficult to say what degree of reliance can be placed on these two sets of data. As we have indicated above, however, the *Markegång* rates are considered more reliable than the Agricultural Statistics, particularly for the early part of the period when the Agricultural Statistics give only the highest and lowest day-rates. A study of the geographical dispersion of wages according to the *Markegång* rates and the Agricultural Statistics respectively will give a better understanding of the import of the difference between the two sources.

### Maps 1—3. Day-rates of Male Agricultural Workers in Different Counties.

Day-rates in 1865—1869 according to  
the *Marktgång* rates

Day-rates in 1910—1913 according  
to the *Marktgång* rates



### Maps 4—6. Day-rates of Male Agricultural Workers in Different Counties.

Day-rates in 1910—1913 according to the Agricultural statistics

Increase of day-rates from 1865—1869 to 1910—1913 according to the *Markegång* rates

the Agricultural statistics

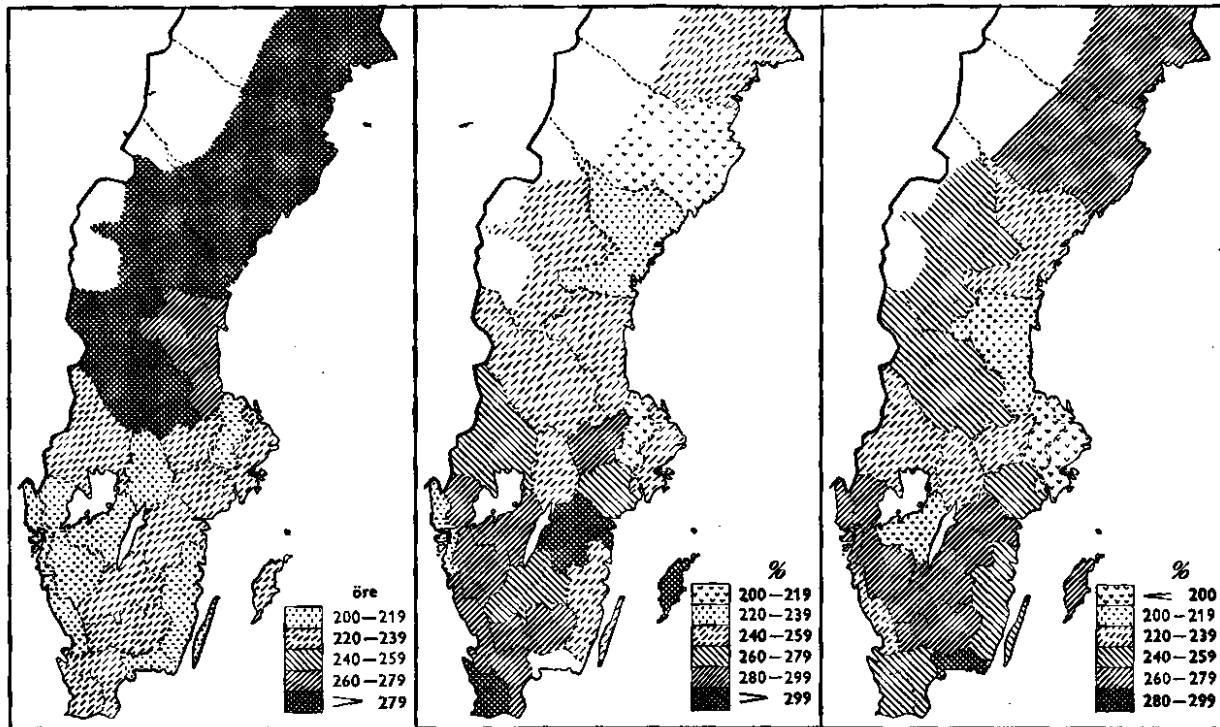


Table 171 shows the rise in the different counties of the day-rates for male workers, according to the *Markegång* and the Agricultural Statistics (cf. also Maps 1—6). The differences, both in the absolute wage levels in various parts of the country and in the rise of the day-rates during the period under review, are quite considerable, but on the whole both series give similar pictures of the general trend of wages. At the beginning of the period, the nominal wage level seems to have been appreciably higher in the northern counties than in central and southern Sweden. Both the *Markegång* and the Statistics give average day-rates in Norrland and the county Kopparberg that are higher than the national averages, while the wage level in the counties south of Dalälven was apparently about the same as, or slightly below, the average. The *Markegång* and the Statistics further agree in assigning to the counties of Stockholm, Uppsala, and Skaraborg a relatively high wage level, while a large district comprising the counties of Östergötland, Jönköping, Kronoberg, Kalmar, and Älvsborg is characterized by a slightly lower wage level than the rest of central and southern Sweden.<sup>1</sup>

The *Markegång* rates and the Agricultural Statistics do not agree as well in respect of the wage level in the various parts of the country at the end of the period (1910—1913). Both sources give for Norrland and Kopparberg a wage level which is still considerably above that in southern and central Sweden, and for the latter districts day-rates approximately equal to or slightly below the national average. This pronounced difference in the wage-levels north or south of Dalälven is also confirmed by the Social Statistics (cf. p. 364). The lowest wage level was found in the county of Kalmar. Minima are also met with in the counties of Uppsala and Älvsborg. There the agreement ends. While, according to the Agricultural Statistics, the wage level seems to be almost the same in all the other counties of central and southern Sweden (about 230 öre per day — a little less in the county of Örebro and in western Sweden), it is, according to the

<sup>1</sup> Cf. Table 172.

Table 171. The Rise of the Day-rates of Male Workers in Different Counties and in the Whole Country, according to the *Markegång* Returns and the Agricultural Statistics.

County of	<i>Markegång</i> rates				Agricultural Statistics			
	Average for		Index		Average for		Index	
	1865 —69 <i>Ore</i>	1910 —13 <i>Ore</i>	1910 —13 = 100	1865 —69 = 100	1865 —69 <i>Ore</i>	1910 —13 <i>Ore</i>	1910 —13 = 100	1865 —69
Malmöhus . . . . .	83	282	29.4	339.8	92	232	39.7	252.2
Kristianstad . . . . .	86	246	35.0	286.0	92	235	39.1	255.4
Blekinge . . . . .	—	214	—	—	71	204	34.8	287.3
Kronoberg . . . . .	73	207	35.3	283.6	82	225	36.4	274.4
Jönköping . . . . .	81	226	35.8	279.0	86	237	36.3	275.6
Kalmar . . . . .	75	190	39.5	253.3	84	208	40.4	247.6
Gotland . . . . .	80	253	31.6	316.3	85	234	36.3	275.3
Halland . . . . .	87	243	35.8	279.3	94	216	43.5	229.8
Gothenburg and Bohus	94	223	42.2	237.2	83	217	38.2	261.4
Älvsborg . . . . .	78	226	34.5	289.7	76	209	36.4	275.0
Skaraborg . . . . .	90	252	35.7	280.0	100	218	45.9	218.0
Östergötland . . . . .	77	249	30.9	323.4	88	229	38.4	260.2
Södermanland . . . . .	85	233	36.5	274.1	99	229	43.2	231.3
Stockholm . . . . .	95	239	39.7	251.6	115	227	50.7	197.4
Uppsala . . . . .	101	219	46.1	216.8	110	214	51.4	194.5
Örebro . . . . .	87	225	38.7	258.6	97	216	44.9	222.7
Västmanland . . . . .	90	256	35.2	284.4	97	230	42.2	237.1
Värmland . . . . .	84	220	38.2	261.9	97	232	41.8	239.2
Kopparberg . . . . .	104	264	39.4	253.8	113	281	40.2	248.7
Gävleborg . . . . .	114	280	40.7	245.6	131	272	48.2	207.6
Jämtland . . . . .	112	290	38.6	258.9	111	286	38.8	257.7
Västernorrland . . . . .	108	252	42.9	233.3	127	282	45.0	222.0
Västerbotten . . . . .	124	267	46.4	215.3	103	287	35.9	278.6
Norrbottn . . . . .	118	305	38.7	258.5	112	298	37.6	266.1
Average a) . . . . .	89	243	36.6	273.0	96	232	41.4	241.7
Average b) . . . . .	91	243	37.4	267.0	96	237	40.5	246.9

*Markegång*, characterized by strongly marked maxima in the counties of Malmöhus, Kristianstad, Halland, Skaraborg, Östergötland, and Gotland. It is a very striking fact that these districts on the whole coincide with the densely populated farming districts of southern Sweden.<sup>1</sup>

The large difference between the *Markegång* and the Agricultural Statistics in respect of the wage level in these districts brings up the problem: which of the two sources is most likely to represent the actual wages paid? Reference

<sup>1</sup> Cf. Map 8.

to the Statistics of the Social Board for 1911—1913 shows that the wage data given there agree almost perfectly with those of the Agricultural Statistics. The pictures of the geographical dispersion of wages presented by each, at least in central and southern Sweden, agree in almost every detail. The Agricultural Statistics ought accordingly to be more reliable than the *Markegång* rates. But we must also take into account the following circumstances, which are of the utmost importance to the interpretation of these wage series.

We have pointed out above (p. 104) that in the period dealt with here (1910—1913) the day-rates given by the Agricultural Statistics are averages of the wages paid to both permanent and casual labour. Clearly, however, such averages must be a very defective representation of actual wage conditions, as obviously no account has been taken of the numerical strength of these categories of labour. This may not make much difference to the national averages, but so much the more to the county averages, as the numbers of permanent and casually employed labourers certainly differ very much in different parts of the country. If the respective day-rates for permanent and casual labour could be weighted according to the varying prevalence of these two forms of employment in each county, a considerably more accurate picture would be obtained of the actual wage level, and of its variations from one county to another. The Social Statistics certainly give the day-rates of permanent and casual labour separately, but as we have no exact knowledge of the relative frequency of these two forms of employment, weighting is impossible. The differences in certain counties between the wage data of the Agricultural Statistics and those of the *Markegång* might, however, be at least partly ascribed to the fact that the day-rates given in the Agricultural Statistics are unweighted averages of the wages of permanent and casual labour, whilst in the fixing of the *Markegång* prices greater attention has been paid to *locally current* prices of labour. This must of course not be taken to mean that these data have been obtained by any statistical

weighting method. Nevertheless it seems likely that in the assessments for the *Markegång* the local authorities have more or less adopted the prices at which labour could be generally obtained in the various communes. As, at the time discussed (1910—1913), casual day-labourers were probably fairly numerous in relation to those who were permanently employed; and as the former are as a rule paid at a higher day-rate than the latter, it is quite understandable that the wage level calculated on the basis of the *Markegång* rates should on the whole be slightly higher in these years than the wage level given in the Agricultural Statistics. This interpretation of the difference between the Agricultural Statistics and the *Markegång* rates is confirmed by the fact that the counties of southern Sweden to which the *Markegång* rates give the highest wage level, are as a rule those in which the farmers' demand for casual labour in the summer is the strongest. Much more sugar-beets and other root crops are grown there, especially in the counties of Malmöhus, Kristianstad, Halland, Östergötland, and Gotland, than in other parts of the country. Both during cultivation and harvesting, these crops require many times more labour than others.<sup>1</sup> The consequent demand for workers in the root fields is largely filled by itinerant labour from adjacent forest and small-holdings districts<sup>2</sup> (before the war also by itinerant labour from abroad). In view of this, it seems quite plausible that the average wages in these counties should be higher than in neighbouring districts, and that the picture given by the *Markegång* rates of the geographical dispersion of the wage level in 1910—1913 is the one which best reflects the actual wage differences.

In the following table the 1911—1913 wage data of the Social Statistics, the Agricultural Statistics, and the *Markegång*, for counties of interest in this connection are presented.

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<sup>1</sup> Cf. p. 183 fol.

<sup>2</sup> Primarily the counties of Jönköping and Kronoberg.



*Day-rates, in kronor, of male workers 1911—1913.*

County of	Marke- gång rates	Summer wages, according to			Summer and winter averages, according to				
		Social Statistics		Agricultural Statistics	Social Statistics			Agricultural Statistics	
		Per- manent	Casual		Per- manent	Casual	Average		
Malmöhus . .	2.78	2.46	2.68	2.57	2.61	2.20	2.37	2.29	2.35
Kristianstad .	2.43	2.55	2.78	2.67	2.70	2.25	2.44	2.35	2.36
Halland . . .	2.44	2.39	2.68	2.54	2.54	2.07	2.30	2.19	2.17
Skaraborg . .	2.58	2.26	2.70	2.48	2.67	1.89	2.23	2.06	2.17
Östergötland	2.50	2.40	2.84	2.62	2.70	2.05	2.41	2.23	2.29
Gotland . . .	2.53	2.49	2.71	2.60	2.76	2.12	2.31	2.22	2.36

In the counties compared, the *Markegång* accordingly gives higher average day-rates for casual labourers than do the Social Statistics. The *Markegång* rates are also higher than the summer day-rates for permanently employed labour (except in the county of Kristianstad), but lower than the corresponding day-rates for casual labour (except in the county of Malmöhus, where they are considerably higher). From this we may conclude that the wage level of the *Markegång* returns is not unreasonably high. If the wages given in the Social Statistics could be weighted by the number of days' work done by permanent and casual labourers in the summer and winter half-years, the resulting figures might quite possibly be approximately equal to those of the *Markegång* returns. This, however, does not apply to the county of Malmöhus, where the rates of the *Markegång* returns are above the highest given in the Social Statistics. But it should be remembered that in the counties discussed here, farm labour is largely paid at piece-work rates. Work in the sugar-beet and root fields is mostly done by contract. According to the very exhaustive inquiry into the wages of agricultural labour made in 1911, a man pulling up beets could earn from 3 to 5 *kronor* a day.<sup>1</sup> The possibility of such earnings may well have been taken into account in the assessments for the *Markegång* Scales.

<sup>1</sup> *Lantarbetarnas arbets- och lönsförhållanden* etc., p. 68.

What has been said above regarding the absolute wage level in 1910—1913 must also be taken into account when comparing the rise of the wages in the whole period from 1865 to 1913 as indicated by the *Markegång* returns with that indicated by the Agricultural Statistics. According to these sources, the general average rise in the day-rates for male labour was 267 and 247 % respectively. The question is whether the *Markegång* rates or the Agricultural Statistics should be regarded as giving the best representation of the actual rise. If we consider how very much the proportion of permanent to casual farm labour has changed during this period, the former figure appears to be at least as likely as the latter. It is thus possible that the greater increase in agricultural wages deducible from the *Markegång* rates should be ascribed to the gradual change in the forms of employment in agriculture during the latter half of the 19th and the beginning of the 20th century. This change — which is mainly characterized by great reductions in the permanent staff and increasing employment of casual workers for any extra labour required at busy times of the year — was probably most pronounced on medium-sized and large farms in southern Sweden. On small farms the work was still chiefly done by members of the family, or by farm servants engaged by the year, while the large farms owned by industrial concerns in northern and central Sweden chiefly employed permanently engaged day-labourers. In so far as changes in the forms of engagement are better reflected in the *Markegång* returns, the increase in the day-rates indicated by them may therefore be expected to be largest in districts where a relatively large portion of the arable land is occupied by large or medium-sized farms, i. e. in the plains of southern Sweden.

Table 172 and Maps 1—6 show that, according to both the *Markegång* rates and the Agricultural Statistics, wages have risen more in southern Sweden than in the central and northern parts. Each of the two sources, however, shows a geographical dispersion of the increase which differs in many respects from that of the other.

Table 172. Geographical Dispersion of the Day-rates of Male Workers in 1865—1869 and 1910—1913, according to the *Markegång* Returns and the Agricultural Statistics (in per cent).

County of	Divergences from the national average				Divergences of the rate of increase in the period from 1865—69 to 1910—13 from that of the national average	
	1865—69, according to		1910—13, according to		<i>Markegång</i> returns	Agricultural Statistics
	<i>Markegång</i> returns	Agricultural Statistics	<i>Markegång</i> returns	Agricultural Statistics		
Malmöhus . . . . .	- 8.8	- 4.2	+ 16.0	- 2.1	+ 27.3	+ 2.1
Kristianstad . . . . .	- 5.5	- 4.2	+ 1.2	- 0.8	+ 7.1	+ 3.4
Blekinge . . . . .	-	- 26.0	- 11.9	- 13.9	-	+ 16.4
Kronoberg . . . . .	- 19.8	- 14.6	- 14.8	- 5.1	+ 6.2	+ 11.1
Jönköping . . . . .	- 11.0	- 10.4	- 7.0	± 0.0	+ 4.5	+ 11.6
Kalmar . . . . .	- 17.6	- 12.5	- 21.8	- 12.2	- 5.1	+ 0.3
Gotland . . . . .	- 12.1	- 11.5	+ 4.1	- 1.3	+ 18.5	+ 11.5
Halland . . . . .	- 4.4	- 2.1	± 0.0	- 8.9	+ 4.6	- 6.9
Gothenburg and Bohus	+ 3.3	- 13.5	- 8.2	- 8.4	- 11.2	+ 5.9
Älvsborg . . . . .	- 14.3	- 20.8	- 7.0	- 11.8	+ 8.5	+ 11.4
Skaraborg . . . . .	- 1.1	+ 4.2	+ 3.7	- 8.0	+ 4.9	- 11.7
Östergötland . . . . .	- 15.4	- 8.3	+ 2.5	- 3.4	+ 21.1	+ 5.4
Södermanland . . . . .	- 6.6	+ 3.1	- 4.1	- 3.4	+ 2.7	- 6.3
Stockholm . . . . .	+ 4.4	+ 19.8	- 1.6	- 4.2	- 5.8	- 20.0
Uppsala . . . . .	+ 11.0	+ 14.6	- 9.9	- 9.7	- 18.8	- 21.2
Örebro . . . . .	- 4.4	+ 1.0	- 7.4	- 8.9	- 3.1	- 9.8
Västmanland . . . . .	- 1.1	+ 1.0	+ 5.3	- 3.0	+ 6.5	- 4.0
Värmland . . . . .	- 7.7	+ 1.0	- 9.5	- 2.1	- 1.9	- 3.1
Kopparberg . . . . .	+ 14.3	+ 17.7	+ 8.6	+ 18.6	- 4.9	+ 0.7
Gävleborg . . . . .	+ 25.3	+ 36.5	+ 15.2	+ 14.8	- 8.0	- 15.9
Jämtland . . . . .	+ 23.1	+ 15.6	+ 19.3	+ 20.7	- 3.0	+ 4.4
Västernorrland . . . . .	+ 18.7	+ 32.3	+ 3.7	+ 19.0	- 12.6	- 10.1
Västerbotten . . . . .	+ 36.7	+ 7.3	+ 9.9	+ 21.1	- 19.4	+ 12.8
Norrbotten . . . . .	+ 29.7	+ 16.7	+ 25.5	+ 25.7	- 3.2	+ 7.8
Average (b) in öre	91	96	243	237	267.0	246.9

In the southernmost part of Sweden — the counties of *Malmöhus*, *Kristianstad*, and *Halland* — the Agricultural Statistics differ from the *Markegång* rates in that, according to the former, wages in these counties have risen less than in the adjoining forest and small-holdings districts: the counties of *Jönköping* and *Kronoberg*. The increase in the county of *Skaraborg* according to the Agricultural Statistics is also much smaller than in the rest of southern

Sweden, where the dispersion is on the whole exactly the opposite to that obtained from the *Markegång* rates. The two agree in fact only for the counties of *Kalmar*, where wages seem to have risen comparatively little, and *Älvsborg*, where both sources give a comparatively large increase. — The differences in central Sweden are also very great. The *Markegång* rates generally give a much larger increase of wages for this district than do the Agricultural Statistics. According to both sources, however, the rate of increase in this part of the country seems to have been below the average for the whole country. Both agree in giving lower index numbers for 1910—1913 to the counties of *Uppsala* and *Örebro* than to the neighbouring districts. In the counties of *Västmanland* and *Stockholm*, on the other hand, the difference was very large. The *Markegång* rates indicate a larger increase in *Västmanland* than in almost any other county, while according to the Agricultural Statistics the rise there was below the average. In the county of *Stockholm*, wages have risen less than in any other county but *Uppsala* according to the Agricultural Statistics, while according to the *Markegång* rates the rise has only been slightly less than the average for the whole country. — In northern Sweden the agreement is comparatively good in the counties of *Kopparberg*, *Jämtland*, and *Västernorrland*. In that of *Gävleborg*, on the other hand, the wages are characterized by a relatively small rise according to the Agricultural Statistics, while the *Markegång* rates make the rise out to be considerably greater. The largest difference, however, is met with in *Västerbotten* and *Norrbotten*, where according to the Agricultural Statistics the rise in the wages exceeded the average. For these counties the *Markegång* rates give a much smaller rise, especially in *Västerbotten*, where wages seem to have risen less than in any other county in Sweden.

At first glance it seems difficult to discover any system at all in this puzzle. Nor can anything else be expected, as it is quite clear that a uniform wage level in agriculture can hardly be said to exist. There is, as a matter of fact,

**Table 173. The Rise of the Day-rates of Female Workers in Different Counties and in the Whole Country, according to the *Markegång* Returns and the Agricultural Statistics.**

County of	<i>Markegång</i> rates				Agricultural Statistics			
	Average for		Index		Average for		Index	
	1865	1910	1910	1865	1865	1910	1910	1865
	—69	—13	—13	—69	—69	—13	—13	—69
Ore		= 100		Ore		= 100		
Malmöhus . . . . .	—	—	—	—	57	154	37.0	270
Kristianstad . . . . .	—	—	—	—	46	155	29.7	337
Blekinge . . . . .	—	—	—	—	38	119	31.9	313
Kronoberg . . . . .	—	—	—	—	44	130	33.8	295
Jönköping . . . . .	—	—	—	—	44	136	32.4	309
Kalmar . . . . .	24	112	21.4	467	48	124	38.7	258
Gotland . . . . .	—	—	—	—	47	143	32.9	304
Halland . . . . .	—	—	—	—	48	135	35.6	281
Gothenburg and Bohus	55	157	35.0	285	50	141	35.5	282
Älvsborg . . . . .	—	—	—	—	48	140	34.3	292
Skaraborg . . . . .	—	—	—	—	57	144	39.6	253
Östergötland . . . . .	—	—	—	—	52	141	36.9	271
Södermanland . . . . .	—	—	—	—	55	130	42.3	236
Stockholm . . . . .	—	—	—	—	57	130	43.8	228
Uppsala . . . . .	55	129	42.6	235	52	130	40.0	250
Örebro . . . . .	—	—	—	—	53	136	39.0	257
Västmanland . . . . .	—	—	—	—	47	142	33.1	302
Värmland . . . . .	—	—	—	—	48	144	33.3	300
Kopparberg . . . . .	—	153	—	—	64	151	42.4	236
Gävleborg . . . . .	—	—	—	—	78	151	51.7	194
Jämtland . . . . .	74	176	42.0	238	54	161	33.5	298
Västernorrland . . . . .	—	—	—	—	77	166	46.4	216
Västerbotten . . . . .	—	—	—	—	49	157	31.2	320
Norrbottn . . . . .	78	189	41.3	242	63	178	35.4	283
Average a)	47	142	33.1	302	53	142	37.3	268
Average b)	51	151	33.8	296	53	144	36.8	272

a very strong differentiation of agricultural wages, both as between the different counties and districts, and with respect to the labour employed and the different nature of the work done at different seasons. All attempts at constructing general averages of the wages current in different districts must therefore be more or less arbitrary. The present investigation is actually based on such averages. Unfortunately, we know very little of the principles adopted in the construction of these averages — there is even reason to suspect that in the case of the early Agricultural Statis-

tics no definite principles at all were followed. It is therefore quite impossible to explain every existing difference. If interpreted with due allowance for other economic data, however, the wage series calculated from this material will provide interesting information regarding the trend of wages in agriculture.

The two sources of information also indicate slightly different trends in respect of *female day-rates*. The *Marktgång* returns, however, only give these rates for a few of the counties. The averages from that source can therefore not be compared with the national averages obtained from the Agricultural Statistics.<sup>1</sup> If we compare the county averages with the corresponding data in the Agricultural Statistics, it will be found that in the counties of Gothenburg and Bohus, Uppsala, and Jämtland, the former are a little higher both at the beginning and end of the period, and lower in the county of Kalmar. In the first-named county, Gothenburg and Bohus, the increase is the same according to both sources, but in the other three counties it differs considerably. The female rates given in the Agricultural Statistics at the end of the period are, like the male rates, unweighted averages of the wages of casual and permanent labourers. The casually employed female day-labourers, however, probably outnumbered the permanent female day-labourers, who were usually paid annual wages as farm servants or *statare*. The casual form of employment has anyway certainly gained in importance, just as it has for male labour. This is especially the case in the counties where the growing of sugar-beets and other root crops has increased, as a great deal of both local and itinerant female labour is employed there in the summer and autumn for thinning and taking up the roots. The average of the day-rates given in the agricultural Statistics may therefore be expected to be lower than the current wages.

The geographical dispersion of female day-rates, as given in the Agricultural Statistics, is shown in Table 174.

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<sup>1</sup> Cf. Table 173.

Both at the beginning and end of the period, this agrees on the whole with the dispersion of male day-rates obtained from the same source. At both these times women's nominal wages were thus higher in north Sweden than in the southern parts of the country. The boundary between the districts characterized by high and low wages respectively appears to run approximately along Dalälven, just as it does for male day-labourers. Beside Norrland, the county of Kopparberg thus belongs to the northern district, where wages were higher, while the counties of Värmland, Örebro, Västmanland, and Uppsala belong to the southern district, where the day-rates are relatively low. At the beginning of the period there was a minimum in south-eastern Sweden, i. e. in the counties of Blekinge, Kronoberg, and Kalmar. In 1910—1913 low day-rates for women prevailed in these counties, while the wage level in the counties of Malmöhus and Kristianstad was relatively high. In the counties of Skaraborg, Östergötland, and Gotland, the corresponding rates also seem to have been comparatively high towards the end of the period. In this last respect, the female day-rates agree well with the dispersion of the previously discussed male day-rates according to the *Markegång* returns. The county of Stockholm shows pronounced maxima both at the end of the 'sixties and in 1910—1913, while the counties of Uppsala, Södermanland, and Örebro — where wages seem to have been relatively high towards the end of the 'sixties — were in the latter period characterized by lower rates for female day-labour than the adjoining districts. In Värmland and Västmanland they had instead risen to a higher level. In the counties of Norrland the day-rates for female labour seem to have been very widely dispersed at the beginning of the period. While maximum wages are found in the counties comprising the coastal districts of southern Norrland — the counties of Gävleborg and Västernorrland — the Agricultural Statistics give figures considerably below the national average for Jämtland and Västerbotten. As, however, the Agricultural Statistics were so unreliable in the early part of the period, it is im-

Table 174<sup>1</sup> Geographical Dispersion of the Day-rates of Female Workers in 1865—1869 and 1910—1913, according to the Agricultural Statistics (in per cent).

County of	Divergences from the national average		Divergences of the rate of increase in the period 1910—13 from that of the national average	Female rates, in per cent of male	
	1865—69	1910—13		1865—69	1910—13
Malmöhus . . . . .	+ 7.5	+ 6.9	— 0.6	62.0	66.4
Kristianstad . . . . .	— 13.2	+ 7.6	+ 24.0	50.0	66.0
Blekinge . . . . .	— 28.3	— 17.4	+ 15.3	53.5	58.3
Kronoberg . . . . .	— 17.0	— 9.7	+ 8.8	53.7	57.8
Jönköping . . . . .	— 17.0	— 5.6	+ 13.8	51.2	57.4
Kalmar . . . . .	— 9.4	— 13.9	— 4.9	57.1	59.6
Gotland . . . . .	— 11.3	— 0.7	+ 12.0	55.3	61.1
Halland . . . . .	— 9.4	— 6.2	+ 3.5	51.1	62.5
Gothenburg and Bohus . . . . .	— 5.7	— 2.1	+ 3.8	60.2	65.0
Älvsborg . . . . .	— 9.4	— 2.8	+ 7.4	63.2	67.0
Skaraborg . . . . .	+ 7.5	± 0.0	— 7.0	57.0	66.1
Östergötland . . . . .	— 1.9	— 2.1	— 0.2	59.1	61.6
Södermanland . . . . .	+ 3.8	— 9.7	— 13.0	55.6	56.8
Stockholm . . . . .	+ 7.5	— 9.7	— 16.0	49.6	57.3
Uppsala . . . . .	— 1.9	— 9.7	— 8.0	47.3	60.7
Örebro . . . . .	± 0.0	— 5.6	— 5.6	54.6	63.0
Västmanland . . . . .	— 11.3	— 1.4	+ 11.2	48.5	61.7
Värmland . . . . .	— 9.4	± 0.0	+ 10.4	49.5	62.1
Kopparberg . . . . .	+ 20.8	+ 4.9	— 13.2	56.6	53.7
Gävleborg . . . . .	+ 47.2	+ 4.9	— 28.8	59.5	55.5
Jämtland . . . . .	+ 1.9	+ 11.8	+ 9.7	48.6	56.3
Västernorrland . . . . .	+ 45.3	+ 15.3	— 20.6	60.6	58.9
Västerbotten . . . . .	— 7.5	+ 9.0	+ 17.9	47.6	54.7
Norrbotten . . . . .	+ 18.9	+ 23.6	+ 4.0	56.3	59.7
Average (b) in öre	53	144	271.7	55.2	60.8

possible to say whether this large difference reflects the true situation or not. It is worth noting that at the beginning of the period the first two counties were already to some extent industrialized, owing to the rapid progress of the sawmill industry in the preceding decade. On the other hand, there was little industry in Jämtland and Västerbotten, which still remain less industrialized than the other parts of Norrland. Towards the end of the period, however, wages had definitely become more equalized. Jämtland in particular was then characterized by high wages for both male and female labour.

The rise in the day-rates for women from 1865—1869 to



1910—1913 seems as a rule to have been greater in south than in north Sweden. To some extent this equalized the wages, though the difference between the two parts still remained. The Agricultural Statistics show that in southern and central Sweden wages had risen more towards the west and south than towards the east. The largest increases occurred, in order of magnitude, in the counties of Kristianstad, Blekinge, Jönköping, and Värmland. Among the eastern counties, it was above the average only in Västmanland and Gotland.

It is also of interest to see how the day-rates for women developed in relation to those paid to men. Table 177 gives the female wages in per cent of male wages in 1865—1869 and in 1910—1913. According to the Agricultural Statistics, the former were 55 % of the latter at the beginning of the period, and 60 % at the end. There has thus been a relative, though fairly slight, increase in the rates for female day-labour. The reservation must be made, however, that the figures on which these percentages are based are unweighted averages of the wages of both permanent and casual labourers, and that none of the changes introduced in the forms of employment for both male and female labourers has been taken into account. As far as the geographical differences are concerned, it is noteworthy that female rates were comparatively high in relation to male rates in approximately the same districts both at the beginning and end of the period. This applies both to the county of Malmöhus and to a part of the country comprising the counties of Gothenburg and Bohus, Älvsborg, Skaraborg, Östergötland, and in the end of the 'sixties also to Södermanland. In 1910—1913 the female wages were also relatively high in the counties of Stockholm, Västmanland, and Värmland, while they were comparatively low in the whole of Norrland.

*The annual cash wages of male and female farm servants in 1865—1869 and 1910—1913 are given by counties in Tables 175 and 176. The dispersion of the county averages around the corresponding national averages is given in Table 177. The geographical dispersion of male farm servants' wages*

Table 175. The Rise of the Annual Cash Wages of Male Farm Servants in Different Counties and in the Whole Country, according to the Agricultural Statistics.

County of	Average of		Index	
	1865—69 Kronor	1910—13 Kronor	1910—13 = 100	1865—69 = 100
Malmöhus . . . . .	107	340	31.5	318
Kristianstad . . . . .	100	331	30.2	331
Blekinge . . . . .	81	285	28.4	352
Kronoberg . . . . .	100	304	32.9	304
Jönköping . . . . .	104	320	32.5	308
Kalmar . . . . .	99	290	34.1	293
Gotland . . . . .	100	287	34.8	287
Halland . . . . .	86	269	32.0	313
Gothenburg and Bohus . . . . .	95	273	34.8	287
Älvsborg . . . . .	94	293	32.1	312
Skaraborg . . . . .	111	300	37.0	270
Östergötland . . . . .	93	290	32.1	312
Södermanland . . . . .	106	279	38.0	263
Stockholm . . . . .	112	289	38.8	258
Uppsala . . . . .	106	287	36.9	271
Örebro . . . . .	108	290	37.2	269
Västmanland . . . . .	113	299	37.8	265
Värmland . . . . .	109	315	34.6	289
Kopparberg . . . . .	128	362	35.4	283
Gävleborg . . . . .	148	324	45.7	219
Jämtland . . . . .	136	399	34.1	293
Västernorrland . . . . .	131	323	40.6	247
Västerbotten . . . . .	84	288	29.2	343
Norrbottn . . . . .	110	319	34.5	290
Average	106	306	34.6	289

at the beginning of the period will be seen to agree well with that of the rates for day-labour as given in the Agricultural Statistics. In the main this applies also to 1910—1913, although there are then certain pronounced differences.<sup>1</sup> As in the case of the day-rates for male and female labour, the most characteristic feature of the distribution of male farm servants' wages is the gap between north and south Sweden in respect of the nominal wages, both in 1865—1869 and 1910—1913. In north Sweden, Västerbotten alone has a markedly low wage level. It is also character-

<sup>1</sup> There is also agreement between the data of the Agricultural and the Social Statistics referring to farm servants' wages at the latter date. In respect of Halland alone, the farm servants' wages given in the Social Statistics are higher than those of the Agricultural Statistics.

**Table 176. The Rise of the Annual Cash Wages of Female Farm Servants in Different Counties and in the Whole Country, according to the Agricultural Statistics.**

County of	Average of		Index	
	1865—69 <i>Kronor</i>	1910—13 <i>Kronor</i>	1910—13 = 100	1865—69 = 100
Malmöhus . . . . .	46	216	21.3	470
Kristianstad . . . . .	40	211	19.0	527
Blekinge . . . . .	35	188	18.6	537
Kronoberg . . . . .	38	195	19.5	513
Jönköping . . . . .	45	211	21.3	469
Kalmar . . . . .	46	189	24.3	411
Gotland . . . . .	58	184	31.5	317
Halland . . . . .	35	174	20.1	497
Gothenburg and Bohus . . . . .	44	170	25.9	386
Älvsborg . . . . .	39	176	22.2	451
Skaraborg . . . . .	56	184	30.4	329
Östergötland . . . . .	40	201	19.9	503
Södermanland . . . . .	48	189	25.4	394
Stockholm . . . . .	52	208	25.0	400
Uppsala . . . . .	51	226	22.6	443
Örebro . . . . .	47	194	24.2	413
Västmanland . . . . .	51	220	23.2	431
Värmland . . . . .	40	181	22.1	453
Kopparberg . . . . .	54	171	31.6	317
Gävleborg . . . . .	53	147	36.1	277
Jämtland . . . . .	57	161	35.4	282
Västernorrland . . . . .	66	151	43.7	229
Västerbotten . . . . .	40	123	32.5	308
Norrbottn . . . . .	48	147	32.7	306
Average	47	192	24.5	409

istic that at the end of the period male wages were apparently higher in the southernmost counties, especially in Malmöhus, than in the rest of south Sweden. On the other hand, the counties of Kronoberg and Jönköping were marked by higher servants' wages than the surrounding counties. As pointed out above, the day-rates seem to have risen more in the county of Malmöhus than in any other county. This was due partly to the cultivation of sugar-beets there, and partly to the strong industrialization of this county as well as of that of Kristianstad during the latter part of the period. These circumstances must clearly have influenced farm servants' wages, since the cash wages of a farm servant engaged by the year

Table 177. Geographical Dispersion of Farm Servants' Cash Wages in 1865—1869 and 1910—1913, according to the Agricultural Statistics (in per cent).

County of	Divergences from the national average				Divergences of the rate of increase in the period from 1865—69 to 1910—13 from that of the national average		Female wages, in per cent of male	
	Male		Female		Male	Female	1865—69	1910—13
	1865—69	1910—13	1865—69	1910—13				
Malmöhus . . . . .	+ 0.9	+ 11.1	- 2.1	+ 12.5	+ 10.1	+ 15.0	43.0	63.5
Kristianstad . . . . .	- 5.7	+ 8.2	- 14.9	+ 9.9	+ 14.7	+ 29.1	40.0	63.7
Blekinge . . . . .	- 23.6	- 6.9	- 25.5	- 2.1	+ 21.9	+ 31.5	43.2	66.0
Kronoberg . . . . .	- 5.7	- 0.7	- 19.1	+ 1.6	+ 5.3	+ 25.6	38.0	64.1
Jönköping . . . . .	- 1.9	+ 4.6	- 4.3	+ 9.9	+ 6.6	+ 14.8	43.3	65.9
Kalmar . . . . .	- 6.6	- 5.2	- 2.1	- 1.6	+ 1.5	+ 0.6	46.5	65.2
Gotland . . . . .	- 5.7	- 6.2	+ 23.4	- 4.2	- 0.6	- 22.4	58.0	64.1
Halland . . . . .	- 18.9	- 12.1	- 25.5	- 9.4	+ 8.3	+ 21.7	40.7	64.7
Gothenb. and Bohus	- 10.4	- 10.8	- 6.4	- 11.5	- 0.5	- 5.4	46.3	62.3
Älvsborg . . . . .	- 11.3	- 4.2	- 17.0	- 8.3	+ 8.0	+ 10.5	41.5	60.1
Skaraborg . . . . .	+ 4.7	- 2.0	+ 19.1	- 4.2	+ 6.4	- 19.6	50.5	61.3
Östergötland . . . . .	- 12.3	- 5.2	- 14.9	+ 4.7	+ 8.0	+ 23.0	43.0	69.3
Södermanland . . . . .	± 0.0	- 8.8	+ 2.1	- 1.6	- 8.8	- 3.6	45.3	67.7
Stockholm . . . . .	+ 5.7	- 5.6	+ 10.6	+ 8.3	- 10.6	- 2.1	46.4	72.0
Uppsala . . . . .	± 0.0	- 6.2	+ 8.5	+ 17.7	- 6.2	+ 8.5	48.1	78.7
Örebro . . . . .	+ 1.9	- 5.2	± 0.0	+ 1.0	- 7.0	+ 1.1	43.5	66.9
Västmanland . . . . .	+ 6.6	- 2.3	+ 8.5	+ 14.6	- 8.3	+ 5.6	45.1	73.6
Värmland . . . . .	+ 2.8	+ 2.9	- 14.9	- 5.7	+ 0.1	+ 10.8	36.7	57.5
Kopparberg . . . . .	+ 20.8	+ 18.3	+ 14.9	- 10.9	- 2.0	- 22.5	42.2	47.2
Gävleborg . . . . .	+ 39.6	+ 5.9	+ 12.8	- 23.4	- 24.2	- 32.1	35.8	45.4
Jämtland . . . . .	+ 28.3	+ 30.4	+ 21.3	- 16.1	+ 1.6	- 30.8	41.9	40.4
Västernorrland . . . . .	+ 23.6	+ 5.6	+ 40.4	- 21.4	- 14.6	- 44.0	50.4	46.7
Västerbotten . . . . .	- 20.8	- 5.9	- 14.9	- 35.9	+ 18.8	- 24.7	47.6	42.7
Norrbottn . . . . .	+ 3.8	+ 4.2	+ 2.1	+ 23.4	+ 0.5	- 25.0	43.6	46.1
Average	106	306	47	192	288.7	408.5	44.3	62.7

must to a very large extent be adjusted to what he might have earned as a seasonal worker in the beet-fields, or as a worker in some industry such as the sugar-mills, where work is also to some extent seasonal. The high farm servants' wages in the two last-named counties can therefore be deemed a corroboration of the considerable rise in the day-rates indicated by the *Markegång* returns. Whether the relatively high farm servants' wages in the counties of Kronoberg and Jönköping have anything to do with the fact that agricultural workers

in those parts often used to seek (and still do seek) summer and autumn employment in the adjoining farming districts, is difficult to say definitely. To do so would require a fuller knowledge of the mobility of labour in different districts. It is known, however, that a great many workers in these counties also sought employment in the building trade, in railway construction work, etc.

On the whole, the rise in male farm servants' wages from the end of the 'sixties up to the years just before the war seems to have been greater in south Sweden than in the north, and wages have consequently become rather more equal. In central Sweden and in the coastal districts of south Norrland, where wages were high at the beginning of the period, they have risen relatively little.

The trend of the annual cash wages of female farm servants differs from that of all the other wage series. At the end of the 'sixties their geographical distribution was approximately the same as for male farm servants. Apparently, however, the counties of Västmanland, Uppsala, and Stockholm should — as far as female farm servants' wages are concerned — be included in the northern district, where nominal wages were relatively high. The difference between the north and the south districts in female farm servants' wages was also considerably less marked than the corresponding differences in male or female day-rates, or in male farm servants' wages. In southern Sweden, the counties of Skaraborg and Gotland were characterized by high wages for female servants. In the county of Malmöhus, too, the wages were, already at the beginning of the period, considerably higher than in the adjoining districts. A maximum was found in Västernorrland, while in the two northernmost counties the level seems to have been markedly low, as it was also in respect of male farm servants. Wages in the period 1910—1913 show quite a different distribution. In the whole country south of Kopparberg and Gävleborg, female farm servants seem to have been considerably better paid than in the northern parts.<sup>1</sup> In this respect, the distribution is

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<sup>1</sup> The data of the Social Statistics for the years 1911/13 give a like dispersion.

thus the opposite to that of the other wage categories. It is also a notable fact that the highest female farm servants' wages are met with in the county of Uppsala, where other wages seem to have been lower than in the adjoining counties. In Västmanland they reached almost the same level. Relatively high female farm servants' wages were also met with in the counties of Stockholm, Östergötland, Kronoberg, Kristianstad, and Malmöhus, while in some of the western districts, viz. Halland, Älvsborg, and Gothenburg and Bohus, they were comparatively low.

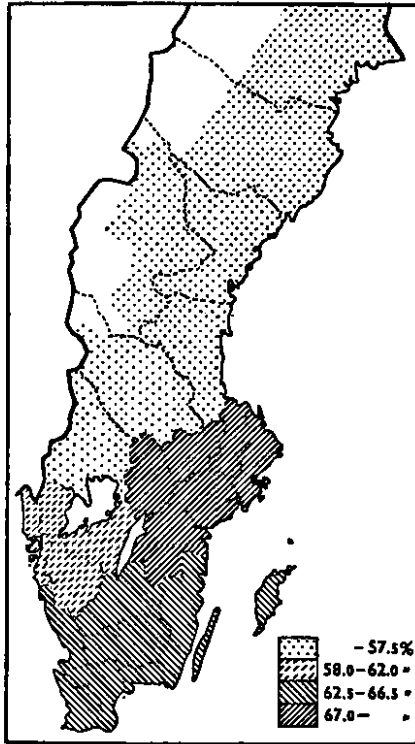
The wages of female farm servants have thus developed far more irregularly in the different parts of the country than the wages of other workers. While the average national increase in female farm servants' wages from the end of the 'sixties up to the war was 309 %, the highest increase was no less than 437 % and the lowest only 129 %.<sup>1</sup> In south and central Sweden the increase has been very great, much greater even than for day-labourers and male farm servants, while in Norrland and Kopparberg they have risen much less than for other categories of labour. The wages of female farm servants seem to have been to some extent equalized in both south and north Sweden, taken separately, in that they have increased more in counties where they used to be relatively low at the beginning of the period (Blekinge, Kristianstad, and Kronoberg), and less in counties where in the early days they were relatively high (Skaraborg and Gotland; in north Sweden Västernorrland).

It is also of interest to study the relative changes of male and female farm servants' wages.<sup>2</sup> As was the case with day-rates, women's wages have risen more than the men's. At the beginning of the period, women farm servants were paid 44.3 % of the men's wages, and at the end of the period that ratio had changed to 62.7 %. The change is very unequal, however, in the different counties. While, at the beginning of the period, the ratio of women's wages to those of men differed from the average

<sup>1</sup> Cf. Table 176.

<sup>2</sup> Cf. Table 177.

**Map 7. Female Farm Servants' Cash Wages in per cent of Male in 1910-1913.**



percentage only in an odd county here and there, we find at the end of the period a very characteristic distribution. In a large district in south Sweden, comprising the counties of Malmöhus, Kristianstad, Blekinge, Kronoberg, Jönköping, Kalmar, Gotland, and Halland, women's wages were from 63.5 to 66.0 % of the men's, i. e. slightly above the average national ratio. In east Sweden we find another district, comprising the counties of Östergötland, Södermanland, Stockholm, Uppsala, Örebro, and Västmanland, where the women were paid from 66.9 to 78.7 % of the men's wages, that is to say, considerably above the average. In the west and the north, on the other hand, the ratio of female to male farm servants' wages was below the natio-

nal average. In the west (the counties of Skaraborg, Älvsborg, and Gothenburg and Bohus) the women's wages were 60.1 % to 62.3 % of the men's, in Värmland 57.5 %, in Kopparberg 47.2 %, and in the Norrland counties from 40.4 to 46.7 %.<sup>1</sup>

The national averages of *statare* wages taken from the Agricultural Statistics show an entirely similar trend to those calculated from the Institute's material. From the end of the 'sixties until the years before the war, *statare* wages increased 129 % according to these two sources. This agreement may of course be fortuitous, as our private material is very scanty and drawn only from a few counties. The fact that the latter series is throughout slightly lower than the former is, however, due to the value of housing, fuel, and other minor benefits in kind included in the *stat* having been excluded, as it could not be sufficiently accurately estimated. As regards the geographical differences, the information from individual farms at our disposal is not sufficiently comprehensive to allow any conclusions as to the reliability of the Agricultural Statistics, but it shows that the remuneration of *statare* evidently varied a good deal even in as comparatively limited areas as counties.<sup>2</sup> We have seen that the same thing is observable in respect of the day-rates paid at different farms. This would seem to indicate that the agricultural labour market is very restricted locally, and that consequently considerable differences may be met with in districts comparatively close together. A study of the data sent in from the different bailiwicks for the *Markegång* Scales also confirms the existence of considerable wage differences within each county.<sup>3</sup> These differences must, however, to some extent also be due to a certain conservatism in fixing the wages, primarily of permanently employed labour, for it is quite clear that the wages paid to the permanent staff of any one estate, whether in cash or allowances, varied but seldom. There are cases on record where both cash wages and *stat*

<sup>1</sup> Cf. Map 7.

<sup>2</sup> Cf. Table 179.

<sup>3</sup> Cf. p. 98.



**Table 178. The Rise of *Statare* Wages in Different Counties and in the Whole Country, according to the Agricultural Statistics.**

County of	Average of		Index	
	1865—69 <i>Kronor</i>	1910—13 <i>Kronor</i>	1865—69 = 100	1910—13 = 100
Malmöhus . . . . .	275	693	39.7	252
Kristianstad . . . . .	260	676	38.5	260
Blekinge . . . . .	220	567	38.8	258
Kronoberg . . . . .	248	623	39.8	251
Jönköping . . . . .	248	636	39.0	256
Kalmar . . . . .	232	596	38.9	257
Gotland . . . . .	275	624	44.1	227
Halland . . . . .	225	576	39.1	256
Gothenburg and Bohus . . . . .	309	745	41.5	241
Älvsborg . . . . .	230	640	35.9	278
Skaraborg . . . . .	266	578	46.0	217
Östergötland . . . . .	273	605	45.1	222
Södermanland . . . . .	260	610	42.6	235
Stockholm . . . . .	292	644	45.3	221
Uppsala . . . . .	290	638	45.5	220
Örebro . . . . .	311	619	50.2	199
Västmanland . . . . .	296	613	48.3	207
Värmland . . . . .	297	656	45.3	221
Kopparberg . . . . .	366	707	51.8	193
Gävleborg . . . . .	337	660	51.1	196
Jämtland . . . . .	349	819	42.6	235
Västernorrland . . . . .	306	601	50.9	196
Västerbotten . . . . .	264	704	37.5	267
Norrbottnen . . . . .	304	707	43.0	233
Average	276	632	43.7	229

have remained the same for 5, 10 or even 15 years. The difference with respect to wages between two estates in the same or neighbouring districts may possibly be due to the more or less rapid adjustment of each to changes in the agricultural labour market. As a consequence, it is also conceivable that this may cause a certain differentiation in the labour. Farms retaining the traditional rates in times of rising wages may have to be satisfied with older or less skilled workers, while those paying higher wages probably pick their men carefully. The different wages reported from different farms may thus be due to variations in the quality of the labour employed. The gradual spread of the trade-union movement to agriculture, and

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Table 179. *Statare* Wages on Selected Estates in 1865—1869 and in 1910—1913.

Estates	Average of		Index
	1865—69 Kronor	1910—13 Kronor	1865—69 = 100
<b>In the county of:</b>			
<i>Malmöhus</i>			
Börringe kloster . . . . .	307	603	196
Viderup . . . . .	289	622	215
Övedskloster . . . . .	284	582	205
Karsholm . . . . .	268	—	—
Trolleholm . . . . .	254	658	259
Barsebäck . . . . .	284	647	228
Löberöd . . . . .	297	—	—
Average	283	622	220
<i>Kristianstad</i>			
Maltesholm . . . . .	223	—	—
<i>Halland</i>			
Lindhult . . . . .	233	605	260
<i>Östergötland</i>			
Vahlstad . . . . .	—	452	—
<i>Södermanland</i>			
Säfstaholm . . . . .	226	—	—
<i>Stockholm</i>			
Berg . . . . .	—	634	—
<i>Västmanland</i>			
Seglingsberg . . . . .	305	—	—
Fullerö . . . . .	243	582	240
Hedensberg . . . . .	240	563	235
<i>Värmland</i>			
Borgviks bruk . . . . .	252	—	—
Longs fideikommiss . . . . .	230	—	—
Bäck . . . . .	—	494	—

the consequent introduction of collective agreements, have helped to reduce wage differences in a district to which an agreement applies (usually a county), and to some extent also the differences between different districts. These agreements have, in other words, had a highly standardizing effect on agricultural wages, although only a minority of

the workers may actually have been parties to them. That result, however, did not become apparent until towards the end of the period under review, and was not generally felt until after the war. What has been said above regarding wages paid at different farms, is therefore in the main applicable to the whole period from 1860 to 1913, even though there was a certain amount of equalization towards the end.

As far as the *statare* wages stated in the Agricultural Statistics are concerned, it should be noted that those referring to the counties comprising Norrland can hardly be considered very valuable, as the number of *statare* in that part of the country is very small. The dispersion of such wages in south and central Sweden in 1865—1869 is slightly different from that of either day-rates or male farm servants' wages. The value of *stat* and cash wages seems on the whole to have been higher in the whole of central Sweden than in the southern counties. The relatively high figures from the county of Örebro may to some extent be due to the fact that in the 'sixties the prices of rye, wheat, and barley, which make up a considerable portion of the *stat*, seem to have been higher in that county than in the adjoining districts.<sup>1</sup> In Södermanland, on the other hand, grain prices (especially of rye, barley, and oats) were at that time lower than elsewhere in central Sweden, which may possibly explain why the value of the *statare* wages was less in that county than in the surrounding districts. All the differences met with, however, are clearly not due to differences in the prices of the benefits in kind. In Värmland, for instance, grain prices were comparatively high, but according to the Agricultural Statistics that does not seem to have appreciably affected the value of the *statare* wages there. In the south of Sweden there is, on the whole, no correlation of the relative level of the grain prices to the value of such wages.

At the end of the period under consideration, a closer agreement between the *statare* wages in the south and in the north is immediately noticeable. If, still, we disregard

<sup>1</sup> Cf. *Myrdal*, op. cit., p. 77—80.

Norrland, it is evident that the difference obtaining at the beginning of the period between the *statare* wages in central Sweden on the one hand, and on the other the more southerly counties, had largely disappeared. In southern Sweden these wages were markedly high in the county of Gothenburg and Bohus. So they were at the beginning of the period, and, as then, this was probably connected with the relatively high prices of the agricultural produce included in the *stat*. Towards the end of the period milk must be considered the most important of these products, partly because the milk allowance seems to have increased much more than the grain allowance,<sup>1</sup> and partly because the price of milk had risen considerably, while most grain prices were lower than at the beginning of the period.<sup>2</sup> Milk seems to have been especially dear in this county. In the counties of Malmöhus and Kristianstad the prices of agricultural produce were also relatively high about 1910, which may have had some effect on the evaluation of the benefits in kind, although certainly not sufficient to account for the fairly large difference existing, according to the Agricultural Statistics, between *statare* wages in on the one hand the two southernmost counties and on the other the counties adjoining them. The relatively high *statare* wages in Malmöhus and Kristianstad appear to be a further confirmation of our assumption that the *Marhegång* returns are correct in ascribing to these two counties considerably higher wages than to the rest of south Sweden. In the counties of Kalmar and Blekinge we meet again the minimum which was characteristic of them in respect of both day-rates and farm servants' wages. In Halland, as well as in Skaraborg, *statare* wages were also relatively low, while in Älvsborg they were now relatively high, contrary to what was the case at the beginning of the period.

From the end of the 'sixties up to the years preceding

<sup>1</sup> Cf. the specifications given in Table 208.

<sup>2</sup> Cf. *Myrdal*, op. cit., pp. 77—86. With 1861—1870 as base, the index numbers of agricultural produce in 1910—1913 are as follows:

Wheat	Rye	Barley	Oats	Potatoes	Butter
86	91	98	107	117	139

the war, *statore* wages have accordingly risen considerably more in southern than in central Sweden. The increase seems to have been greatest in the counties of Älvsborg and Kristianstad — 178 and 160 % respectively — while in east and south Sweden (except in Skaraborg and Östergötland) it was apparently about 150 %. In the eastern parts of central Sweden the increase was slightly over 120 % (in Södermanland 135 %, which brought the *statore* wages there up to the same level as in the adjoining counties). Apart from Kopparberg and Norrland, the smallest increase is met with in the counties of Västmanland and Örebro.

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## CHAPTER XIX.

### WAGES IN AGRICULTURE, 1911—1928.

#### *Sources.*

THE agricultural wage statistics, prepared by the Social Board<sup>1</sup> from 1911 to 1928, rested on a broader basis than the older wage statistics, although to some extent they were compiled on similar lines.<sup>2</sup> They followed the *Marktgång* returns in that they were founded, not on averages of wages actually paid, but on the estimated »usual» wages of different categories of labour in different communes, while the categories were selected more in accordance with the Agricultural Statistics.

From the Chairman of the District Council (*Kommunalstämma*) in each rural commune, annual returns were requested on the supply of labour, working hours, and wages within the commune. Replies to the questionnaires were as a rule received from 2,100—2,300 communes, corresponding to 91—96 % of the rural communes to which they had been sent out. The information wanted was stated to be the »usual» local wages. An examination of the material received indicates »that in most cases the summary data of the questionnaires are not to be regarded as averages, based on careful inquiries and calculation of working hours, wages, etc. throughout each commune, but rather as estimates of the conditions in the place, or even on the farm, where the informant resided».<sup>3</sup>

<sup>1</sup> Up to the end of 1912 by the Department of Labour Statistics, Board of Trade (*Kommerskollegium*).

<sup>2</sup> *Arbetartillgång, arbetstid och arbetslön inom Sveriges jordbruk* (Labour Supply, Working Hours, and Wages of Agricultural Labour in Sweden), *Sveriges officiella statistik*.

<sup>3</sup> *Op. cit.*, 1911.

As agricultural wages show wide local differences, a change in the person making the return, or in his place of residence, may cause variations in the wage reports. The drawback of this system is reduced by the communes being usually relatively small in size and population. The communes in Norrland are exceptions in this respect, and the representativity of the wage series from these communes is, therefore, more doubtful. The Social Board has naturally checked the material in order to eliminate such errors as far as possible. Even if we still have to reckon with errors in the statistics, connected with the manner of collecting the primary material, the averages for the larger local units will probably relatively satisfactorily indicate the general trend of wages.

From the beginning of 1929, the primary material is supplied by the agents of the Agricultural Societies in the various hundreds (*härad*), or still larger districts. The change of informant has not only resulted in a reduction of the number of primary returns to about one sixth of what it used to be, but also in the districts to which each return refers having become fairly heterogeneous. This has naturally increased the chances of statistical errors considerably, and the statistics have lost in representativity. As, moreover, the continuity of the wage series has been broken by this change, the agricultural wages given by the Social Board after 1928 are not published here.

The questionnaire sent to the communes by the Social Board requests information on able-bodied agricultural workers. Workers who cannot earn standard wages owing to being too young or too old, invalids, or the like, are consequently excluded. In addition, the wage statistics — just as the agricultural statistics earlier (cf. above) — are confined to the less skilled occupational groups in agriculture. Information is thus collected on teamsters boarded by the master (not the more responsible foremen, cattlemen, or other skilled men), on two groups of *statare*, viz. teamsters (or other field workers) and cattlemen (not bailiffs, joiners, etc.), and finally on permanent and casual day-labourers.

Attention must also be drawn to yet another circumstance that throws light on the representativity of the wage series. The primary data specify agricultural labourers proper (field workers), teamsters, and cattlemen. Such specification is obviously only possible if some division of labour has been introduced, and there is consequently reason to believe that wage conditions on the large farms have affected the wage series in a relatively high degree.

In accordance with the original plan of the Agricultural Labour Statistics compiled by the Social Board, certain investigations have — apart from the annual wage statistics — been made at intervals of several years, based on direct information of the *actual* earnings of *all* agricultural labourers employed on certain selected farms.<sup>1</sup> The object of these was to check the reliability of the continuous statistics.

On the basis of the primary data from the different communes, direct averages have been computed for the next larger local units, hundreds, counties, and finally for the whole country. In the national averages, the different hundreds and counties have consequently been weighted in proportion to the number of rural communes from which returns have been received. The size of the rural communes in different districts is approximately inversely proportionate to the density of population, which in its turn is closely connected with the density of the agricultural population. The relative weights of the different counties

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<sup>1</sup> *Till belysning av lantarbetarnas arbets- och löneförhållanden i Sverige år 1910* (An Inquiry into the Conditions of Work and the Wages of Agricultural Workers in Sweden in 1910), Stockholm 1911. *Lantarbetarnas arbets- och löneförhållanden inom olika bygder och å typiska lantegendomar* (The Conditions of Work and Wages of Agricultural Workers in Different Districts and on Typical Farms), Stockholm 1915.

In the series *Arbetartillgång, arbetstid och arbetslön inom Sveriges jordbruk* (Labour Supply, Working Hours and Wages of Agricultural Labour in Sweden) have been published: a summary of wage conditions for the years 1911—1920 (1921); an inquiry into certain wage and labour conditions (1922 and 1923); an inquiry into labour and wage conditions of sugar-beet labourers in Skåne (1924); an inquiry into the changes in agricultural working hours from 1911 to 1925 (1925); an inquiry into the supply of agricultural labour at the beginning of 1926 (1926); and an inquiry into the wages of unskilled labour of various kinds in the Stockholm suburban districts (1927).

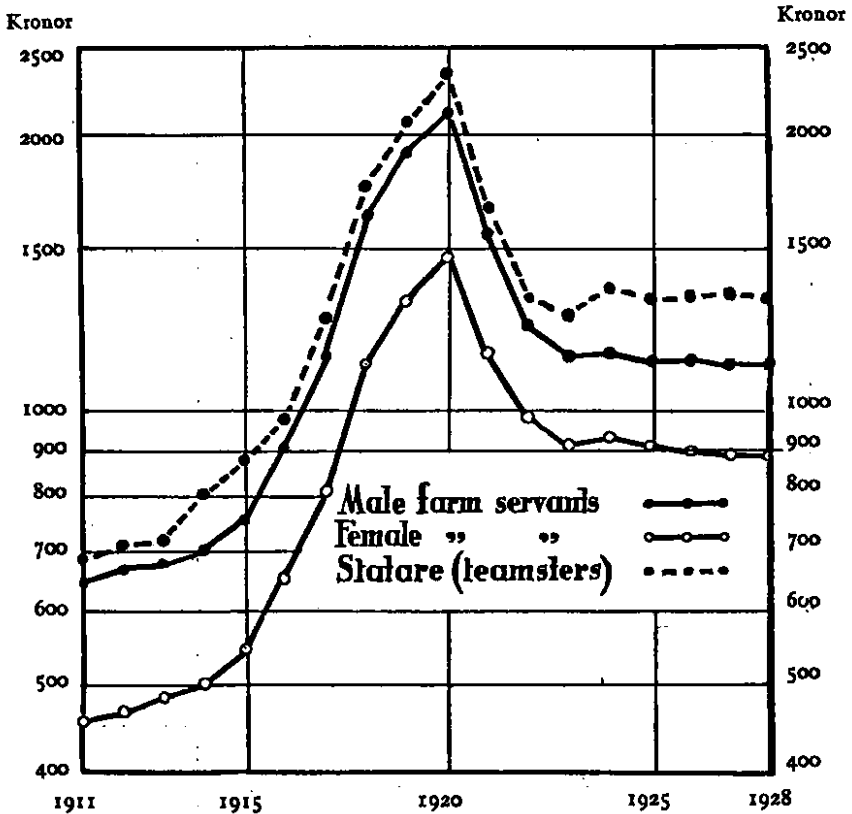


Table 18a. Annual and Daily Wages (in kronor) of Workers in Agriculture 1911—1928.

Year	Annual wages						Daily wages			
	Male farm servants		Female farm servants		Statars (teamsters)		Casual day-labourers finding for themselves			
	Cash wages	Cash wages plus board and lodging	Cash wages	Cash wages plus board and lodging	Cash wages	Cash wages plus benefits in kind	Male		Female	
							Summer	Winter	Summer	Winter
1911	311	648	184	456	314	687	2.79	2.04	1.67	1.25
1912	318	667	190	470	320	710	2.87	2.11	1.72	1.30
1913	326	683	197	485	329	720	2.97	2.19	1.77	1.34
1914	332	702	202	501	334	811	3.02	2.24	1.81	1.38
1915	343	755	212	547	346	883	3.13	2.34	1.87	1.43
1916	398	906	241	655	390	987	3.77	3.02	2.23	1.75
1917	489	1146	286	818	457	1256	5.00	4.00	2.95	2.29
1918	689	1629	376	1131	646	1764	7.14	5.62	4.00	3.07
1919	884	1903	502	1320	826	2088	8.58	6.72	4.82	3.71
1920	1075	2105	661	1495	1047	2352	9.37	7.20	5.62	4.30
1921	784	1551	541	1174	807	1649	6.74	5.06	4.41	3.33
1922	609	1246	450	975	651	1325	5.04	3.89	3.46	2.66
1923	566	1155	423	913	615	1275	4.74	3.67	3.23	2.51
1924	570	1164	430	933	624	1371	4.79	3.72	3.27	2.54
1925	566	1139	426	909	627	1318	4.74	3.70	3.24	2.53
1926	560	1126	422	898	626	1328	4.72	3.68	3.24	2.53
1927	560	1121	423	893	624	1334	4.71	3.70	3.23	2.55
1928	560	1119	424	891	627	1329	4.71	3.70	3.24	2.56

consequently do not differ considerably from those obtained from each county's share of the total agricultural population, or of the cultivated land. The weights of the northern counties — and above all those of Värmland, Kopparberg, Västerbotten, and Norrbotten — would probably be slightly higher if determined by the agricultural population. The differences from the weights used for the computation of the averages for earlier years (cf. p. 106) can, however, not be so large that the national averages of the Social Board are not comparable in this respect with the national averages computed for the earlier years.

Cart 31. Annual Wages (Cash Wages plus Board and Lodging in *kronor*) of Workers in Agriculture 1911—1928.

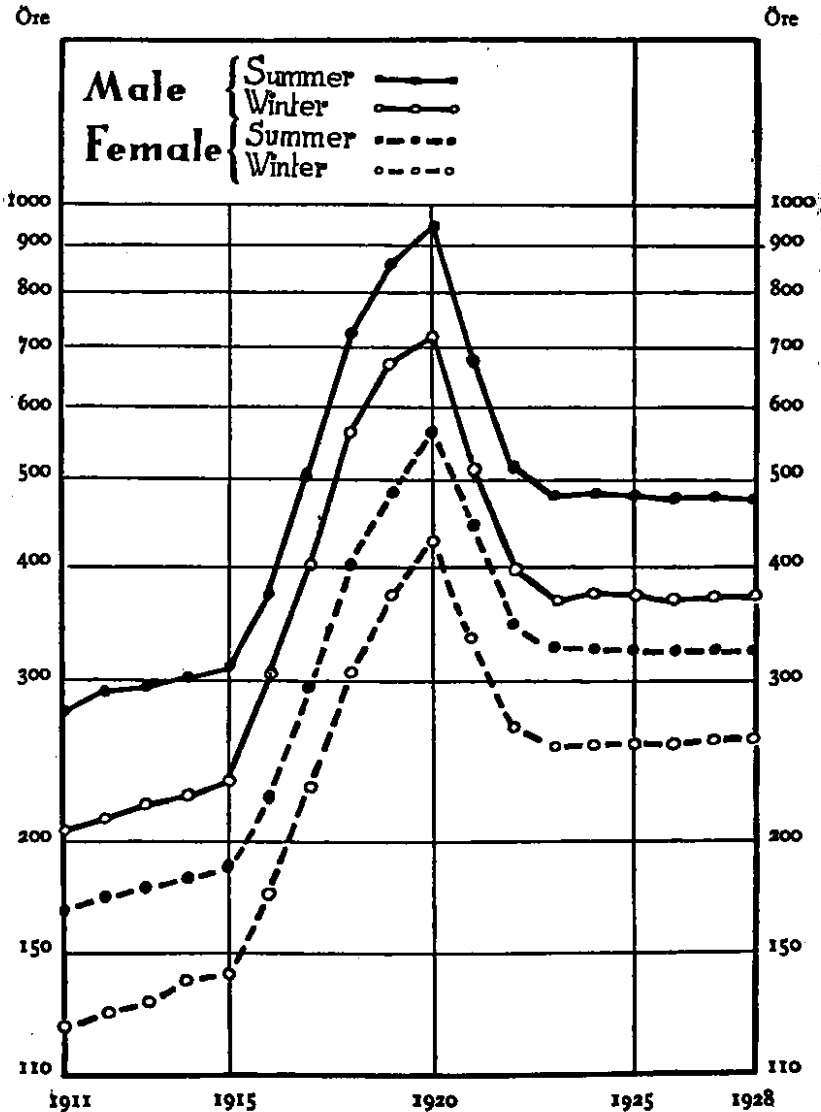


*Trend of Wages.*

The time from 1911 to 1913 was characterized by slowly increasing wages for all categories of agricultural labour. From 1914 to 1920 the rise was rapid. In 1920 the annual cash wages of male servants were 230 %, of female servants 236 %, and of *stolare* 218 % above the 1913 level. The summer day-rates had been increased by 215 % for male and by 218 % for female day-labourers, and the winter day-rates by 229 and 221 % respectively.

The years 1921—1923 were marked by strong regression,

Chart 32. Daily Wages (in öre) of Casual Day-labourers in Agriculture finding for themselves 1911—1928.



the wages being reduced by 40 or 50 % below the peak of 1920. The reductions in the annual cash wages were as follows: male servants 47 %, female servants 36 %, and *statare* 41 %. The summer day-rates declined by 49 % in the case of male, and by 43 % in that of female day-labourers, and the winter day-rates by 49 and 42 % respectively. From 1924 a certain degree of stabilization was discernible, and wages fluctuated but slightly.

The percentages of increase in the annual *cash wages* in 1928 above the 1913 level were: male servants 72 %, female servants 115 %, and *statare* 91 %. The summer day-rates had risen 59 % since 1913 for male and 83 % for female day-labourers, and the winter day-rates by 69 % for the former and 91 % for the latter. The relative increase of the wages of female farm labour observable from 1860 to 1913 (cf. pp. 136 and 140) had thus continued with considerable strength.

The variations in the *value of the benefits in kind* are chiefly conditioned by alterations in the prices at which they are estimated. The strong increase in the prices of food-stuffs during the war thus caused a corresponding increase in the value of the benefits included in the *statare* wages. The increase in the estimated total annual wages was therefore considerably more rapid than in their cash part. The benefits in kind have changed considerably since pre-war days, however, even in quantity. The benefits in kind of servants have generally been restricted to free board and lodging, while for instance their benefit of clothing or material for such has been discontinued. In respect of *statare* too, the comprehensive payments in kind of former days have been increasingly simplified, and articles such as herrings, salt, butter, beef, pork, clothes, boots, have almost disappeared from the *stat*. As will be seen from the following summary of the national averages for the quantities of certain benefits in kind, other changes have at the same time taken place in the composition of the *stat*.

A displacement in the composition of the *stat* from food-stuffs of «lower» class — skimmed milk, rye, and barley —

Year	M i l k		Wheat	Rye	Barley	Oats and dredge	Peas
	Skimmed	Unskimmed					
	L i t r e s						
1913	601	995	86	639	172	163	28
1928	399	1212	201	611	161	257	19

to those of «higher» class — unskimmed milk and wheat — can be clearly observed.

### Working Hours.

The continuous agricultural labour statistics of the Social Board also included data from the different communes regarding the daily working hours of agricultural labourers proper, as well as of teamsters and cattlemen in summer and winter.<sup>1</sup> The gradual change in agricultural working hours — inclusive and exclusive of rests — during the period is indicated by the following table.

Year	Agricultural labourers proper				Teamsters				Cattlemen			
	Summer		Winter		Summer		Winter		Summer		Winter	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
1911	12.7	10.5	9.1	7.9	12.8	10.6	9.4	8.1	14.1	11.1	13.7	10.8
1916	12.3	10.1	9.2	7.9	12.6	10.4	9.5	8.1	14.1	11.1	13.5	10.6
1920	11.9	9.8	9.1	7.7	12.8	10.5	10.2	8.6	13.5	10.3	13.2	10.1
1928	11.8	9.8	9.2	7.8	12.8	10.6	10.4	8.8	13.7	10.4	13.4	10.2

The summer working hours were generally shortened considerably in the years from 1916 to 1920, but have since kept practically constant.<sup>2</sup> This trend coincides with the changes in the supply of agricultural labour. The industrial

<sup>1</sup> According to the instructions given in the questionnaires, *summer* means the three months of the year when the regular work begins the earliest and ends the latest (on an average), and *winter* the three months of the year when it begins the latest and ends the earliest (on an average).

<sup>2</sup> The increase in the working hours of teamsters in 1919 and 1920 seems to be entirely due to more accurate returns of the time spent on carrying the horses and stable attendance.

boom from 1916 to 1920 caused a shortage of labour in agriculture, which again disappeared the next year. The winter working hours, on the other hand, have kept relatively unchanged throughout the period.<sup>1</sup>

The following table shows how the local differences in the length of the working hours of agricultural labourers proper have diminished since the time before the war. The tendency to standardization is probably largely a result of the introduction of collective agreements. The table gives the net agricultural working hours in various hundreds (*härads*).

Year	Number of districts (hundreds etc.)	Of which the following percentages had an average net working time in hours of:						
		less than 9	9.0—9.4	9.5—9.9	10.0—10.4	10.5—10.9	11.0—11.4	11.5 and above
1911	302	—	1.7	11.6	39.7	29.8	9.9	7.3
1916	292	—	2.4	18.2	51.7	17.1	7.2	3.4
1920	289	1.7	9.0	57.1	27.7	2.1	1.0	1.4
1928	286	0.7	10.8	57.3	29.0	1.4	0.4	0.4

The questionnaires for the agricultural labour statistics of the Social Board only ask for information on the working hours during the three summer months, when the work begins the earliest and ends the latest, and the three winter months, when the work begins the latest and ends the earliest. To ascertain the length of the working hours in each month a special investigation was made by the Social Board in 1920. The following table gives the regular net number of working hours per day for agricultural labourers proper.

January . . . . .	7.6	July . . . . .	9.8
February . . . . .	7.8	August . . . . .	9.8
March . . . . .	8.4	September . . . . .	9.6
April . . . . .	9.2	October . . . . .	8.7
May . . . . .	9.7	November . . . . .	7.9
June . . . . .	9.8	December . . . . .	7.5

<sup>1</sup> In respect of the increase in the working hours for teamsters, cf. Note 2, p. 156.

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These data include no overtime work. In agricultural work proper overtime work seems only to have occurred in exceptional cases, for instance during unsuitable harvesting weather or the like. In 1925, 62 % of 1756 communes reported that no overtime work had been done, 20 % that it had occurred in odd instances, and 17 % that it had been of more general occurrence.

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Regarding the Crown forests (A, B, C, E, F, and G), extracts have been made from records kept by the Board of Crown Lands and Forests (*Domänstyrelsen*). Day-work has been specified in the primary tables by stating the day-rate paid and the nature of the work. Similar data have been extracted from the wage records for the H forests. In work of so varying a nature, the day-rates paid in any one year will naturally differ very widely. Although only such rates have been selected as refer to ordinary male day-labour, they may vary in the same forest district within as wide limits as 1 and 3 *kronor*. The day-labour required for cultivation is frequently not done by grown up men, and has therefore been excluded, as have the day-rates for charcoal burning, i. e. for 24 hours' watch-keeping, at the stacks in the forest. Generally it is possible to ascertain if any changes in the nature of the work have been made in the different forests. It is consequently possible to determine if such changes have influenced the average day-rates. This has, on the other hand, not been possible in the case of the series D, I and K, which are based on the normal rate of pay for ordinary male day-labour, estimated from the wage records. It has not been possible to check the accuracy of this estimate. The L series is less valuable, and has not been included in the national average.

The weights used in the construction of the national average have mainly been determined according to the degree of homogeneity of the different wage series. It has not been possible to take into account the number of workers employed on forest maintenance work in the different districts, as no information is available on this point. Owing to this method of weighting, the Norrland forests have perhaps not been given due weights in the average. This seems, however, only to apply to later years, as less maintenance work was done there formerly. In the main, the trend of the Norrland series agrees well with the trend of the national average. As the chain index method has been employed for the construction of the national average (cf. Part I, p. 39), its general trend would

hardly have been affected to any considerable extent if greater weight had been assigned to the Norrland wage series in later years. On the other hand, an ordinary average would have made the secular rise of the wages appear stronger, if gradually increasing weights had been assigned to Norrland, where wages are relatively high.

The workers were probably drawn from different social groups. Our material generally tells us little or nothing on this point. The series from private concerns (D, I, and K) are stated to refer to crofters, who beside their daily wage are in receipt of allowances in kind worth about 30 % of their annual cash earnings. The remaining series presumably include other categories of labour too, but there is no appreciable difference between the wages given there and in the above three series that might be ascribed to dissimilarity in such allowances. There are no data about the working hours per day, but presumably these were fairly constant throughout the period, though they may have varied with the season.<sup>1</sup>

Beside their fixed daily pay, the workers with whom we are here concerned were also to some extent able to earn money on piece-work. From the forests D and H the piece-work rates for cutting firewood from 1860 to 1909 and from 1879 to 1910 respectively is recorded. In both cases the trend of the piece-work rates agrees well with that of the day-rates. Towards the end of the 'nineties the piece-work rates rose at a considerably more rapid rate than the day-rates, the increase from 1899 to 1907 being about 20 % and 40 % respectively larger than in the day-rates. As there is nothing to show the relative importance of each of the two systems of payment, it is impossible to decide how far piece-work earnings may have affected the trend of average wages.

The averages from 1860 to 1869 are based only on the

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<sup>1</sup> The working hours of another possibly comparable category of forest workers — teamsters — varied in 1913 from 8 hours in the beginning of winter to 12 hours or more later in spring. Cf. (*Skogsarbetarnas levnads- och arbetsförhållanden i Värmland, Dalarna och Norrland* (The Living and Working Conditions of Forestry Workers in Värmland, Dalarna and Norrland), published by the Social Board, Stockholm 1916.

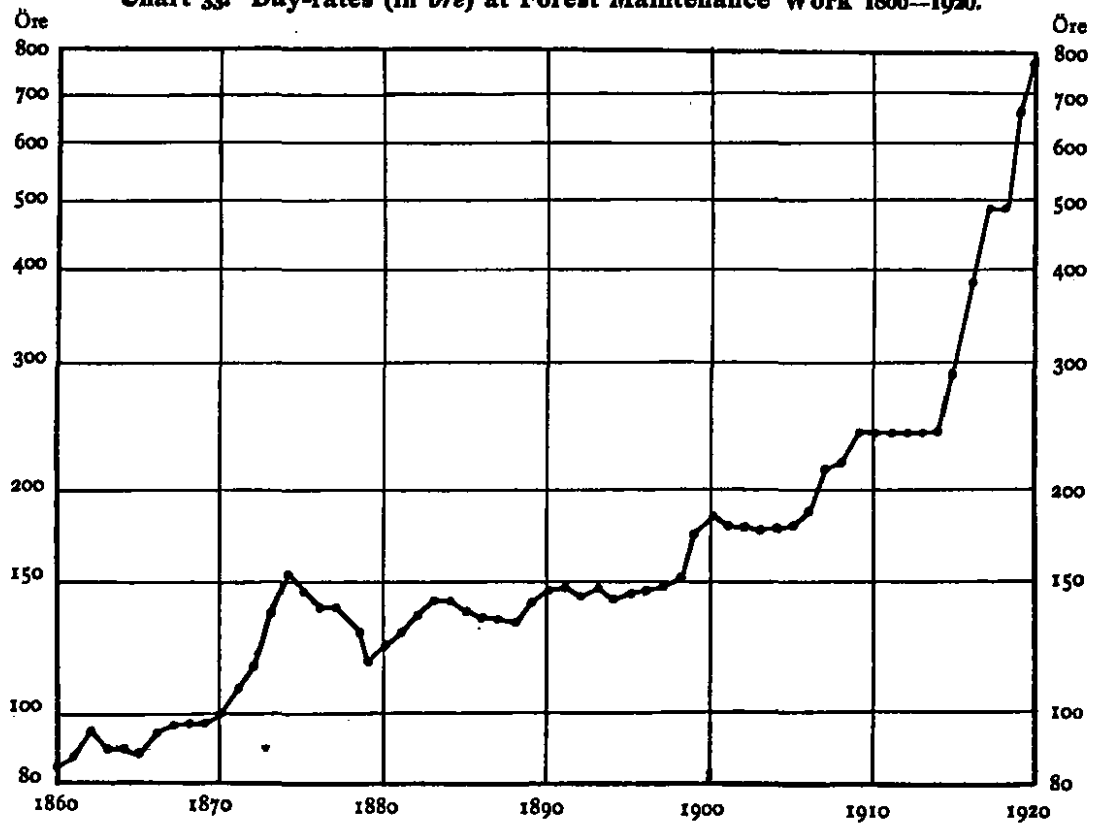
Table 181. Day-rates (in *öre*) at Forest Maintenance Work 1860—1920.

Year	Day-rates	Year	Day-rates	Year	Day-rates
1860 . . . . .	84	1880 . . . . .	124	1900 . . . . .	183
61 . . . . .	87	81 . . . . .	129	01 . . . . .	177
62 . . . . .	94	82 . . . . .	135	02 . . . . .	176
63 . . . . .	89	83 . . . . .	142	03 . . . . .	174
64 . . . . .	89	84 . . . . .	142	04 . . . . .	176
65 . . . . .	87	85 . . . . .	136	05 . . . . .	178
66 . . . . .	94	86 . . . . .	134	06 . . . . .	185
67 . . . . .	96	87 . . . . .	132	07 . . . . .	212
68 . . . . .	96	88 . . . . .	131	08 . . . . .	217
69 . . . . .	96	89 . . . . .	140	09 . . . . .	239
1870 . . . . .	99	1890 . . . . .	147	1910 . . . . .	239
71 . . . . .	108	91 . . . . .	148	11 . . . . .	239
72 . . . . .	115	92 . . . . .	143	12 . . . . .	239
73 . . . . .	136	93 . . . . .	148	13 . . . . .	239
74 . . . . .	153	94 . . . . .	142	14 . . . . .	239
75 . . . . .	147	95 . . . . .	145	15 . . . . .	287
76 . . . . .	139	96 . . . . .	147	16 . . . . .	382
77 . . . . .	139	97 . . . . .	149	17 . . . . .	478
78 . . . . .	128	98 . . . . .	152	18 . . . . .	478
79 . . . . .	117	99 . . . . .	174	19 . . . . .	669
				1920 . . . . .	765

D, I, and K series. Subsequently, all the series were included up to 1900, when the H series ended. From 1910 to 1914 the I and K series alone are included in the averages, and after 1914 only the K series. The chain-index series has been raised to the level of the direct averages from 1879 to 1899. Before that time it was about 5 % higher. Since 1899 the difference was considerable only from 1909 to 1914, when the chain-index series was about 15 % higher than the direct averages.

The dispersion of wages in different forest districts was considerably reduced from 1870 to 1908. In these two years the highest average day-rates were respectively 170 % and 110 % of the lowest. An examination shows that since 1887 the fluctuations of individual series about the average have been so small that it gives a reliable description of the trend of wages. Earlier greater divergencies are met with, particularly in the 'seventies, though the main tendency is quite definite. In the first half of

Chart 33. Day-rates (in öre) at Forest Maintenance Work 1860--1920.



the 'sixties the day-rates kept at a constant level. In the latter half of the same decade no effect of the agricultural depression was noticeable, the average rising instead by 14 % from 1865 to 1870. In the 'seventies the peak was reached by 1874, with a rise of 55 % from 1870. The fact that the day-rates began to fall already in 1875 was probably due to the depression in the timber trade. From 1874 to 1879 the average dropped by 24 %. The improving economic conditions in the timber industry that followed after 1875 left but slight traces in the average series. Most series show another peak in 1877 or 1878, but these secondary maxima did not affect the average series, owing to their arriving at different times. The short-term variations, in per cent, after 1879 are shown in the following table:

1879—83	1883—86	1888—91	1898—00	1900—02	1905—08	1914—20
+21.4	-7.0	+11.3	+20.4	-3.8	+21.9	+220.1

The average does not comprise the L series, which consists of contemporary notes made by the owner of an industrial estate in the commune. The day-work referred to in this series also includes charcoal burning, and possibly also to the timber felling work dealt with below. The wages recorded can therefore not be directly compared with the wages included in the national average. These notes give the following day-rates: 1860—1870, from 80 to 100 öre; 1872, 200 öre; and 1874—1875, 175 öre.

B. *Logging operations*, especially as practised in Norrland, last for a short season of about 100 days, usually in the new year. A great number of workers then gather from many parts of the country. They come from various social strata, and comprise small-holders, tenant farmers, and landless labourers, the majority being probably of the first category. The wage system usually employed is very likely connected with these social differences: The owner of the forest contracts with one person for the cutting and transport of his logs; the contractor then sub-lets the work to different teamsters, paying them according to the number of logs brought to the river or

water-way banks; the teamster in his turn pays the axemen who fell the trees, usually on piece-work rates, but occasionally also by the day; he also provides them with tools, keeps a horse and sleigh, carts the logs down to the water-ways, and sometimes erects special huts for his gang.

As the work has been split up among small sub-contractors in this way, it is naturally not to be expected that any complete records should have been kept from the early years from which the individual earnings of the workers can be ascertained. Only one large Norrland timber firm, the Ljungå Sawmill in Jämtland, has been able to supply us with information regarding the piece-work rates paid to teamster-contractors per unit of timber felled and brought to the river. The Company owns a large number of forests, and full details of the quantities of sawlogs and timbers, and the corresponding amounts paid to the teamsters, have been extracted from its accounts in respect of each of 11 forest districts during the period from 1865 to 1905. The quantity is given in cubic feet, except for saw-logs in 1865—1866 and 1877—1885, when the cost is given per log. But the periods when this has been done are so short that the dimensions of the saw-logs cannot have affected the trend of the series very much. Besides, in the periods mentioned they agree with the timber series, which are measured by the cubic foot.

The 22 series (one saw-log series and one timber series from each forest) have been combined into an average. In 1870 the number of series was 18. The number subsequently diminished slowly, and was 11 in 1885. About 1885 the large timber series cease. Only 6 series are included in the average for 1890, and after 1893 only 4 series. The estimated average cost per unit varies from one forest to another, mainly according to the distance from the watercourse. In order to avoid any effect on the average of the shifting of the lumbering operations from one forest district to another, the series from the several forests have not been weighted according to the quantity of timber felled in each. We have instead chosen certain

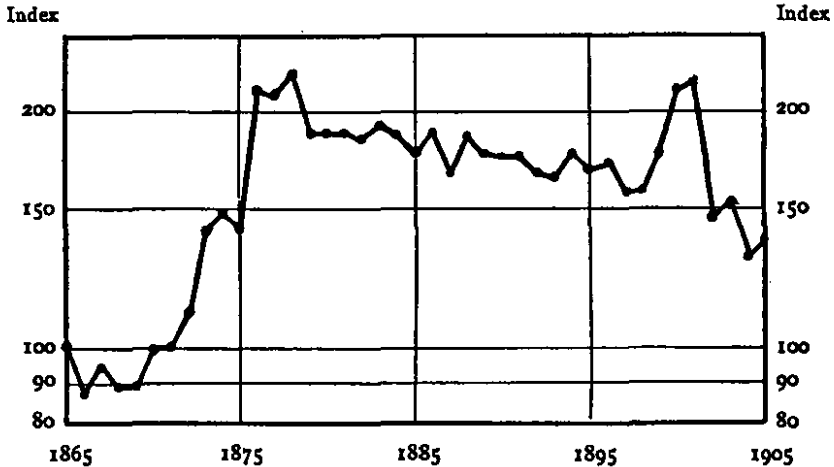
**Table 18a. Index of Logging and Haulage Rates 1865—1905**  
(1865 = 100).

Year	Index	Year	Index
1865 . . . . .	100	1886 . . . . .	188
66 . . . . .	87	87 . . . . .	164
67 . . . . .	94	88 . . . . .	183
68 . . . . .	88	89 . . . . .	174
69 . . . . .	90		
		1890 . . . . .	171
1870 . . . . .	99	91 . . . . .	174
71 . . . . .	101	92 . . . . .	166
72 . . . . .	111	93 . . . . .	161
73 . . . . .	141	94 . . . . .	178
74 . . . . .	147	95 . . . . .	168
75 . . . . .	141	96 . . . . .	170
76 . . . . .	213	97 . . . . .	156
77 . . . . .	210	98 . . . . .	158
78 . . . . .	222	99 . . . . .	173
79 . . . . .	186		
		1900 . . . . .	214
1880 . . . . .	186	01 . . . . .	219
81 . . . . .	186	02 . . . . .	144
82 . . . . .	183	03 . . . . .	151
83 . . . . .	189	04 . . . . .	129
84 . . . . .	186	05 . . . . .	137
85 . . . . .	174		

fixed weights (2, 3, and 4), which are in as close agreement as possible with the relative amount of work done in each area. For three of the years the number of saw-logs as well as their volume in cubic feet is stated, and the weights assigned to series referring to saw-logs have been reduced accordingly, in order that the relative weights should be kept constant. The chain index method has been used to eliminate any variations in the composition of the average, as well as any errors consequent on the change in some series of the quantitative unit from saw-logs to cubic feet.

It is an open question whether the index series so obtained will also represent the fluctuations in the daily earnings of the forest workers. Apart from the fact that it includes the cost of providing a horse, which cost might of course have displayed a peculiar trend of its own, the earnings of axemen may have developed differently to those of teamsters. Nor is it likely that the quantity of

Chart 34. Logging and Haulage Rates 1865—1905.  
(Index: 1865 = 100.)



timber logged and hauled in a day by a given number of men has remained constant throughout the whole period. Compared with both industrial and agricultural wage series, the secular increase is small in this index series. This is probably due to technical improvements: better tools, better roads, etc. Only in the short run can the average be supposed to represent the trend of the joint earnings of axemen and teamsters.

The joint piece work rate of teamsters and axemen rose by about 50 % from the end of the 'sixties to 1902—1905. During the latter half of the 'sixties, wages were fairly constant. The changes in the business conditions of the sawmill industry in the 'seventies have strongly influenced the trend of the wages. The rise began in 1870 and amounted from 1869 to 1874 to 63 %. The depression in the sawmill, industry in 1875, and the boom in 1876—1878, have naturally had a much more pronounced effect on this wage series than on the day-rates for forest maintenance work (1874—1875: — 4 %; 1875—1878: + 57 %). The crisis of 1879 caused a reduction in 1878—1879 by 16 %. Subsequently, there were no very pronounced fluctuations until 1898—1902 (1898—1900: + 35 %;



1900—1902: — 33 %), but for these years the index series is, as we have said, rather unreliable.

C. Attempts have also been made to secure in a similar way wage data for the men *floating the logs*. For this purpose information has been collected from certain waterways regarding the average labour costs per log for conveyance to the mill. This material has proved rather valueless, however, as the cost of floating to a very large extent depends on the floating conditions for the time being, water level, etc. The series obtained have consequently no distinct common trend, and an average based on them therefore would not be representative.

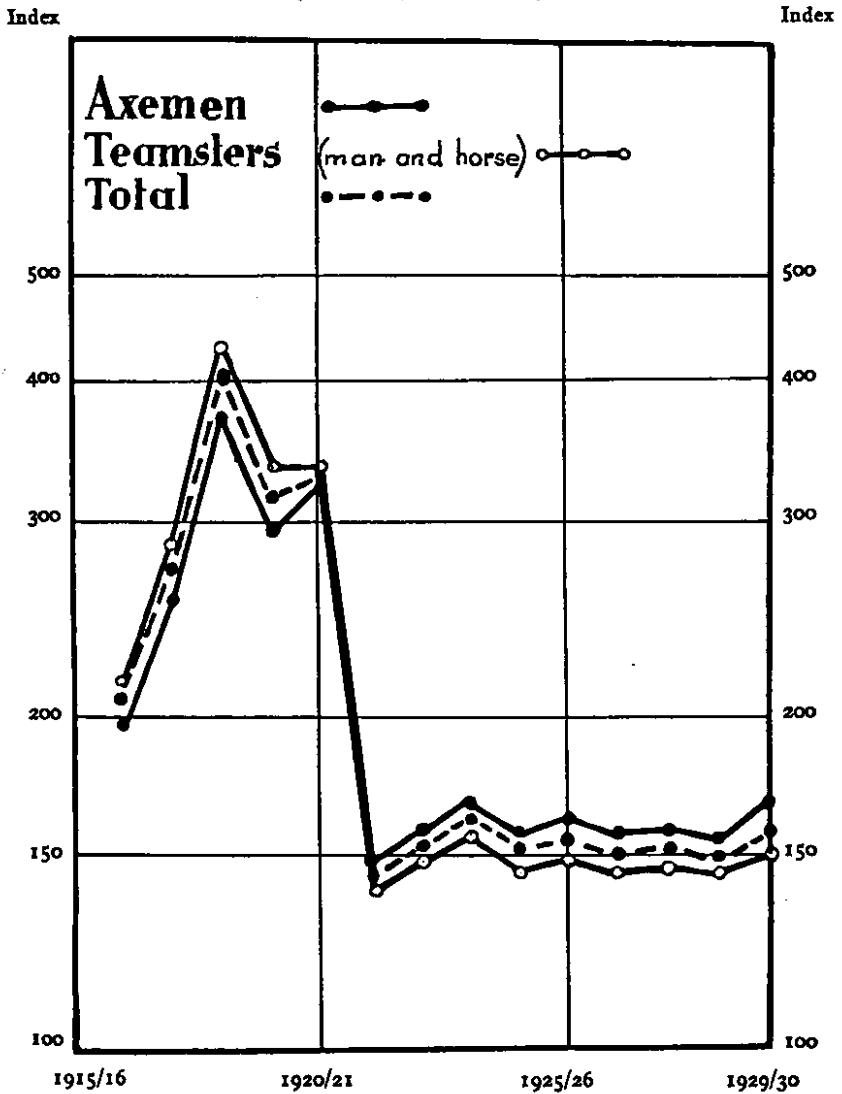
### *Trend of Wages 1913—1930.*

The above series of wages in forestry work are to a certain degree carried on by the Statistics published by the Social Board. The statistics are based on returns made by the foresters on the normal daily wages in forestry work for

**Table 183. Daily Wages (in *kronor*) of Forestry Workers in North Sweden during the Winter Seasons 1913/14 and 1916/17—1929/30.**

The winter	Axemen		Teamsters (man and horse)		Total	
	Average daily earnings	Index 1913/14 = 100	Average daily earnings	Index 1913/14 = 100	Average daily earnings	Index 1913/14 = 100
1913/14 . . . . .	3.57	100	7.56	100	5.07	100
1916/17 . . . . .	7.01	196	16.30	216	10.49	207
1917/18 . . . . .	9.06	254	21.34	282	13.67	270
1918/19 . . . . .	13.26	371	32.52	430	20.48	404
1919/20 . . . . .	10.65	298	25.30	335	16.14	318
1920/21 . . . . .	11.54	323	25.33	335	16.71	330
1921/22 . . . . .	5.21	146	10.57	140	7.22	142
1922/23 . . . . .	5.63	158	11.27	149	7.75	153
1923/24 . . . . .	5.99	168	11.89	157	8.20	162
1924/25 . . . . .	5.69	159	10.99	145	7.68	151
1925/26 . . . . .	5.80	162	11.25	149	7.84	155
1926/27 . . . . .	5.65	158	10.92	144	7.63	150
1927/28 . . . . .	5.69	159	11.04	146	7.70	152
1928/29 . . . . .	5.53	155	10.84	143	7.52	148
1929/30 . . . . .	6.03	169	11.38	151	8.04	159

**Chart 35. Daily Wages of Forestry Workers in North Sweden during the Winter Seasons 1916/17—1929/30.**  
(Index: 1913/14 = 100.)



axemen and teamsters (man and horse) in their districts. Owing to the difficulty of determining the extremely variable piece-work earnings they are not fully representative. Table 183 gives the wages of forestry workers in Värmland, Dalarna, and Norrland in various winter seasons. In computing — for comparison with our own data for earlier years — the average for all workers, axemen were given the weight 5 and teamsters 3.<sup>1</sup>

The wages of forestry workers advanced strongly during the war, principally on account of the lack of fuel and the consequently increased cutting. Peak wages were reached in the winter 1918/19, and were then about four times higher than the wages at the outbreak of the war. In the winter of 1921/22 the falling prices, and the considerably diminished logging operations, caused an average reduction of close on 60 % of the previous year's wages, that is to say wages fell more than in industry or agriculture. In the next two winters wages again rose, and have up to 1930 remained stable about 50 % above the 1913 level.

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<sup>1</sup> Op. cit.

BOOK IV  
THE GENERAL MOVEMENT OF  
WAGES IN SWEDEN 1860—1930

## CHAPTER XXI.

### THE SWEDISH LABOUR MARKET.

DEVELOPMENTS in the labour market are naturally intimately connected with social and economic progress as a whole. This chapter will chiefly give an account of the development of the different occupational groups, and of the organization of the labour market. Other aspects of the social and economic trends will be dealt with in the studies of national income and internal migration simultaneously proceeding at the Institute.

#### *The Labour Market at the Middle of the 19th Century.*

The period covered by this inquiry into the trend of wages was in Sweden characterized by progressive industrialization. To provide a background for the subsequent developments, we will start by outlining the structure of the labour market at the middle of the 19th century, when manufacturing industries still played a subordinate part in the economic life of the country.

The occupational distribution of the Swedish population is recorded in the decennial censuses. These are, especially for the earlier years, rather unreliable just on the point of occupational distribution; in that respect they suffer from the same deficiencies as all earlier occupational statistics. Moreover, owing to the undeveloped division of labour, the lines of demarcation between the various trades were less definite at the middle of the 19th century than now. Farming was thus largely combined with domestic industries, e. g. the manufacture of textiles. On the other hand, farming was to some extent a subsidiary occupation

of the merchants and tradesmen of the towns and several church or army officials cultivated farms, which were part of their emoluments. In the main, however, the census figures furnish a fairly true picture of the relative importance of the various occupations.

By the middle of the 19th century Sweden had a total population of about  $3\frac{1}{2}$  millions. According to the censuses, about 80 % of the total population lived mainly on agriculture and its subsidiary occupations. Of the remainder, a couple of per cent came under the heading Commerce and Communications, while the rest were fairly equally divided between the groups: »Manufacturing, Mining, and Handicrafts» and »Public Services and Professions.»<sup>1</sup>

The relative size of these occupational groups had remained almost unchanged during the whole first half of the century, while at the same time there was a general increase of the population. The rate of increase grew towards the middle of the century, thanks to the reduction of mortality at an unchanged birth rate, and culminated in the 'seventies with an annual surplus of births of 12.2 ‰. The surplus of births was especially large in the rural districts, while in the towns it was still relatively insignificant owing to the higher rate of mortality there.

Before the middle of the century agriculture had also absorbed most of the population increase. More land had at the same time been laid under cultivation, but by the middle of the century the possibilities of breaking new land were considerably reduced. The rapid growth of the population, in conjunction with various institutional, legal, and technical circumstances which cannot be dealt with in detail here, had already before this split up the peasant class into various socially and economically distinct groups. Apart from the independent freehold farmers, a numerous wage-earning class had arisen, as well as certain groups of farmers closely related to this, who only had small areas of land at their disposal. It is impossible to give any exact

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<sup>1</sup> For a more detailed account of the occupations included in these groups, see p. 177.

figures illustrating the class structure of the agricultural population, as the line separating freehold, well-to-do farmers from wage-earners was rather vague, but a study of the census figures shows that in 1870 the economically and socially lower class numbered approximately 740,000, or nearly 60 % of the whole population engaged in agriculture.<sup>1</sup> From this lower class the labour required by the rapidly expanding manufacturing industries was to a great extent recruited.

Simultaneously with this change in the social composition of the agricultural population, the industrial occupations — which as we have said were rather vaguely separated from agriculture — had also developed towards more marked class distinctions. Handicraft production was partly displaced by new forms of production. On the basis of the old, still widespread domestic production for personal needs, an extensive domestic industry grew up, producing for instance textiles and hardware. The domestic industry was often subsidiary to agriculture, and the domestic workers are therefore only partly included in the industrial population, as recorded in the statistics. Towards the middle of the century the factory system began to replace domestic industry, and at the same time to overshadow the handicrafts. On the basis of the Industrial Statistics and the Census the number of craftsmen in 1860 can be estimated at about 75,000, of which about half were journeymen, apprentices, and other workers<sup>2</sup>. The number of workers employed in factories and mines at the same time may be roughly estimated at about 70,000.<sup>3</sup>

The workers in manufacturing and mining thus formed a relatively insignificant group as compared with that part of the agricultural population which may be classified as labourers. If we also include in the agrarian labour class those relatives of the farmers who lived at home and helped in the work, the relative size of the industrial labour class would be still smaller. The position of the manufacturing

<sup>1</sup> Cf. Table 185.

<sup>2</sup> Cf. p. 211.

<sup>3</sup> Cf. Table 187.

industries being so subordinate, a large relative increase in the number of workers in these industries had a comparatively small effect on the labour market regarded as a whole. It must be remembered, however, that the deficient communications of those days did to a certain extent separate the local sections of the labour market from each other.

The local distribution of the population was still chiefly determined by the localization of agriculture. The Norrland counties, being less suitable for agriculture than other parts of the country, had thus according to the 1850 census a population of barely 0.4 millions, or about 11.4% of the total population of Sweden. Only 10% of the population lived in towns, which moreover often presented a type of life which differed but little from that of the rural districts. The poor development of the towns is explained by the undeveloped state of the town industries, more than half of the industries and handicrafts being in fact located in the rural districts. The primitive state of pre-railway communications hampered the concentration of trade and manufacturing industries to the towns.

To sum up, the Swedish labour market was — at the beginning of the period reviewed — centred in agriculture and its numerous wage-earning class. For some decades there had been a large annual surplus of births in the rural districts, which could no longer be compensated by a corresponding breaking of new land. In comparison with agriculture, manufacturing industries and handicrafts had a subordinate position, but side by side with them there existed an extensive domestic industry, which seems to have reached its maximum by the middle of the century.

#### *The Changing Distribution of Population 1860—1930.*

Right up to the second decade of the 20th century the annual natural increase of the population averaged more than 10‰ per decade. Not until then did the fall in the birth rate begin to exceed the reduction of mortality. In



the period 1911—1920, the annual surplus of births dropped to an average of 7.8 ‰, and finally in the nineteen-twenties to 5.4 ‰ per decade.

Contrary to what was the case in the first half of the 19th century, the progress of the various occupational groups was not uniform in the following period. Characteristic for this period is the gradually decreasing importance of agriculture, and the advance of the manufacturing industries, commerce, and communications.

The census figures given in Table 184 indicate the varying distribution of the population to the occupational groups on which their existence was mainly based.

**Table 184. The Distribution of the Population to the Main Occupational Groups according to the Censuses 1870—1920.<sup>1</sup>**

Year	Agriculture and subsidiary occupations	Manufacturing, mining, and handicrafts	Commerce and communications	Public service, professions, etc.	Total population
<i>In thousands</i>					
1870	3017	610	217	325	4169
1880	3102	793	334	337	4566
1890	2973	1038	414	360	4785
1900	2828	1426	535	347	5136
1910	2697	1766	741	318	5522
1920	2596	2066	898	344	5904
<i>In per cent of the population</i>					
1870	72.4	14.6	5.2	7.8	100.0
1880	67.9	17.4	7.3	7.4	100.0
1890	62.1	21.7	8.7	7.5	100.0
1900	55.1	27.8	10.4	6.7	100.0
1910	48.8	32.0	13.4	5.8	100.0
1920	44.0	35.0	15.2	5.8	100.0

The table shows that in the period from 1870 to 1920 the agricultural population steadily diminished in relation to the total population, and since 1880 also in absolute numbers. This decrease has continued in the last decade. The occupational data of the 1930 census have so far been published only for 12 counties and for the City of

<sup>1</sup> Among subsidiary agricultural occupations are included market gardening and dairy-farming. The group «Manufacturing, Mining, and Handicrafts» includes such forestry as is not connected with agriculture. There were no comparable figures for 1860.

Stockholm. The grouping differs somewhat from that used in Table 184. Beside the occupational groups of that table, there are also separate headings for »Domestic work» and »Formerly engaged in various occupations, etc.». As, however, those two groups only comprised a small, and moreover constant, part of the population in 1920 and 1930, their distribution to the other occupational groups will not appreciably affect the ratios of the latter to the total population. If we compare the information now available regarding the size of the agrarian population of certain counties in 1930 with the corresponding figures for 1920, we find that there has been a reduction of 7.8 %. Assuming a proportionate reduction in the same period of the whole agrarian population (according to Table 184), this would number only 2.4 millions in 1930, or about 39 % of the total population of the country.

The industrial population increased by about one third every 10 years up to 1900, which meant an ever growing absolute increment. Its share of the total population grew in the period 1870—1900 from one to two sevenths. In the following two decades the rate of increase of the industrial population was retarded to about one fourth and one sixth respectively in each. That group now slowly approached, and finally slightly exceeded, one third of the total population. The Commerce and Communications group showed the most rapid advance of all groups in the period under consideration. Up to 1900 it grew from about 5 to 10 % of the total population. Contrary to the industrial group, it grew at an increased rate up to 1910, and only in the next decade did its rate of increase begin to diminish, both in respect of its share of the total population and in relation to its size at the beginning of each decade. The last group: Public Services, Professions, etc., has remained fairly constant in absolute numbers, and has consequently lost in relative importance.

The growing manufacturing industries and commerce only absorbed part of the surplus of births over deaths. An equally important role was played by the extensive emigration, chiefly to U. S. A., which began towards

the end of the 'sixties. Net emigration absorbed over one fourth of the natural increase of the population in the 'seventies, reached its maximum in the 'eighties, when it amounted to about three fifths of the natural increase, and declined in the next 20 years to about one third of the natural increase. In the last two decades its importance as an outlet for the increase of population was heavily reduced.

	1861/ 70	1871/ 80	1881/ 90	1891/ 00	1901/ 10	1911/ 20	1921/ 30
Emigration <sup>2</sup> (thousands) . .	158	168	395	259	276	130	129
Immigration <sup>3</sup> (thousands) .	12	30	48	79	84	76	62
Net emigration (thousands)	146	138	347	180	192	54	67

It would be of importance to ascertain how far the changes of the various occupational groups indicated by the census data have been connected with any net migration from one group to another. This cannot be ascertained directly from the census figures. They must be supplemented by information on the surplus of births over deaths, and on the frequency of emigration in the different groups of the population. If we make the preliminary assumption that these have been proportionately as large in each main group as in the population as a whole, we arrive at the following results regarding the net migration between the various groups of the population. The figures are obtained by determining the total decennial increase of the population in per cent of the mean population in each decade, and by calculating how great the absolute increase of each occupational group would have been if this had been proportionately the same. These calculated figures were then compared with the actual change in each occupational group. Such a simplified procedure seems justifiable for an estimate as rough and uncertain as this must in any case be.

<sup>2</sup> 1861—1920: The official figures have been supplemented from the Report of the Emigration Inquiry: *Emigrationsutredningens betänkanke*, Stockholm 1913, Table 5.

<sup>3</sup> 1861—1880: Estimated by the Emigration Inquiry. Op. cit., Table 5.

*Net gain (+) and net loss (—) in tens of thousands*

Period	Agriculture and subsidiary occupations	Manufacturing, mining, and handicrafts	Commerce and communications	Public services, professions, etc.
1870/80 . . . .	— 19	+ 12	+ 9	— 2
1880/90 . . . .	— 27	+ 20	+ 6	+ 1
1890/00 . . . .	— 35	+ 30	+ 9	— 4
1900/10 . . . .	— 33	+ 23	+ 16	— 5
1910/20 . . . .	— 28	+ 17	+ 10	+ 0

Not until 1895 has it been possible to judge the accuracy of the assumptions on which these calculations are based. An inquiry into the demographic conditions in rural and urban agricultural, mixed, and industrial communes, made by the Institute in connection with the study of the internal migration in Sweden<sup>1</sup>, indicates that since 1895 the frequency of emigration has been approximately equal in these categories. In all probability, however, the emigrants who had originally belonged to the agricultural population were relatively more numerous than those from the industrial population, as the former frequently emigrated after a brief engagement in some manufacturing industry. Part of the net loss indicated by the table of the agricultural group, and the corresponding gain of the industrial group, in these years would be the result of such a migration by stages. If we assume, as seems probable, that direct emigration from agriculture was more common in earlier years, this would mean that the net loss of agriculture to other industries was less in those years than stated in the table. The same inquiry has shown that the excess of the rate of births over the rate of deaths was considerably smaller in agricultural than in industrial rural communes during the period 1895—1920. The surplus of births in purely agricultural communes was also exceeded in the mixed communes, and generally also in the towns, where the surplus still was lower than in the industrial rural communes. If this implies that the excess of births was relatively low among the agricultural population, the

<sup>1</sup> For a preliminary account of the methods of this classification, cf. G. Myrdal, *Industrialization and Population, Essays in Honour of Gustav Cassel*, London 1933.

conclusion would be that the net loss of agriculture in this period was less than indicated by the above figures, which thus only give the maximum limit. For the earlier years, on the other hand, no information is available of the surplus of births in the different groups. The table will anyway give a rough idea of the order of magnitude of the internal net migration between the main occupational groups.

Another striking feature of the industrial and commercial expansion from 1860 to 1930 was the changes in the local distribution of the population. We will revert to these changes, which were the aggregate result of the surplus of births and internal and external migration in the various districts, in connection with the discussion on the trend of wages in different parts of the country, and will only sketch the outlines here.

Whether we take the whole or only the rural population into account, we find that the centre of gravity of the population moved northwards. This movement was evidently connected with the growth of the new industries based on the natural resources of Norrland. If we calculate the ratio of the population in the rural districts of each separate county to the total rural population, we find that the relative share of every southern county as far north as Värmland, Skaraborg, and Östergötland diminished between 1850 and 1900. In one or two counties of central Sweden the relative change in the population was rather small, while the more northerly counties, from and including Kopparberg and Gävleborg in the south, showed a strong relative increase. The result will be to some extent changed if the urban population is included. Owing to the rapid growth of the towns in the counties of Malmöhus and Gothenburg and Bohus, the total population of these counties showed a relative increase, while there was a small relative retrogression in the county of Kopparberg. After 1900 the relative trend in the various counties continued in the main in the same direction as before. Already in the last century the rural population in some counties of southern Sweden even had begun to decrease, and after the turn of the century that development became general

in south Sweden. The relative increase of the population in Norrland was then strongest in the two northernmost counties, and entirely confined to them if the towns are also included. The changes in Norrland's share in the population of Sweden is shown by the following table:

	I n h a b i t a n t s   i n			
	Rural districts		Rural districts and towns.	
	Thousands	In per cent of the total rural population	Thousands	In per cent of the total population
	1850 . . . . .	374	12.0	398
1900 . . . . .	763	18.9	860	16.7
1930 . . . . .	947	22.8	1097	17.9

By the middle of the 19th century the share of the towns in the population of the country also began to grow as a consequence of the industrial and social changes then proceeding. Several of the young expanding industries, for instance the sawmill industry, were certainly located in the rural districts, but thanks to the development of the railways many of the towns became centres of trade and industry in a higher degree than before. That development has given the largest towns in particular an increasingly dominant position. As the increase of the rural population began to fall off, and gradually almost ceased, the towns grew also in relative importance. By the beginning of this century the share of the towns in the total population exceeded one fifth, and was in 1930 approaching one third.

The following figures give the trend of the population in all towns and in the three largest towns of the country:

Inhabitants in:	1850	1870	1890	1900	1910	1920	1930
All towns	352	540	900	1104	1368	1743	1996
in thousands . . .							
in per cent of the total population	10.1	13.0	18.8	21.5	24.8	29.5	32.5
Stockholm (thousands) . . .	93	136	246	301	342	419	502
Gothenburg (thousands) . . .	26	56	105	131	168	202	243
Malmö (thousands) . . . . .	13	26	49	61	83	114	120

These figures only refer to towns in the administrative sense; the growth of the urban population would have been

still more marked if those municipalities had also been taken into account which, although in respect of size and economic structure they are of a similar character, have not the local government of towns.

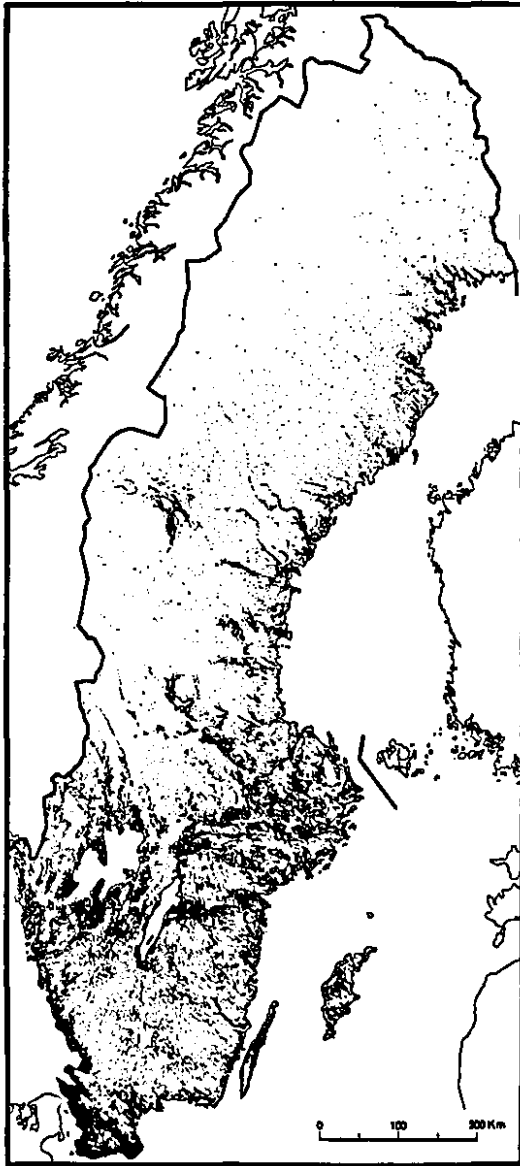
### *The Agricultural Labour Market.*

*The Development of Agriculture.* Although there has been an absolute reduction of the agricultural population, the agrarian production has increased considerably since the 'seventies. This increase is partly due to a larger acreage being cultivated. Natural meadows, for instance, which in the beginning of the 'seventies took up almost as large an area as the fields, were largely ploughed up. This trend is illustrated by the following figures extracted from the Agricultural Statistics:<sup>1</sup>

	1870	1880	1890	1900	1910	1920
Land under crops (million hectares)	2.5	2.9	3.3	3.5	3.6	3.8
Land under grass	2.0	1.9	1.7	1.5	1.3	0.9

Most of the increase of production, however, is due to the intensification of agriculture. The extensive method of cereal growing, which was a characteristic feature of Swedish agriculture in the first half of the 19th century, was from the middle of the century gradually replaced by a more intensive rotation of crops, and more room than before was given to cattle-food crops (roots and leguminous plants) and pasture in the cropping system. By this development, cattle breeding became of greater importance to agriculture. This change was connected with the increased technical knowledge of the farmers, and with the repartition of the land. The repartition had been going on since the 18th century, and had gradually eliminated the obstacle to rational farming which had of old existed, the land belonging to each farm being split up in small, scattered fields. The re-organization of agriculture from a one-sided production of cereals to a production of forage and animal

<sup>1</sup> *Statistisk årsbok för Sverige* (Statistical Year Book of Sweden) 1932, p. 77.

Map 8. Distribution of Cultivated Land in Sweden.<sup>1</sup>

<sup>1</sup> According to Dr C.-J. Anrick. Each point marks an area of cultivated land of 1 km<sup>2</sup>.



food was also encouraged by the fall in grain prices in Europe in the 'seventies and 'eighties, due to increased overseas competition. To some extent, the fall in grain prices was checked by the introduction of protective tariffs in 1888 and 1895, which changed the relative prices to the advantage of grain-production. The change-over to wheat from rye, the use of better seed, the more thorough manuring, and more careful tilling of the ground resulting from improved methods of working and implements, have also contributed to a quantitative increase of the grain harvests. Thus the growing of grain, including cereal food, has maintained its position as the most important branch of Swedish agriculture. To the smaller farms, however, cattle and dairy-farming is of dominant importance. The improved communications have facilitated and cheapened the sale of milk and dairy produce to the towns and industrial centres, and have thereby done much to promote this state of things.

The advances effected in agriculture in the last half century, and the change-over to cattle breeding, are equivalent to a strong intensification of farming. As at the same time the agricultural population has diminished, the increased yield must have been obtained by improved technique, and by a heavy increase in the capital invested. An estimate of this increase is not available. Yet there exists an interesting index calculation,<sup>1</sup> showing how much the demand for labour would have increased by the transition from natural meadows to cultivated grazing ground, from grain-growing to the cultivation of roots, etc., and by letting the fields lie fallow less frequently, on the assumption that the methods of the 'seventies had been in use all the time. In fact, the result of this calculation is that the labour applied per hectare would then have been increased by 30 %. The utilization of labour has been affected in the opposite direction by increased employment of machinery and labour saving methods. However, the utilization of labour has developed very differently on large and small

<sup>1</sup> *Jordbruksutredningens betänkande* (Report of the Committee on Agriculture), Vol. V, *Statens offentliga utredningar* 1931: 7.

farms, and it will be expedient to deal with it further in connection with an account of the structure of agriculture.

*The Utilization of Labour in Agriculture.* Small farms of between 2 and 20 hectares of ploughed land have of old made up the bulk of the Swedish farms. Since the 'seventies, and up to the present time, this group has accounted for about 64 % of the total number of farms, while small holdings of less than 2 hectares of ploughed land were about 25 %, large farms and properties of from 20 to 100 hectares of ploughed land about 10 %, and the larger estates of more than 100 hectares of ploughed land only about 1 %.<sup>1</sup> These proportions have not changed appreciably during the period. The number of farms of different sizes according to the 1927 census of agriculture appears in the following table:<sup>2</sup>

	Less than 2 hect- ares	2—5 hectares	5—10 hectares	10—20 hectares	20—50 hectares	50—100 hectares	Over 100 hectares
Number of farms (thousands) . .	119.8	117.7	94.5	59.6	27.9	5.2	2.5
in percentage of the total . . .	28.0	27.6	22.1	14.0	6.5	1.2	0.6

The local differentiation in respect of the size of the farms is very marked. In the plains of south and central Sweden more than half the ploughed area is taken up by medium-sized farms of from 10 to 50 hectares, while small farms take up the greater part of the tillage land in the forest districts. The large estates are chiefly located in the plains of the counties of Malmöhus and Östergötland, and round the lakes Mälaren and Hjälmaren in central Sweden.<sup>3</sup> In the whole of Norrland, farms of more than 50 hectares of tillage are very scarce, and even medium-sized farms of from 10 to 50 hectares grow less numerous the further north and towards the interior we go.

<sup>1</sup> *Tull- och traktatkommitténs utredningar och betänkanden* (Reports and Recommendations of the Tariff and Treaty Committee), Vol. V, Stockholm 1921, p. 1.

<sup>2</sup> *Statistisk årsbok för Sverige* (Statistical Year Book of Sweden) 1932, p. 79.

<sup>3</sup> Chiefly the counties of Västmanland and Södermanland.

There are certain significant differences in the organization of large and small farms in respect of production. The biggest place in the production on large farms is held by crops, more especially grain, whilst cattle breeding dominates on the smaller farms. This is connected with the labour conditions. On small farms practically all the labour is performed by the owner himself and his family, but as the farms grow bigger hired labour has to be employed to an increasing extent. On small-holdings the family is the unit of organization that does the work. To a great extent such labour is used for which there is no constant demand, and which is therefore usually not priced. This primarily applies to the labour of wives and minors, but to a varying extent also to that of men and adult children. On large farms, on the other hand, the work is organized so that the members of the owner's and the labourers' families cannot take part in it to the same extent as on the small holdings.<sup>1</sup> The large farms must therefore mainly rely on adult labour, chiefly men and unmarried women, that is to say the kind of labour primarily available in the labour market.

Developments in the labour market are therefore of much greater importance to the large than to the small farms. The depopulation of the rural districts in the last fifty years has led to a diminished supply of labour and a considerable increase of wages. As the large farms are necessarily more sensitive to this than the small, they have not to the same extent as the small adopted that change of the production which we have described above, viz. to crops requiring more labour, and to cattle and dairy-farming. Large-scale farming is instead basing its economy on rationalized cultivation of crops by improving the soil, by more careful drainage, and by more extensive use of machinery. As the large farms are undoubtedly in a more favourable position to utilize labour-saving machines than the small ones, the growing of cereals, where such machines are most useful, is more suitable for them. The small

<sup>1</sup> To some extent this is modified by the *statare* system used on the large farms in certain parts of the country. See further p. 200.

farms cultivate crops partly to get cattle food, and partly to provide the owner and his family with cereals and roots. On the large farms, on the other hand, only a small part of the productive capacity is used for consumption on the farm itself, grain and other produce for sale being instead the main object of the cultivation.

In certain parts of the country climatic conditions play a great part in determining agricultural production. This is particularly the case in Norrland, where the short vegetation period necessitates all the spring labour being done in a few days. The available labour is insufficient to plough and sow the whole area under cultivation in such a short time. A considerable portion (up to as much as three-fourths) of the tilled ground is consequently put to pasture for several years at a stretch. Moreover, on small holdings, especially in Norrland, the natural meadows occupy a relatively larger area than on medium-sized farms in south and central Sweden. This extensive pasturage in its turn makes cattle breeding a dominant feature of agriculture in Norrland.

The larger amount of labour needed on small farms is to some extent illustrated by a comparison between the total number of people (including wives and children) on large and on small farms. As far as south and central Sweden is concerned, the distribution is known by an inquiry made in 1919.<sup>1</sup> According to this, the number of persons on holdings of 1 to 2 hectares was no less than 240 for every 100 hectares of tilled land in the open country, and 255 in the forest districts. As the holdings grow larger, the number of persons becomes very much less, and is on the larger farms of from 30 to 50 hectares only about 34 per 100 hectares. The number again rises slowly on still larger properties, where the workers often are relatively more numerous, and which moreover employ married servants more extensively than do the peasant farms. Considering, however, that a great many of the smallholders and the members of their families are regularly

<sup>1</sup> *Lantbruksakademiens handlingar* (Transactions, Academy of Agriculture) 1922, p. 370.

or occasionally seeking work in other occupations or on the large estates, we find that the above contrast between large and small scale farming is to some extent only apparent.

If labour is applied most intensively on the small farms, capital is on the other hand applied most intensively on the larger farms. Some idea of the differences in that respect between large and small farming can be obtained from the available data regarding the extent to which subsoil drainage is used on farms of various size. According to the 1927 agricultural census, draining was both more comprehensive and more carefully done on large than on small farms.<sup>1</sup> The difference is considerable, even between the different parts of the country and in respect of the materials used for subsoil drainage. While drain-pipes are chiefly used in south and central Sweden, the inconsiderable drainage in Norrland is usually done with stones or other cheap material. The larger capital applied per hectare on medium-sized farms results in a greater yield per unit of area than on small-holdings. In respect of animal production too, the large farms show a higher productivity than the small, as their live-stock is usually of more valuable breeds, and their equipment more modern.

For the period after 1913 there exists an official inquiry into the changes that have taken place in the demand for labour on farms of different size.<sup>2</sup> This inquiry shows that the labour required annually on large farms (properties of over 50 hectares of plough-land) averaged 3,352 male day-works per 100 hectares in about 1913, 3,049 in 1920, and 2,678 about 1928, while for medium-sized farms the corresponding figures were 4,101, 3,718, and 3,209 respectively. The following table gives this reduction in the utilization of labour on farms of various magnitudes in different

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<sup>1</sup> *Jordbruksräkningen* (The Agricultural Census) 1927, *Sveriges officiella statistik*, p. 71.

<sup>2</sup> *B. Nyström, Arbetarfrågan inom det svenska jordbruket* (The Labour Problem in Swedish Agriculture). *Statens offentliga utredningar* 1932: 14, p. 18 fol.

districts, the labour requirements being expressed in index numbers, using 1913 as the base year.<sup>1</sup>

	Estates in south and central Sweden with an area under crops of					
	less than 50 hectares			more than 50 hectares		
	about 1913	1920	1928	1913	1920	1928
Number of workers on each estate (1913 = 100):						
Plains . . . . .	100	97	89	100	92	82
Forest districts . . . . .	100	94	82	100	84	59
Male day-works per 100 hectares of ploughed land (1913 = 100):						
Plains . . . . .	100	96	87	100	92	83
Forest districts . . . . .	100	92	80	100	86	70

The utilization of labour thus seems to have been reduced at a more rapid rate from 1920 to 1928 than in the previous septennial period. Statements made by the Central Association of Agricultural Employers of Sweden, and by the Swedish Federation of Agricultural Workers, confirm that the reduction in the utilization of labour on large and medium-sized farms has in the last 10 years amounted to from 15 to 20 %. According to the table, the reduction should have been approximately the same on large as on medium-sized farms, while the rate of "rationalization" of agricultural work since 1913 seems to have been more rapid in the forest districts than in the plains, where the work was probably highly mechanized earlier. The figures given only refer to male labour, but everything points to female and juvenile labour having been reduced still more, especially on the large estates.

The reduced utilization of labour in the last ten or twenty years is partly connected with an increasing change-over to pasture and partly with the introduction of machinery. Remote or hard-tilled fields have thus often been changed to pasture. On large farms in particular, ditches have been covered over in order to obtain larger and more open fields, suitable for effective methods of cultivation. Harvesting, threshing, transport of straw and hay, etc. have

<sup>1</sup> The table does not include the index numbers for the Norrland farms, as these are based on an insufficient number of primary data.

been considerably facilitated by the use of electricity. Milking by machinery is supposed to pay even on farms no larger than 30 to 40 hectares. Tractors pulling implements working at greater depths are increasingly employed for work in the fields. In the last ten years the number of tractors is said to have increased from about 1,000 to 7,000, which indicates that they are now used even on medium-sized farms.

It is, of course, difficult to determine exactly the effects of the improved agricultural methods on the labour requirements in the summer and winter seasons, and consequently on both permanent and casual employment. The general trend has been towards a reduction of the permanent staff. In the 'seventies and 'eighties it was still usual for large farms, where the work was done by hired labour all the year round, to keep a sufficiently large permanent staff to be sure of sufficient labour in the summer months. As wages rose, this gradually became impossible. The introduction of threshing machines also reduced the labour requirements in the winter months, and consequently also the need of permanently employed labour. During the height of the season, agriculture therefore largely came to depend on extra labour. This applies especially to the counties of Malmöhus and Kristianstad, where the cultivation of sugar-beets very much increased the demand for casual labour. Since 1920 the tendency to reduce the permanent staff seems to have become still more pronounced, while at the same time the rationalization of the work has diminished the need of casual labour too, chiefly for spring, harvest and autumn work.<sup>1</sup>

*The Social Composition of the Agricultural Population.* The bulk of the Swedish farmers are not only smallholders, as pointed out above, but also freeholders. According to the 1870 census, about 85 % of all farmers were freeholders, and about 15 % leaseholders. In 1920 the corresponding figures were 87 % and 13 %

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<sup>1</sup> Op. cit., pp. 39 and 40.

respectively.<sup>1</sup> In comparison with other countries, the leasehold system thus plays a relatively unimportant part in Sweden. Since the beginning of this century legislation has been passed to facilitate the redemption of farms held on lease, which has to some extent reduced the number of tenant farmers. Several crofters, on the other hand, from whom formerly day-work was required, have had this exchanged for a quit-rent, and are thus put on the same level as tenant farmers. The leasehold system is least common for farms measuring from 5 to 20 hectares of plough-land, while it is considerably more used for both smaller and larger farms. The larger the area in the hands of one owner, the larger proportion of it is generally let on lease. The leasehold system is therefore most common in districts where there are large estates, viz. on the plains of Malmöhus and Östergötland, in the Mälaren and Hjälmarén districts, as well as in those districts where industrial companies own much of the land. Such is especially the case in the interior of Norrland, where the timber companies have acquired more property than anywhere else.

The social group comprising freeholders, small-holders, and tenant farmers, including grown up children taking part in the work, amounted in 1920 to about 675,000 people, that is to say about two thirds of the whole agricultural population. In such a large group the social differences due to the distribution of the property are naturally great. While the difference between owners of large farms and the landed gentry is often merely one of title or birth, the position of most of the smaller farmers and tenant farmers is rather like that of agricultural labourers. For a shorter or longer period of the year they have to hire themselves out to other people — generally as lumbermen — to supplement

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<sup>1</sup> According to the *Agricultural Statistics*, 27 % of all farms were in 1920 leasehold. That this figure does not agree with that of the census is due to the fact that several farms are often held by the same tenant, or that persons who are included in the occupational statistics as freehold farmers or as, for instance, tradesmen, often lease a farm which they cultivate beside their other activities. To obtain an idea of the social importance of the leasehold system in Sweden, it is therefore better to go chiefly by the census figures.



the yield of their own farm. Or they may have to pay by work for the loan of draught animals, etc., which they often must borrow from larger farms to cultivate their fields. It is difficult to say what proportion of the small holders are thus dependent on the wages they can earn by working for others. Owners and tenants of properties of less than 2 hectares will anyway have to rely regularly on such work for their living.<sup>1</sup>

Among the farmers and small-holders the social distinction between masters and men is either none at all or very small. In so far as permanent labour is required beyond that done by the grown up members of the family, unmarried servants are engaged, and these are generally sons or daughters of small-holders or freehold farmers. In large scale agriculture employers and workers are on a quite different footing. The tendency during the last fifty years towards making farming more business-like has no doubt contributed to sharpen the social contrast between entrepreneurs and employees. This change can also be traced in the population statistics, in the re-grouping of the different categories of agricultural labour. It is primarily characterized by the growth of the wage-earning class proper at the expense of farm servants and *inhysesshjon* (labourers living in). — In certain parts of the country, chiefly in the counties of Värmland, Örebro, Västmanland, and Kopparberg, industrial establishments, the so called *Bruk*, are working their own farms, and are almost exclusively employing hired labour for this purpose.

Apart from the large number of owners and tenants of small farms who regularly hire themselves out to other farmers to eke out their income, it is possible during the period we are now considering to distinguish the following categories of agricultural labour.<sup>2</sup>

<sup>1</sup> Cf. Notes on Table 185, p. 203.

<sup>2</sup> For the classification and description of these categories, we have chiefly followed that used by *N. Wohlin* in the Report of the Emigration Inquiry, Appendix IX, *Den jordbruksidkande befolkningen i Sverige 1751—1900* (The Agricultural Population in Sweden 1751—1900), Stockholm 1909, p. 17 fol., and Appendix XI, *Torpars-, backstuga- och inhysesklasserna* (Crofters, Cottagers and Labourers Living in), Stockholm 1908. The figures have not been taken from the Report, which gives the whole

Table 185. The Composition of the Population engaged in

		1870		1880	
		Men	Women	Men	Women
1	A. <i>Entrepreneurs</i> . . . . .	230979	15957	244467	17389
2	of which: Estate owners and free-				
	hold farmers . . . . .	202307	15095	212482	16392
3	Tenant farmers ( $\frac{1}{8}$ ) . . . . .	28672	862	31985	997
4	B. <i>Working members of the family in</i>				
	<i>group A</i> . . . . .	160385	111011	166108	115993
	of which: Children <sup>1</sup> and sons-in-				
	law of				
5	Freehold farmers . . . . .	(143039)	100681	(147177)	103821
6	Tenant farmers ( $\frac{1}{8}$ ) . . . . .	(17346)	10330	(18931)	12172
7	C. <i>Agricultural employees</i> (stewards,				
	pupils) . . . . .	1446	1	2348	—
8	D. <i>Agricultural labourers</i> . . . . .	421600	254348	390237	248994
9	a) Crofters . . . . .	95388	3515	92590	4399
10	Their children <sup>1</sup> and sons-in-				
	law ( $\frac{1}{8}$ ) . . . . .	(21444)	13867	(21371)	16363
11	b) <i>Statars</i> . . . . .	34965	329	39586	1389
	of which returned as:				
12	Field labourers etc. . . . .	31218	329	34131	384
13	Bailiffs and foremen . . . . .	3747	—	4792	—
14	Cattlemen . . . . .	—	—	663	1005
15	c) Day-labourers . . . . .	102957	52494	95650	53082
	of which:				
16	Small-holders etc. . . . .	—	—	—	—
17	Their children <sup>1</sup> and sons-in-				
	law . . . . .	—	—	—	—
18	Tenant farmers ( $\frac{1}{8}$ ) . . . . .	7168	216	7997	249
19	Their children <sup>1</sup> and sons-in-				
	law ( $\frac{1}{8}$ ) . . . . .	(4337)	2582	(4733)	3043
20	Children <sup>1</sup> and sons-in-law of				
	crofters ( $\frac{1}{8}$ ) . . . . .	(21443)	13867	(21371)	16363
21	Children <sup>1</sup> and sons-in-law of				
	<i>statars</i> . . . . .	(4037)	(3938)	(4652)	4339
22	Occupiers of tenements, and				
	cottagers . . . . .	45590	12937	39655	13524
23	Their children <sup>1</sup> and sons-in-				
	law . . . . .	(20322)	(18954)	(17242)	15564
24	Other agricultural labourers.				
	Their children <sup>1</sup> and sons-in-				
25	law . . . . .	—	—	—	—
26	d) Labourers living in . . . . .	55523	54868	44326	53682
27	e) Farm servants . . . . .	111383	129275	96714	120079
	of which returned as:				
28	Agricultural labourers . . . . .	.	.	.	.
29	Domestic servants . . . . .	.	.	.	.
30	E. <i>Occupations subsidiary to agricul-</i>				
	<i>ture</i> (dairymen, gardeners, and				
	their helpers) . . . . .	2512	293	4367	116
31	F. <i>Rural labourers, not otherwise spec-</i>				
	<i>ified</i> . . . . .	55671	5001	94642	6825
32		872593	386611	902169	389317
33	Total	1259204		1291486	

<sup>1</sup> Over 15 years old.

# THE LABOUR MARKET

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**Agriculture from 1870 to 1920, according to the Census Returns.**

1890		1900		1910		1920		
Men	Women	Men	Women	Men	Women	Men	Women	
251388	21807	256885	25314	266212	26970	249630	24781	1
221178	20812	212675	24252	230214	25690	214720	23633	2
30210	995	34210	1062	35998	1280	34910	1148	3
160916	124802	166383	134651	155779	138754	144021	147826	4
145362	112854	147858	119798	137076	122364	126995	130556	5
15554	11948	18525	14853	18703	16390	17026	17270	6
2342	9	2606	20	3979	8	5075	99	7
391150	233065	364450	222701	322725	158887	301342	150374	8
81888	4440	72252	4427	59650	4135	33674	1568	9
18797	15555	17556	14608	14456	13222	3773	7490	10
40708	2587	41932	1535	36504	2253	43931	3641	11
(33741)	(286)	33351	187	25423	42	26762	—	12
5406	—	5947	1	6120	—	6830	—	13
1561	2301	2634	1347	4961	2211	10339	3641	14
151043	70213	158093	77276	167648	66101	173619	62991	15
—	—	—	—	—	—	46606	10178	16
—	—	—	—	—	—	11540	21752	17
7553	249	8553	266	9000	320	8727	287	18
3889	2987	4631	3713	4675	4098	4257	4318	19
18797	15555	17556	14607	14454	13221	3773	7490	20
(5072)	(4674)	5013	5008	4012	4008	—	—	21
37726	19525	31605	22765	22658	10501	4903	7817	22
16650	16332	16332	15580	6959	8705	—	—	23
(52511)	(2716)	64814	5648	94344	13022	93813	11149	24
(8845)	(8175)	9589	9689	11546	12226	—	—	25
29597	50032	22633	51564	6056	18449	896	3755	26
69120	90238	51984	73291	38411	54727	45449	70929	27
.	.	.	.	.	.	45333	3214	28
.	.	.	.	.	.	116	67715	29
5940	357	7641	168	10738	2860	15362	3607	30
47445	6000	34452	5826	3297	9381	9318	3968	31
899184	386040	832417	388680	762730	336860	724748	330655	32
<b>1245224</b>		<b>1221097</b>		<b>1099590</b>		<b>1055403</b>		<b>33</b>

1. Crofters (*Jordtorpare*).
2. Cottagers (*Backstugesittare*).
3. Labourers living in (*Inhysesshjon*).
4. Farm servants.
5. *Statare*.
6. Wage-earners proper.

The crofters (*jordtorpare*) are intermediate between the agricultural labourers proper, who do not hold any land, and the group of independent small-holders and small tenant farmers who, side by side with work on their own land, are more or less extensively doing paid work for other farmers. They usually cultivate a small plot of ground belonging to an estate or farm, and they pay for this a quit-rent of so many days' work per year for the owner.

The origin of this group of the population is connected with the great increase in the area under cultivation in the latter half of the 18th century and up to about 1870, and this in its turn was due to the strong increase of the rural population. For the right to cultivate privately owned virgin land, the landowner usually charged a quit-rent in the shape of a fixed number of day-works per annum, either without pay or at an agreed comparatively low day-rate. Sometimes both forms were combined. As enclosure proceeded and the village commons were divided up, the settlers on the outlying lands of the villages usually became liable for day-work to the landowners. The size of the crofts varied considerably. The smallest had less than 1 hectare of plough-land, while the largest had up to 10 or 15 hectares. The majority of them possessed, however, between 1 and 5 hectares of arable land.<sup>1</sup> The crofter class continued to grow up to the eighteen-seventies, but has since decreased considerably. This reduction began in

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number of persons belonging to each group of the population, i. e. including wives and minors, while for our purpose the actual numbers of workers is of most interest. The estimates on which the data given in the text are based are given in Table 185, and in the notes on this table, p. 203.

<sup>1</sup> Cf. *Betänkhande angående torparklassens tillbakagång* (Inquiry into the Decline of the Crofter Class), Stockholm 1911, p. 43.

the plains as early as the first half of the 19th century, when the advantages of the extensive method of cultivation of cereals induced landowners to increase the area under grain by adding the crofts to the main farm. In many cases, too, the crofters were permanently engaged as agricultural labourers, paid on the *statare*-system. When the exodus from the rural districts began in the 'seventies and 'eighties, the crofter class diminished everywhere by the emigration of its members. As we have already pointed out, a large number of crofters have in addition had their liability to do day-work exchanged for cash rents, and have thus become regular tenants. Finally, the establishment of a Government loan fund for the creation of "own homes" has facilitated the redemption of small leasehold farms and crofts by the holders. This has further reduced the number of crofters. According to the 1870 census there were about 100,000 occupiers of crofts, whilst the 1920 census gives only about 35,000. In 1870 the number of crofters, together with such of their children as assisted their parents in looking after the croft and performing the day work, were estimated to number about one fifth of all agricultural labourers.<sup>1</sup> Their relative number has since been reduced to about one tenth.

The cottagers (*backstugusittare*) make up a group of the population which rather closely resembles the crofter class. Formerly the smallest tenements on the farms used to be called *backstugor*, usually only tiny cottages with a small potato or cabbage patch. There was no sharp distinction between them and the small croft in respect of size, however. Cottagers were distinguished from the crofters in that they did not have to do any prescribed number of day-works for the landowner, and could consequently dispose of their labour more freely than the crofters. They chiefly earned their living by casual or more or less permanent agricultural labour, or by work in the forests in the winter. If one includes those of their grown children who helped in the work, this class may,

<sup>1</sup> In this estimate half the crofters' children living at home have been counted as day-labourers (cf. Notes on Table 185, p. 203).

on the basis of the census figures, be estimated to have numbered nearly 100,000 in 1870, or about 15 % of all agricultural labourers. Since the 'seventies, this class has gradually decreased in numbers, partly owing to the younger members having left the cottages to emigrate or to seek employment in the growing industry, and partly because many of the more enterprising among them have succeeded in redeeming their cottages, and have thus given rise to a class of occupiers of tenements (*lägenhetsinnehavare*), socially distinct from that of the cottagers. According to the 1920 census, however, the number of cottagers and occupiers of tenements was only about 13,000, that is only about 3 % of all agricultural labourers.

Labourers living in (*inhyses-hjon*) formed a group of people which at the beginning of the period used to be very numerous. They were kept by farmers and crofters — without being legally hired servants — and assisted the family in its work. Together with the cottagers, these poor people formed the lowest stratum of the rural population. Like the cottagers, however, they have gradually fallen off in numbers, and have now disappeared almost completely. This is partly due to emigration and the exodus to the towns and industrial centres, and partly to the commercializing and changing to more rational principles of farming. It was then found uneconomical to keep all the year round a reserve of labour which could only be fully occupied during the busy harvest time. The 1870 census gives no less than 110,000 persons as *inhyses-hjon*, or about 17 % of the total number of agricultural workers. According to the 1920 census their number had then fallen to a mere 4,700.

In the old days the agricultural work, even on the big farms, was largely done by the help of *servants boarded by the farmer*. Their legal position was regulated by the Domestic Servants' Act of 1833, according to which a farmer, when hiring a servant who was in service elsewhere, was only allowed to do so on production of a certificate from the late master that he or she was free. At the hiring, the master used to give the servant a small sum as earnest-money, and

wages and other conditions were settled. The term of service was one year, and lasted until the due day of moving, October 24th. Unless two months notice was given, the agreement continued for another year. The master had to provide board and lodging for the servants, and to look after them when they fell ill. A servant who had been with the same master from his 30th year until he was too old to obtain other service, had the right to claim reasonable keep from the master for the rest of his life. If a servant ran away before the end of his time, the master could set the police after him. — Thus the servants were very tied in those days, but otherwise the patriarchal conditions of which the Domestic Servants' Act was an expression provided an economic safeguard for the servants, whose position was therefore in some respects better than that of the more independent agricultural labourers. But the agricultural expansion since 1870 has resulted in freer forms of engagement being used side by side with the stipulations of the Domestic Servants' Act, and in the formal repeal of this in 1926.<sup>1</sup> The number of farm servants has also diminished very much since the beginning of the period. In 1870, the census gave the number of male and female farm servants boarded by their masters as being about 240,000, that is to say 36 % of all agricultural workers and 19 % of the whole working agricultural population. According to the 1920 census, the number of farm servants was only slightly over 116,000, corresponding to 26 % of the agricultural workers and 11 % of the whole farming population. The revolutionary change which these figures seem to indicate as having taken place in agricultural labour conditions applied, however, chiefly to the large farms, where nowadays boarded farm servants are exceptional. The inquiry into certain conditions of wages and labour in large-

<sup>1</sup> As late as 1911, an inquiry in connection with the preparation of agricultural labour statistics indicated that the Domestic Servants' Act was applied in its original form for the engagement of married and unmarried servants in about 75 % of the communes of the country. Cf. *Lantarbetarnas arbets- och lönesförhållanden inom olika bygder och å typiska lantegendomar* (The Conditions of Work and Wages of Agricultural Workers in Different Districts and on Typical Farms), Stockholm 1915, p. 58.

scale farming, carried out in 1921—1922 by the Social Board, found that of all the 18,365 workers taken into account by the inquiry, only 2.7 % could be counted as servants boarded by their masters.<sup>1</sup>

The duty to provide permanent labour on the large farms, which had previously been carried out partly by crofters from whom day-work was due, and partly by the farm servants, was in the 19th century gradually taken over by the *statare*. This labour group is a social innovation of last century. Its characteristic feature is that it is generally composed of married workers who, apart from an annual cash wage, receive free housing for themselves and their family, as well as certain benefits in kind (*stat*) from the farm. Their work is the same as the servants', but, contrary to the latter, they have their own households.

Beside a certain allowance of milk and cereals, the *stat* also includes corn for fodder, as well as potatoes or a potato patch, which enables the family to keep cattle on its own account. Employment on the *statare*-system is — as indicated above — closely bound up with the founding of families. The young son of a farmer, who has been working either at home or as the servant of another farmer, or as day-labourer on an estate, on his marriage frequently accepts permanent employment on some farm where he is paid on the *statare*-system. The employer usually prefers to engage married men, whose wives and children form a reserve of labour available when required. The wives, for instance, are needed to milk the cows. The conditions of service therefore usually stipulate that the wife shall do milking. The labourer finds the *statare*-system advantageous because it is more permanent — the term of the contract is generally a year — and because the conditions allow the keeping of pigs and poultry, which the wife can look after. — The *statare*-system is the typical form of payment in districts of large estates, and is therefore in the main restricted to these (the counties of Malmöhus, Kristianstad,

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<sup>1</sup> Cf. *Arbetsartillgång, arbetstid och arbetslön inom Sveriges jordbruk* (Labour Supply, Working Hours, and Wages of Agricultural Labour in Sweden) 1922, Stockholm 1924, p. 62.



Östergötland, Södermanland, and Uppsala). A large proportion of the day-labourers in these districts are also recruited among the grown up children of the *statare*. In 1870 the number of *statare* was about 5 % of the total number of agricultural workers, male or female, in 1920 the corresponding relation was probably about 10 %<sup>1</sup> which, in view of the simultaneous reduction of the total number of workers, means a very slow absolute increase. The extent to which the large farms are obtaining their labour from permanently engaged workers paid on the *statare*-system also appears from the above inquiry of the Social Board in 1921. On the farms included in this investigation, something over half the men were paid on the *statare*-system.<sup>2</sup>

In *wage-earners proper* we have included those agricultural workers who earn their living solely by doing day-work for others, and who are not occupiers of tenements, cottagers, or labourers living in. It is difficult to form any definite opinion of the size of this group during the early part of the period, as the census did not class it as a separate category, but they may have numbered about 20,000. Their number grew very rapidly, however, and when in 1900 it was first found expedient to include them in the census under a special heading ("Other agricultural labourers"), they already numbered about 70,000. Ten years earlier there were presumably about 50,000 of them. The bulk were young men without any family of their own, which is proved by the very small number, in 1900 only 19,000, of adult members of their families. The 1920 census includes just over 100,000 persons under the heading "Other agricultural labourers", that is to say a little less than in 1910, but in view of the re-grouping made in the Occupational-Statistics a large number of persons who had earlier been included in that group were then shown under other headings. In spite of the difficulty of deciding the numbers included in that

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<sup>1</sup> All the grown up children of *statare* living at home have then been left out (cf. Notes on Table 185, p. 203).

<sup>2</sup> Op. cit., p. 62.

category of workers at various times during the period investigated, it is nevertheless clear that the agricultural wage-earners proper are now considerably more important to agriculture than at the beginning. An estimate of the total number of persons belonging to the groups from which day-labourers were recruited (mainly small-holders, small tenants, occupiers of tenements, cottagers, other agricultural labourers, and rural labourers not otherwise specified) gives the result, that this number has increased from about 216,000 in 1870 to about 250,000 in 1920, or from 17 % to 24 % of the total population actually engaged in agriculture. This trend, in conjunction with the reduction in the numbers of labourers living in and farm servants, involves a change which from the social and economic point of view is significant.

This re-grouping of the rural population since 1870 is clearly shown by the ratios given in Table 186. Both the census figures and our calculations are in some respect deficient, but in spite of all the general trend is quite obvious. If the group "Rural labourers, not otherwise specified", which was very numerous in the early censuses, is included in the agricultural population, we find that from 1870 to 1920 the number of persons occupied in agriculture (exclusive of wives without occupation of their own, and children below 15 years of age) diminished in about the same proportion as the total agricultural population, or by about 16 %, i. e. an absolute reduction of just over 200,000 persons. The reduction of the whole agricultural population in the same period was about 14 %, i. e. more than 420,000 persons. This reduction, however, is exclusively due to the categories which should be counted as agricultural labourers having been considerably reduced. While the number of farm owners, tenant farmers, and such members of their families as are occupied in agriculture, shows an increase of about 50,000, the total number of agricultural labourers has diminished by almost 225,000, or if we include among them "Rural labourers, not otherwise specified", by no less than 270,000. In relative numbers, this means an increase of the entrepreneur-

Table 186. Summary of the Composition of the Population engaged in Agriculture, from 1870 to 1920.

	1870	1880	1890	1900	1910	1920
Number (in per cent) of:						
A. Entrepreneurs . . . . .	19.6	20.3	21.9	23.1	26.6	26.0
B. Working members of the family in group A. . . . .	21.6	21.9	23.0	24.7	26.8	27.6
C. Agricultural employees . . . . .	0.1	0.2	0.2	0.2	0.4	0.5
D. Agricultural labourers . . . . .	53.7	49.5	50.1	48.1	43.8	42.8
of which: crofters . . . . .	10.7	10.4	9.7	8.9	8.3	4.4
<i>statars</i> . . . . .	2.8	3.2	3.4	3.6	3.5	4.5
male day-labourers . . . . .	8.2	7.4	12.1	13.0	15.3	16.5
female day-labourers . . . . .	4.2	4.1	5.6	6.3	6.0	5.9
labourers living in . . . . .	8.7	7.6	6.4	6.1	2.2	0.5
male farm servants . . . . .	8.8	7.5	5.5	4.2	3.5	4.3
female farm servants . . . . .	10.3	9.3	7.4	6.0	5.0	6.7
E. Occupations subsidiary to agriculture . . . . .	0.2	0.3	0.5	0.6	1.2	1.8
F. Rural labourers, not otherwise specified . . . . .	4.8	7.8	4.3	3.3	1.2	1.3
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0
Total agricultural population (thousands) . . . . .	3017	3102	2973	2828	2697	2596
Of these engaged in agricultural work:						
men . . . . .	872	902	859	832	763	725
women . . . . .	387	389	386	389	337	330
total . . . . .	1259	1291	1245	1221	1100	1055
Number of persons engaged in agricultural work, in per cent of the whole agricultural population . . . . .	42	42	42	43	41	41

class by about 9 % and a reduction of the lower agricultural classes by 33 to 37 %. Tables 185 and 186 also show very clearly the relative change in the agricultural labour market consisting in the considerably increased importance to agriculture of the wage-earners proper in relation to other categories of labour, chiefly farm servants and labourers living in.

Notes on Table 185.

In this summary, which refers only to the part of the population that is actually engaged in agriculture, the occupational data from the Population Censuses have been grouped in the manner of Nils Wohlin in the Report of the Emigration Committee, Appendix IX: "The Agricultural Population of Sweden, 1751—1900", Stockholm 1909, but there

are several important differences. An attempt has thus been made to segregate such groups of the agricultural population as might be said to belong to the agricultural labour class in the narrower sense. Within this class the groups that differ in respect of the form of wages have been kept apart.

The occupational data of the census are rather deficient, at least before 1910, and can therefore only give a very rough picture of the changes in the composition of the agricultural population. The terms by which the occupations are designated in the census have obviously been given a slightly different import on different occasions, and in addition the greater accuracy of the occupational grouping has undoubtedly affected the results sufficiently to make them not quite comparable with those of the earlier censuses. The 1870 and 1880 censuses thus give in the group "Labourers, not otherwise specified, including railway workers" ("*arbetare av obestämt slag, inv. järnvägsarbetare*") no less than about 87,000 and 137,000 persons respectively, of which about 60,000 and 100,000 respectively in the rural districts. In 1910 the corresponding group, called "Persons without stated occupation, probably of the peasant or labour class" ("*personer utan angivet yrke, förmodligen tillhörande allmogem eller arbetarklassen*") included about 29,000 persons, of which nearly 13,000 in the rural districts, while in the 1920 census "Labourers, not otherwise specified" numbered almost 26,000 in the whole country, and over 13,000 in the rural districts. A considerable portion of the people shown under the above headings, and anyway the majority of those that lived in rural districts, were probably engaged in agriculture for longer or shorter periods of the year (in 1880 only 713 persons were returned as railway workers). In the northern counties most of them were possibly forestry and sawmill workers. — Another, though less important, weakness of the material is that right up to 1910 joiners, blacksmiths, and coachmen, working in agriculture, were returned as handicraftsmen, entrepreneurs, or workers, under each occupational heading, and were thus not accounted for in the agricultural population. They only numbered about 5,000, however, in 1920.

Another reason making a classification of the workers into different occupational categories or social groups rather doubtful is that the censuses formerly used to divide them into "Persons engaged in trade" and "Other members of the family". In "Other members of the family" were often included the sons and other relatives of the head of the family who — although the parish registers give no information on this point — actually assisted him in his trade. Since 1870, however, the principle has been to return the farmers' sons over 15 who lived at home, and who were not noted in the census as being engaged in some other occupation, absent from home, or suffering from physical defects preventing their working, as "assistant workers", or (since 1880) in a special occupational group. As will be seen from a comparison, however, this principle was not consistently applied in the earlier censuses.

The group "Entrepreneurs" of the summary is supposed to cover principally land-owners and tenants who do not to any great extent depend for their living on working for other farmers. In this group we have included all "estate owners, freehold farmers, and settlers" ("*godsägare och hemmansägare samt nybyggare*") of the occupational statistics. As entrepreneurs we have also recorded  $\frac{1}{8}$  of the group "tenant farmers" ("*arrendatorer och brukare*"),  $\frac{1}{8}$  having been entered as agricultural workers (of group D), as, according to the Agricultural Statistics, about  $\frac{1}{8}$  of all lease-holds can be estimated to hold only 2 hectares or less of cultivated land, the tenants of which were probably very extensively — possibly for the greater part of the year — compelled to seek work for wages. The children over 15 and sons-in-law of tenant farmers have

been divided in the same way,  $\frac{1}{5}$  of them being also put down as agricultural workers. This is certainly a very rough division, but any more complicated methods of calculation have been considered inexpedient, as they would give a false impression of the accuracy of the result. The border-line between small land-owners and tenants on the one hand, and agricultural labourers proper on the other, is in reality extremely indefinite.

In so far as the above occupational groups (Estate owners, freehold farmers, and tenant farmers) are concerned, the figures for the years 1870—1910 seem to be on the whole comparable. In 1920 the group "Other land owners" was introduced in the occupational census. The agriculturists included in this group were apparently previously included partly among "Freehold farmers" (*hemmansägare*), partly among "Occupiers of tenements" (*lägenhetsinnehavare*), of which the latter have been accounted for in the summary as agricultural workers. It would probably be difficult to find any acceptable basis for classifying these as entrepreneurs or labourers and, as we are here dealing with owners of small landed properties (about 2 hectares or less), they have all been included in group D under the heading "Small holders".

All working men and women who can be assumed to have been employed by others for the greater part of the year are accounted for in the summary as agricultural labourers. This group has been subdivided according to the traditional forms of pay in agriculture. But these are not directly apparent from the occupational terms used in the census. Before 1900, the heading "*staltorpare*" (properly labourers paid on the *stat*-system but receiving food for one cow instead of milk) included *statare* ("*staldrängar*") as well as day-work crofters and day-labourers ("*dagsverkstorpore*, *daglönare vid jordbruket, jordbruksarbetare och dagahavlar*"). The figures given under "*staltorpare*" in the 1870 and 1880 censuses, however, refer chiefly to *statare*. The majority of day-work crofters ("*dagsverkstorpore*") were probably included under the heading "Crofters" ("*jordtorpare*"), and other agricultural workers under the headings "Occupiers of tenements, and cottagers" ("*lägenhetsinnehavare och backstugusittare*"), "Labourers living in" ("*inhysesfolk*"), and "Labourers, not otherwise specified" ("*arbetare av obestämt slag*"). In 1890, however, the group "*staltorpare*" grew so much owing to the increase in the number of casual agricultural labourers, that it was divided into two in the 1900 census, one called "*staltorpare*", which included *statare* and married male servants ("*statare, staldrängar och gifta drängar*"), and the other "Other agricultural labourers" ("*övriga jordbruksarbetare*").

Under the heading "Crofters", the summary gives the census figures for "*jordtorpare*". These figures are probably fairly comparable in the different years, although the term "*jordtorpare*" probably also includes some small land-owners and tenant farmers (such as had redeemed their crofts, or had their liability to do day-work replaced by a quit-rent).

For 1870 and 1880, the summary gives as *statare* the full number of "*staltorpare*", and for 1890 the average of the numbers in 1880 and 1900. (The difference between this average and the figure given in the occupational statistics has been taken to represent "Other agricultural labourers" — cf. Wohlin, op. cit., p. 26.) "*Statare*" further includes "Land stewards and bailiffs" ("*rättlare och befälningmäns*") and "Cattlemen" ("*kreatursskötare*"), who were accounted for separately in the census. This has made the number of female *statare* considerably larger than appears directly from the census, which is probably right, as milking on the larger farms was formerly chiefly done by permanently employed milk-maids, paid on the *stat*-system. (Men were only engaged to any great extent for this work in the later part of the period, when power-milking was introduced.) Joiners, blacksmiths, and coachmen,

employed in agriculture were, as we have said above, not included in the agricultural population until in the 1920 census. In reality, all these were probably engaged by the year and paid cash wages and *stat*, and should therefore be included among the *statare*. Their approximate number has not been estimated. Their number in 1920 (about 5,000) has instead been deducted from the total number of *statare* in that year, which may thus be considered to have been made tolerably comparable with the numbers of the earlier years.

The greatest difficulty was to decide which categories to include among the day-labourers. The summary includes under that heading tenant farmers of small properties (2 hectares or less, approximately estimated at  $\frac{1}{6}$  of all tenant farmers in the occupational censuses), their sons-in-law, and children above 15, living at home. The children and sons-in-law of crofters with less than 2 hectares of arable land are also included among the day labourers. These have been estimated at half the working members of the crofters' families. This estimate is based on the figures given in the "Inquiry into the Decline of the Crofter Class" ("*Betänkande angående torparklassens tillbakagång*") according to which about half the crofts were 2 hectares or less in area. The other working members of the crofters' families are accounted for in a special group under "Crofters", as they presumably assisted the head of the family with a large part of the work on the croft, or with performing the day-works incumbent on him. — In Day-labourers are also included *statare*'s children over 15 and sons-in-law living at home. These have probably worked as day-labourers on the large estates, although they have certainly in many cases also received some payment in kind, for example "half *stat*". Finally, the occupiers of tenements, cottagers, and other agricultural workers have all been accounted for as day-labourers, and so have their sons-in-law and children over 15, while the rural labourers not otherwise specified have been returned separately.

### *Forestry.*

Of the total area of Sweden, 57 % is covered by forest. This is distributed as to 19 % to Götaland, 23 % to Svealand, and 58 % to Norrland. The principal forest districts — Norrland, and the counties of Värmland and Kopparberg — comprise 73 % of the total forestcovered area of the country. These parts of the country are generally characterized by large and continuous forests, while the forests in south Sweden are usually divided into numerous small areas attached to agricultural estates.

As long as the forest was mainly used for domestic needs, forestry work was entirely a subsidiary occupation of the agricultural population, and did not as a rule constitute any considerable source of income.

With the rise of the large wood-working industries, forestry has attracted labour to an increasing extent. Simultaneously, the large forests of north Sweden have

been exploited, and in them the forestry work is now centred. During the earlier decades forestry work was chiefly restricted to logging and floating the timber, which was almost exclusively confined to the short season of winter and spring. It therefore still fitted in well as a supplementary occupation for the farming population of the forest districts during the slack season in agriculture. Considerable seasonal migration from forestry to industry and vice versa also used to occur earlier. Stevedores and unskilled labourers from the sawmill industry, as well as casual labourers from the towns and men employed on railway construction works, often sought winter work at the logging operations. In recent years, more attention has been given to the maintenance of the forests — thinning, clearing, cultivation, etc. — and the work is more than before extended over the whole year, which has contributed to the establishment of a special class of forest labourers.

The forestry labour-market is not easily accessible to statistical treatment, and the information available regarding the number of forest workers is particularly uncertain. According to the 1920 census the number of workers who were mainly occupied in forestry totalled 70,000 in the whole country, of which about 76 % were employed in the industrial forestry districts of Norrland and the counties of Kopparberg and Värmland. This implies a very strong increase on the returns of the previous censuses, which is probably connected with the fact that forestry to a greater extent than earlier has provided work all the year round. In addition to this, seasonal labour is used to a great extent in forestry. It is estimated that in the years 1925—1928 about 185,000 men would have been needed each year for work in the forests if this had been evenly distributed over the whole year.<sup>1</sup> In February, the height of the logging season, the number of forest workers was assessed at 388,000.

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<sup>1</sup> *Arbetslöshetsutredningens betänkande* (Report of the Unemployment Committee), Vol. 1, *Statens offentliga utredningar 1931: 20*.

*The Industrial Labour Market.*

The progress of industrialization has by no means involved a displacement by factory industry of other forms of industrial production, which instead seem to have well maintained their position. It is very difficult, though, to follow their trends statistically. Exact information on the different groups of industrial workers can anyway not be obtained, as the limits between various groups of workers are naturally quite indistinct. A comparison between the census returns relating to the number of those engaged in various occupations, and the figures of the Industrial Statistics relating to the average number of factory workers employed, will, however, give a basis on which an opinion of the relative importance to the labour market of the various forms of industrial enterprise can be formed.

In 1920 the number of workers in the factory industries proper did not exceed half the number of wage-earners outside agriculture and its subsidiary occupations. Whilst the Industrial Statistics include 417,000 factory workers, the census gives 205,000 handicraftsmen and 55,000 handicraft entrepreneurs, of which the latter were certainly often closely allied to the labour class and should, in any case partly, be included on the supply side of the industrial labour market. In addition, large numbers, estimated at about 30,000, were working in domestic industries, about 65,000 in the building trades, and about 25,000 on roads and waterways etc.<sup>1</sup> Certain workers returned as belonging to the group "Commerce and Communications" were also in close contact with the industrial labour market. Of these, about 30,000 were engaged in warehouses and the like, while about 80,000 were employed on various means of communication.

The following table will help to give a rough idea of the secular changes in the industrial labour market:

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<sup>1</sup> Cf. *Arbetslöshetsutredningens betänkande* (Report of the Unemployment Committee), Vol. I, *Statens offentliga utredningar 1931: 20*.



## THE LABOUR MARKET

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	Year: 1870	1880	1890	1900	1910	1920
a) Numbers engaged in manufacturing, mining, and handicrafts, according to the census (thousands) . . . . .	127	173	263	413	565	808
b) Numbers engaged in manufacturing, mining, and handicrafts, including urban labourers not otherwise specified, according to the census (thousands) . . . . .	154	209	305	461	587	819
c) Number of workers employed in factory industries and mining, according to the Industrial Statistics (thousands) . . . . .	81	113 (121) <sup>1</sup>	178	298	334	417
d) Numbers engaged in factory industries and mining . . .	—	145	210	335	400	—
e) In per cent of a) . . .	63.8	65.3 (70.0) <sup>1</sup>	67.7	72.2	59.1	51.6
c) * * * * b) . . .	52.6	54.1 (57.9) <sup>1</sup>	58.4	64.6	56.9	50.9
d) * * * * b) . . .	—	69.4	68.9	72.7	68.1	—

The result of this comparison is affected by certain sources of error. The census figures thus give the number of workers in each occupation, irrespective of employment, whereas the Industrial Statistics give the average number of those who have actually been employed during the year. The result of the comparison will therefore depend on in what stage of a business cycle the years of comparison fall. Of the years selected here, only 1880 shows a slightly lower number of workers employed in factory industries than any previous year.<sup>1</sup> For that year, the number of factory workers should therefore perhaps be slightly adjusted upwards if it is to include all workers existing at the time, whether employed or unemployed. If the number of workers in 1880 were replaced by the highest number of factory workers during the preceding boom of the 'seventies (the corrected percentages are given in the table in brackets), a more rapid expansion of the factory industry would be indicated in the 'seventies, and a relative stagnation in the 'eighties. This correction is in any case

<sup>1</sup> Figures based on the number of workers employed in 1875 in factory industries and mining, according to the Industrial Statistics.

\* Cf. Table 187.

too large, however, as the factory workers presumably often moved back to agriculture when unemployed during the depressions.

It must also be taken into account that the index of the workers employed in factory industries and mining up to 1896 does not include the workers in the sawmill industry. As the most rapid expansion of that industry occurred before the middle of the 'nineties, the index is likely to show too small an increase in the number of factory workers during the earlier years.<sup>1</sup> If this source of error is allowed for, the increase in relative importance towards the end of the century of the factory industries would appear still greater than indicated by the table.

The increase in the number of factory workers in relation to the total number engaged in industrial occupations may, of course, also be due to changes in the factory industries themselves. For the sake of comparison, certain figures computed by the Tariff and Treaty Committee regarding the total numbers engaged in factory industries and mining have been included in the above table,<sup>2</sup> which on the whole confirm the picture of the trend obtained from the Industrial Statistics. The known increase in recent years in the number of functionaries relative to the number of workers can only have had a slight reducing effect on the 1920 percentage. The administrative staff in the factory industries is given separately in the Industrial Statistics from the beginning of 1913. If we assume an equally large administrative staff in 1910 as in 1913, which may be regarded as a maximum, the reduction between 1910 and 1920 of the percentage giving the relative numbers employed in factory industries and mining will only be reduced by a fraction of a unit.

Even if we have to allow for a certain margin of uncertainty, especially in respect of the census data, we may, on the basis of the above considerations, conclude that up to the end of the century the factory industry progressed at least as fast as other forms of industrial activity, and in

<sup>1</sup> Cf. p. 222.

<sup>2</sup> *Statens offentliga utredningar 1924: 17*, p. 76.

the 'nineties still more rapidly. In the first twenty years of this century, on the other hand, the relative importance in the labour market of the factory industries proper has diminished in favour of other industrial occupations (handicrafts, small-scale and domestic industries, the building trade, etc.). This trend has been so strong that in 1920, in spite of the industrial boom, factory workers seem to have been fewer in relation to the total number of persons engaged in industrial occupations than they were in 1870. That trend has apparently continued after 1920 too, in that the factory industries have grown at a slower rate than the population of productive age, whilst handicrafts and the building trade, etc. have grown more rapidly.<sup>1</sup> The trend of the last ten years cannot be determined with any certainty, however, until the 1930 census is published.

The same picture is obtained of the trend of factory industries and mining in relation to that of other forms of industrial work, if we compare the number of workers in the former given in the Industrial Statistics with a series giving the estimated number of craftsmen, based on the same statistics but corrected by the census data.<sup>2</sup> The industrial expansion towards the end of the 'sixties, which caused a considerable increase of the numbers engaged in factory industries and mining according to the Industrial Statistics, resulted in a simultaneous reduction of the number of those engaged in the handicrafts. After 1870, the handicrafts too shared in the rapid growth, but the rate of increase of the workers in factory industries and mining was at first considerably more rapid. In the latter half of the 'seventies the handicrafts to some extent caught up with the industries. In the 'eighties and 'nineties the rate of increase in the number of handicraftsmen decreased slightly, whilst in respect of factory industries and mining it grew ever more rapidly. From the beginning

<sup>1</sup> Cf. *Arbetslöshetsutredningens betänkanö* (Report of the Unemployment Committee), Vol. I, *Statens offentliga utredningar 1931: 20*, p. 301 fol.

<sup>2</sup> This estimate has been made for the inquiry into the National Income of Sweden. The estimated numbers of craftsmen were:

Year . . . . .	1861	1870	1880	1890	1900	1910	1920
Number (thousands) . . . . .	75.9	67.8	87.0	105.1	128.8	165.7	203.9

of this century up to 1920, on the other hand, the number of factory workers grew more slowly than the number of handicraftsmen.

The following table, which gives the increase in per cent of the number of workers in the two branches, shows a development which is slightly different from that outlined above. This is because the years of comparison occur in different phases of the business cycle, and because the two series do not, for the reason that the series are differently constructed, reflect the actual changes of employment in the same way. The same tendency as described above is discernible, however.

Period	Increase, in per cent, of the number of workers					
	1861— 1870	1870— 1880	1880— 1890	1890— 1900	1900— 1910	1910— 1920
Factory industries and mining . . . . .	+15.6	+40.0	+57.6	+67.5	+12.1	+24.8
Handicrafts . . . . .	-10.7	+28.3	+20.8	+22.5	+28.6	+23.1

### *Manufacturing and Mining Industries.*

*Localization.* No general averages of industrial wages have been calculated for different parts of the country. The various branches of industry are frequently so strongly concentrated in different parts of the country that averages for these parts would not be directly comparable, while at the same time such local averages would, owing to this local predominance of certain industries, be to some extent superfluous. Thus ore-mining, for instance, is concentrated to upper Norrland and the *Bergslagen* mining district of central Sweden, where the iron and steel industry is also mainly located; the timber and pulp industries lie mainly along the coast of north Sweden, the sugar industry in the county of Malmöhus, the textile industry in that of Älvsborg, and the boot and shoe industry in the county of Örebro.

During every period of relative advance of one industry or another, as related below, there consequently also occurred a local redistribution of labour. The most marked of these changes was the increase in Norrland's share of the

industrial population, which becomes apparent if we compare the census figures. Of all persons engaged in manufacturing, mining, and handicrafts, only about 8 % lived in the Norrland counties in 1870. In connection with the expansion of the sawmill industry in the 'seventies and 'eighties, Norrland's share grew to about 15 %. Since then, the relative distribution of manufacturing and mining industry in Norrland and in the rest of Sweden has remained fairly constant. This is also confirmed by the Industrial Statistics, which show that the increase from 1897 to 1930 in the number of workers in manufacturing and mining was the same in Norrland as in the whole country. We will revert to the industrialization of the various counties in connection with giving an account of the local trend of wages.<sup>1</sup>

The distribution of the different industries to towns or rural districts is very unequal. The textile and the leather industries, for instance, are mostly urban. The mining, iron and steel, stone-quarrying, sawmill, and pulp industries, on the other hand, are almost exclusively carried on in the country districts. According to the census figures, there has been no great change from 1860 to 1930 in the distribution of the industrial population to rural and urban districts. The Industrial Statistics, on the other hand, show a relative increase in the number of factory workers employed in the towns from 1897 to 1930, in which years the data are fairly comparable. This increase of urban factory workers is chiefly due to certain industrial communities having in the mean time attained the status of towns, while other towns have incorporated adjacent rural communes. In 1930, the workers employed in manufacturing and mining were almost equally divided between the rural districts and the towns.

The distinction between rural and urban industry is, however, largely formal.<sup>2</sup> Densely populated communities have as a matter of fact often grown up around industrial establishments in the country, and the difference between

<sup>1</sup> Cf. Chapter XXVII.

<sup>2</sup> Towns in Sweden are created by charter.

these communities and small industrial towns in respect of cost of living, supply of labour, etc. is only one of degree. On the other hand, only a minor portion of the manufacturing industries is located in large industrial towns.

It is typical of the other and major portion of the manufacturing and mining industries, that any considerable agglomeration of them, as of the sawmills in the county of Västernorrland, in large, densely populated industrial districts is exceptional. The local dispersion in the rural districts of the establishments is, on the contrary, characteristic. It meets with great difficulties to express this statistically, but it is in some degree indicated by the map showing the local distribution of industrial labourers.<sup>1</sup> Owing to this special type of localization, there has always been intimate contact between a large portion of the manufacturing and mining industries and the surrounding agricultural district. These circumstances have naturally affected the working and living conditions of the industrial workers. That the agglomeration is so little pronounced has also been of great importance to the mobility in the labour market, and particularly so during a period which, like that discussed here, was characterized by very extensive migration from agriculture to the manufacturing and mining industries. When poor communications restricted the local mobility of labour, occupational mobility was greatly facilitated by the location of industrial establishments in rural districts.

The *Bruk* communities typical of Swedish conditions deserve a special mention in this connection. These largely originated at a time when it was more essential than now that certain local natural resources — water power, ore deposits, forests, etc. — should be exploited on the spot. Such natural resources frequently did not admit of more than one or at most very few establishments in the same place, and thus arose the locally isolated *Bruk*, which were often characterized by extensive horizontal integration, including, for example, mining, smelting etc., as well as lumbering operations and agriculture. As regards the iron-

<sup>1</sup> Part I, p. 581.

works in particular, this local distribution was also connected with the mercantilistic manufacturing policy adopted in the 18th century by the Swedish Government.<sup>1</sup> Patriarchal relations were long kept up between workers and employers at these *Bruk*, where the workers were usually largely provided for by benefits in kind.<sup>2</sup> Owing to the great traditional skill frequently passed on in these places from generation to generation, the enterprises have often remained in the same locality, even though they are no longer tied to its natural resources to the same extent as formerly.

*Size of establishments.* The data given by the Industrial Statistics only refer to relatively large concerns. There was, however, no definite line of demarcation between small and large establishments until in 1913, when such as did not employ more than ten workers, or whose output did not exceed 10,000 *kronor* in value, were excluded.<sup>3</sup> By an establishment is then understood a *local* unit of work. For 1930 the following numbers of establishments and workers are included in various classes of magnitude<sup>4</sup>:

	Establishments employing							Total
	up to 10	11— 50	51— 100	101— 200	201— 500	501— 1000	over 1000	
	w o r k e r s							
Establishments:								
Number . . . . .	8871	4109	689	478	362	74	27	14610
In per cent . . . .	60.7	28.1	4.7	3.3	2.5	0.5	0.2	100.0
Workers:								
Number (thousands)	39	91	48	67	112	50	48	455
In per cent . . . .	8.5	20.1	10.7	14.7	24.5	11.0	10.5	100.0

Over 60 % of all the included mills thus did not employ more than 10 workers each, and nearly 90 % at most 50. The larger the mills, the less are, generally speaking, their

<sup>1</sup> Cf. *Eli F. Heckscher, Ekonomi och historia* (Political Economy and History), Stockholm 1922.

<sup>2</sup> Cf. Monographs in Part I.

<sup>3</sup> In 1917 the minimum value of the output was, in accordance with the changes in the general price-level, raised to 20,000 *kronor*, and in 1926 reduced to 15,000 *kronor*. For some industries the principles are modified. Cf. *Industri* (Industrial Statistics) 1926 in *Sveriges officiella statistik*, p. 8 fol.

<sup>4</sup> For an account of the methods of computing the number of workers, cf. p. 217.

relative numbers. The distribution in per cent of workers to establishments of various sizes, on the other hand, shows two maxima, for the groups of establishments of from 11 to 50 and from 201 to 500 workers respectively, in which 20 % and 25 % respectively of all workers in manufacturing and mining are employed.

Owing to the numerous re-arrangements of the Industrial Statistics, it is very difficult to obtain for different years comparable data regarding the distribution of industrial workers to factories of different sizes. Over the periods 1896—1912, and 1913—1930, the figures are fairly comparable, however, at least as far as establishments employing more than 10 workers are concerned. The distribution in per cent in these years of the workers to factories of different sizes is shown in the table below.<sup>1</sup>

	Establishments employing						Total
	11—	51—	101—	201—	501—	Over	
	50	100	200	500	1000	10000	
	w o r k e r s						
1896 . . . . .	24.4	16.3	18.8	27.4	10.3	2.7	100.0
1912 . . . . .	23.7	14.8	18.8	27.0	10.4	5.2	100.0
1913 . . . . .	21.2	14.4	18.0	26.1	11.6	8.7	100.0
1930 . . . . .	22.0	11.7	16.0	26.8	12.0	11.5	100.0

Both these periods show a similar trend, in so far that the number of workers in the largest class of establishments has grown in relation to the others, chiefly at the expense of the medium-sized establishments. During the first period, the relative importance of the smallest class too diminished, while its share in per cent of all the workers increased slightly during the later period. The changes in this group, however, are hardly large enough to be significant. If we also include the establishments employing up to 10 workers, we find that from 1913 to 1930 their share of the total number of workers increased from 5.8 to 8.5 %. This increase is partly only apparent, and due to the re-arrangement of the Statistics, but the change in this period

<sup>1</sup> For the years 1896 and 1912 we have used the rearrangement of the Industrial Statistics, based on the local unit, published by *N. Wohlin* in *Driftskoncentrationen i svensk fabriksindustri* (Concentration Tendencies in Swedish Factory Industry), Stockholm 1915.



is sufficiently large to warrant the conclusion that the relative importance of the small industries increased. It is of interest to compare this trend within the factory industries with the relative trend of factory industries and other industrial activity outlined above.

The average number of workers per establishment varies considerably in the different industrial groups:

	Average number of workers per establishment in 1930
Mining . . . . .	101
Metal and engineering industries . . . . .	49
Stone, clay, and glass industries . . . . .	35
Sawmill industry . . . . .	23
Paper and wood-pulp industries . . . . .	199
Graphic and sundry paper industries . . . . .	22
Food products industries . . . . .	10
Textile and clothing industries . . . . .	82
Leather, hair, and rubber industries . . . . .	40
Chemical industries . . . . .	40
Power, lighting, and water services . . . . .	9
All manufacturing and mining industries . . . . .	31

Most large enterprises (of more than 500 workers) are found in the groups mining and metal industries (48), paper and wood-pulp industries (13), and textile and clothing industries (21). The average number of workers per work-place naturally also varies in different branches of the above industrial groups.

*Number of workers.* The Industrial Statistics and the Report on Mining furnish particulars of the number of workers, dividing them into the categories men and women, adults and children, as well as into different industrial groups. These figures are based on the average number of workers employed each pay-day, as a rule once a week. Consequently they do not tell us whether the number of workers has been affected by some establishments having had to work short time owing to depression or some labour dispute. The procedure adopted may cause the same workers to be counted twice or more if they have been employed in different occupations at different seasons of the year.



# THE LABOUR MARKET

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according to Occupation, Age, and Sex in 1861—1930  
(Thousands).

Industrial group, not specified	Total number returned	Index of the total number of workers	Workers over 18 years old		Workers under 18 years old		Year
			Men	Women	Men	Women	
1.6	52.3	69.8	—	—	—	—	1861
1.5	50.3	67.1	—	—	—	—	62
1.4	50.3	67.1	17.1	6.3	3.1	1.4	63
1.4	52.4	69.9	17.5	6.9	3.0	1.5	64
1.4	54.1	72.2	17.7	7.2	3.3	1.8	65
—	55.5	74.0	18.1	7.7	3.4	2.1	66
—	53.6	71.5	16.9	7.7	3.4	2.3	67
—	54.4	72.6	17.4	7.6	3.3	1.9	68
—	56.6	75.5	17.8	8.2	3.3	2.2	69
—	60.5	80.7	19.6	8.8	3.8	2.4	1870
0.2	66.1	88.2	22.6	10.3	4.6	3.0	71
0.2	73.5	98.0	27.3	10.0	5.6	3.7	72
0.1	82.0	109.4	31.8	11.5	6.2	3.8	73
0.1	88.2	117.7	35.9	12.6	6.6	4.5	74
0.1	90.4	120.6	37.4	12.2	7.0	4.4	75
0.1	90.0	120.1	37.4	12.7	7.0	4.3	76
0.1	87.9	117.3	37.2	12.8	6.3	4.2	77
0.1	80.7	107.8	33.8	12.0	5.8	3.7	78
—	77.2	103.0	32.7	11.4	5.3	3.1	79
—	84.7	113.0	35.4	13.0	5.6	3.3	1880
—	92.3	123.1	39.2	13.8	6.2	3.6	81
—	96.2	128.3	43.8	13.9	5.9	3.3	82
—	99.0	132.0	45.1	14.9	6.0	3.3	83
—	101.4	135.3	46.7	15.3	6.0	3.3	84
—	101.8	135.8	47.8	15.8	5.9	3.5	85
—	103.5	138.1	49.0	15.8	5.9	3.5	86
—	103.8	138.5	48.9	16.4	5.8	3.3	87
—	114.0	152.1	54.1	17.8	6.4	3.8	88
—	127.2	169.7	62.1	19.6	7.6	4.0	89
—	133.5	178.1	65.3	20.2	8.3	4.6	1890
—	144.6	192.9	73.0	21.8	9.4	5.1	91
—	146.8		74.1	22.4	9.6	5.3	
—	145.4	191.2	73.7	21.9	9.8	5.1	92
—	146.6		73.7	23.0	12.4	5.3	
—	147.8	192.7	105.1	23.9	13.2	5.6	93
—	155.7	203.0	110.1	25.9	13.7	6.0	94
—	167.1	217.9	117.4	28.5	14.7	6.5	95
—	182.8	238.4	128.1	30.5	17.1	7.1	96
—	230.3		167.2	31.8	23.8	7.5	
—	248.8	257.5	180.0	34.6	26.0	8.2	97
—	267.5	276.9	192.3	37.4	28.4	9.4	98
—	275.0		199.7	37.4	28.5	9.4	
—	287.3	289.3	208.5	39.1	30.2	9.5	99

## GENERAL MOVEMENT OF WAGES

Table 187. (Cont.) Workers in Manufacturing and Mining  
(in

Year	Ore-mining and metal industries	Stone, clay and glass industries	Wood products industries	Paper and printing industries	Food products industries	Textile and clothing industries	Leather, hair and rubber industries	Chemical industries	Power, lighting & water works
1900 . .	84.3	38.4	56.9	22.4	29.8	37.2	8.0	17.8	1.4
01 . .	81.0	38.2	55.3	22.7	31.1	36.8	8.5	17.9	1.5
02 . .	81.0	39.5	53.3	23.7	31.6	37.5	8.4	17.4	1.6
03 . .	81.8	40.3	57.1	24.4	32.6	38.0	9.1	16.8	1.8
04 . .	84.2	41.3	56.6	25.7	32.9	39.4	10.0	16.7	1.9
05 . .	84.6	42.3	53.7	27.9	33.4	40.7	10.2	17.1	2.3
06 . .	92.2	42.3	56.3	29.1	34.3	42.0	11.0	18.0	2.5
07 . .	95.8	42.5	57.1	31.1	34.0	42.0	11.1	18.4	2.7
08 . .	94.4	41.0	52.3	32.8	34.2	40.8	10.5	18.3	2.8
09 . .	88.2	40.5	49.9	32.0	34.1	41.3	11.3	18.3	2.8
1910 . .	90.9	42.2	54.2	34.1	34.1	43.0	12.2	18.5	2.9
11 . .	93.1	42.4	54.5	34.3	34.0	42.6	12.0	19.2	3.1
12 . .	98.2	42.7	53.1	36.1	33.8	43.6	12.3	19.0	3.6
13 . .	{ 107.7 110.6 }	44.2	55.7	37.3	{ 33.7 36.7 }	43.8	12.8	{ 20.6 16.4 }	{ 3.2 4.1 }
14 . .	112.3	43.3	54.1	37.3	37.4	44.8	13.9	16.7	5.0
15 . .	120.1	38.5	53.9	39.0	37.6	45.9	15.0	18.4	5.5
16 . .	134.8	35.9	59.5	40.6	39.6	46.0	15.7	19.9	5.8
17 . .	142.0	37.6	57.8	41.6	37.1	43.9	14.0	20.6	6.7
18 . .	139.0	39.9	54.9	42.5	33.3	35.0	13.4	20.0	7.3
19 . .	134.3	39.6	57.7	43.9	37.0	39.9	14.2	19.0	7.3
1920 . .	134.3	40.8	62.4	49.3	40.9	45.8	17.7	18.5	7.7
21 . .	95.6	30.6	45.4	41.6	41.4	38.6	14.0	14.2	7.0
22 . .	81.3	30.6	49.4	43.2	41.0	45.0	15.1	13.7	6.9
23 . .	96.3	35.7	55.9	45.4	37.0	49.0	17.4	14.4	7.0
24 . .	105.5	38.2	56.0	47.6	41.5	50.4	18.0	15.1	7.2
25 . .	113.0	41.5	55.5	48.7	41.8	50.4	18.3	15.1	7.4
26 . .	118.5	41.7	57.2	51.3	43.0	53.4	18.9	15.2	7.5
27 . .	121.2	41.2	59.2	53.1	37.7	55.8	19.3	15.0	7.6
28 . .	131.9	42.3	65.0	55.2	43.8	59.0	20.4	14.4	6.5
29 . .	141.8	43.8	63.2	57.0	45.1	59.4	20.8	15.1	6.9
1930 . .	144.1	44.7	61.6	56.6	43.7	61.2	20.6	15.1	7.1

A number of industries that used not to be included have gradually been incorporated in the Industrial Statistics, the scope of which has thus been enlarged, particularly in the years 1891, 1892, 1896, and 1913. The added industries were as a rule relatively small, with the exception of the sawmill industry, which was not included in the statistics until in 1896. Other not inconsiderable changes were the addition of the printing industry and flour

according to Occupation, Age, and Sex in 1861—1930  
Thousands).

Industrial group, not specified	Total number returned	Index of the total number of workers	Over 18 years old		Under 18 years old		Year
			Men	Women	Men	Women	
—	296.2	298.3	215.5	39.0	31.1	10.6	1900
—	293.0	295.1	212.6	38.9	30.9	10.6	01
—	294.0	296.1	213.8	38.5	31.1	10.6	02
—	301.9	304.0	219.6	39.8	31.4	11.1	03
—	308.7	310.9	224.3	41.3	31.6	11.5	04
—	312.2	314.4	226.8	42.3	31.3	11.8	05
—	327.7	330.0	237.6	44.7	33.0	12.4	06
—	334.7	337.0	243.4	44.7	34.0	12.6	07
—	327.1	329.4	239.3	44.2	31.9	11.7	08
—	318.4	320.6	231.2	44.7	30.7	11.8	09
—	332.1	334.4	241.5	46.5	31.7	12.4	1910
—	335.2	337.6	245.4	46.0	31.7	12.1	11
—	342.4	344.7	250.0	46.5	32.8	13.1	12
—	359.0	361.6	264.2	47.1	35.1	12.6	13
—	361.6		264.0	49.7	35.2	12.7	
—	364.8	364.8	265.9	52.4	34.2	12.3	14
—	373.9	373.9	271.5	53.9	35.4	13.1	15
—	397.8	397.8	288.7	57.0	38.6	13.5	16
—	401.3	401.3	295.6	55.7	37.6	12.4	17
—	385.3	385.3	289.1	50.5	35.0	10.7	18
—	392.9	392.9	291.8	54.7	34.6	11.8	19
—	417.4	417.4	308.3	60.3	36.2	12.6	1920
—	328.4	328.4	245.2	50.6	23.9	8.7	21
—	326.2	326.2	241.5	53.3	22.6	8.8	22
—	358.1	358.1	265.4	57.0	25.8	9.9	23
—	379.5	379.5	282.7	59.4	27.3	10.1	24
—	391.7	391.7	292.7	61.2	28.1	9.7	25
—	406.7	406.7	304.4	64.6	27.8	9.9	26
—	410.1	410.1	305.2	66.9	27.7	10.3	27
—	438.5	438.5	328.7	70.2	29.2	10.4	28
—	453.2	453.2	340.6	72.3	30.0	10.3	29
—	454.7	454.7	341.9	73.3	29.2	10.3	1930

mills in 1896, and of charcoal manufacturing at industrial establishments and dairy factories in 1913. Nor were any particulars of the age and sex of the workers in mines and ironworks given prior to 1896.

For those years in which additional industries were embodied in the statistics, two figures are given in the table, the lower of which indicates the number of workers in all industries accounted for in that year, while the

upper represents the number of workers in the industries that had been included the year before. The upper figures are thus directly comparable with the lower ones of the year before. With the aid of these it has been possible to calculate a chain index of the total number of workers in all industries, using as a base the figures of the Industrial Statistics from 1913 to 1930, during which no amendments were made in the statistics. The numbers of workers in the early years have been raised accordingly, prior to 1896 by about 30 %. This proceeding evidently implies the assumption that the industries gradually introduced into the statistics had, up to the time of their introduction, progressed at the same rate as the previously included industrial groups. This assumption cannot involve any very great error except for the sawmill industry, which probably grew more rapidly before 1896 than other branches of industry. The result is that the index probably rises too slowly before that year, and shows too high a number of workers in the earlier years. Judging by the numbers of sawmill workers in the county of Västernorrland, however, which are given in the Quinquennial Reports of the County Government, the trend of this index series would not have been much different if information of the number of sawmill workers had been available. If we compare the figures given in these reports with one another, and with those of the Industrial Statistics, we find that the number of sawmill workers in the county of Västernorrland rose by 78 % from 1861—1865 to 1871—1875, and by 170 % from 1871—1875 to 1896, that is by 380 % in all from 1861—1865 to 1896,<sup>1</sup> while the index gives the corresponding increases for all industrial workers, exclusive of sawmill workers, as 54, 123, and 245 % respectively. Since the sawmill industry probably grew more rapidly in Västernorrland during that period than in most other counties, the above percentages of the increase in the number of sawmill workers are certainly higher than the corresponding

<sup>1</sup> The numbers of sawmill workers in the county of Västernorrland was, according to the Reports of the County Government, 2,164 in 1861—1865, 2,842 in 1871—1875 and, according to the Industrial Statistics, 10,396 in 1896.

figures for the whole country. If the Västernorrland figures are assumed to be characteristic of the whole country, and the index for the whole industry is corrected accordingly, the number of workers in 1861—1865 would be about 3,000 less, and the increase from 1861—1865 to 1896 in the whole number of industrial workers would have been about 260 %, instead of 245 % according to the index. This difference must, as we have said, be considered the maximum error in the index of the number of workers due to lack of exact information on the numbers employed in the sawmill industry.

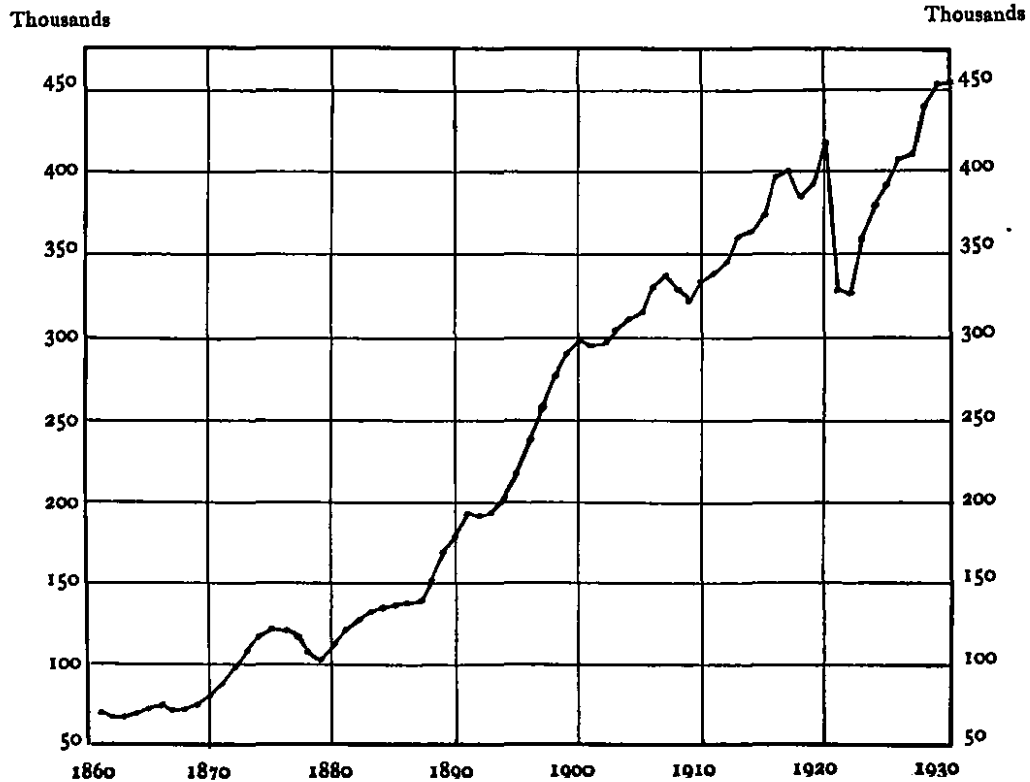
Apart from the changes outlined above, it was found necessary in 1913 to eliminate small concerns to an extent which it is now impossible to ascertain. On the other hand, the scope of the statistical material has gradually become wider as the number of establishments required to make returns has increased. It has been impossible to determine what effect this has had on the number of workers given in the statistics, but in any case it has not been very great.

The index of the number of workers in the manufacturing industries shows a roughly logistic trend, rising most rapidly towards the middle of the period, the eightennineties, and less so towards the beginning and the end. A secular smoothing of the curve must be rather arbitrary, as its cyclical variations, particularly in the 'seventies and in the nineteen-twenties, are of a magnitude approaching that of the secular changes. It is clear, however, that the above reduction in this century of the relative importance of the factory industries in the industrial labour market has coincided with a reduction in the rate of growth of the number of workers employed in those industries.

A fact which shows the strength of the industrializing process is that the number of factory workers has increased more than six-fold in the period reviewed, while the whole productive population, between 15 and 65 years of age, simultaneously increased by about 70 %.

The number of workers in the industries included in the

**Chart 36. Number of Workers in Manufacturing and Mining 1861—1913.**





index series was practically stationary in the 'sixties. Towards the end of that decade a slight increase heralded the rapid growth in the number of workers during the following boom, which, from 1869 to 1875, amounted to about 60 %. The sawmill industry, which is not included in the index series, had at the same time its first period of great expansion. Up to 1879 there followed a rapid fall in the total number of workers, by 15 %. From that year the number of workers increased steadily until 1900, with the exception of a slight regression from 1891 to 1892. The increase was accelerated or retarded during the business cycles, but these only caused fairly small deviations from the ever stronger upward trend. In the eighteen-eighties, the number of workers grew by 58 %, and in the 'nineties by as much as 67 %; had the actual number of workers at the sawmills been included in the index series, the rate of increase would probably have been still higher. During the next twenty years the number of workers increased at a considerably slower rate. Between the two boom years 1900 and 1920 the number of workers increased by scarcely 40 %. It thus grew less in these twenty years than in either of the two previous decades. The trend is not as smooth as it used to be earlier. During the depressions of 1900—1901 and 1907—1909, and in connection with the dearth of raw materials in 1917 and 1918, the number of workers was considerably reduced. On the other hand it showed a relatively strong increase in 1905—1907, 1914—1916, and 1918—1920. The subsequent crisis caused a reduction, in 1920—1921, of about 21 % in the number of workers. Employment kept at the same low level the following year. From 1922 to 1923 there was a strong increase, which continued unbroken until the end of the decade, and totalled about 40 % from 1922 to 1930. Not until in 1928 was the number of workers employed in the boom of 1920 equalled, and in 1930 it was only 9 % higher.

No indices of the same kind as for the whole industry have been calculated for its several branches separately. The reason is that in certain branches of manufacturing

and mining, as shown in Table 187, a considerable part of the workers are employed in factories which have only gradually become included in the statistics. The assumption that for so great a proportion of the workers in these branches the trend would have been similar to that of the remainder of the same branch, who were included in the Industrial Statistics, would be far too arbitrary. It is, however, possible to obtain some idea of the relative importance in industry of the various branches, even in the early years. Of special advantage is that for the two industries that were the most important in the middle of the 19th century, the mining and metal, and the textile industries, there are practically complete returns throughout the period. A comparison between the number of workers given for these industries and the index for the total number of industrial workers indicates that at the beginning of the eighteen-sixties they held a dominant position, comprising respectively about 40 % and 20 % of all factory workers in manufacturing and mining. The sawmill industry, too, was probably relatively large already at that time, and according to the above approximative estimates it may be reckoned to have employed from 10 to 15 % of all industrial workers. In relation to these, other industries seem to have been comparatively unimportant. Except for the food products industries, none of the other five groups of manufacturing and mining industries seems at the beginning of that decade to have attained a number of workers exceeding 5 % of all industrial workers.

This relative magnitude of the various industries changed considerably during the subsequent industrial expansion. The mining, metal, and textile industries, which dominated at the beginning of the period, receded considerably in relative importance. The secular progress of the group mining and metal industries was remarkably steady right up to 1920 (slightly over 30 % per decade). The relatively strong increase of engineering works and electro-technical industries from 1890 onwards was compensated by a stagnation in the number of men employed in mines and metal-works. During the period of rapid industrial expansion

from 1870 to 1900, the increase in the group mining and metal industries was less than the average for the whole manufacturing and mining industry. Not until later, chiefly during the war, did it regain part of its former pre-eminence. The textile industry has also made some advance in relative importance in the last ten years. The greatest progress in the sawmill industry occurred already between 1870 and 1900 (cf. above). In this century it has been practically stagnant in respect of the number of workers employed. The numbers engaged in paper making also grew relatively fast at the beginning of the industrial boom in the 'seventies and 'eighties. Yet it was chiefly in the 'nineties, and from 1910 to 1920 in connection with the rapid development of the wood-pulp industry, that the group paper and printing industries showed its largest relative increase in the number of workers employed. In the leather, hair, and rubber group, the most rapid progress were not made until in the 'nineties, in connection with the rise of large-scale boot and shoe production. For the next ten years too, the growth of this industry was relatively rapid. A little later still, from 1900 to 1920, occurred the greatest advance of the group power, lighting, and water works, but in the last ten years the absolute number of workers in these branches has diminished.

From the following table can be seen the changes in the relative importance of the various branches of industry resulting from the progress outlined above.

Between 1860 and 1930 an equalization in the relative importance to the industrial labour market of the various branches of industry had evidently taken place. The mining and metal and the textile industries, which at the beginning of the period were wholly dominant, had both diminished in relative size. The sawmill industry had anyway not increased its relative share of industrial labour appreciably. That of the food products industries was practically unchanged. The pulp and paper industries, on the other hand, had advanced almost to the level of the sawmill industry, and the share of the group "Paper and printing industries" in the labour employed in manu-

*The number of workers in different industries in 1930:*

	Thousands	In per cent of all workers in manufacturing and mining
Mining and metal industries . . . . .	144	31.7
of which:		
mines and ore dressing plants . . . . .	11	
iron and steel works . . . . .	21	
metal manufacturing works . . . . .	18	
engineering works . . . . .	56	
shipyards . . . . .	14	
electro-technical industries . . . . .	7	
Stone, clay, and glass industries . . . . .	45	9.8
of which:		
peat industry . . . . .	3	
stone-quarrying . . . . .	14	
brick works . . . . .	8	
china and tile factories . . . . .	3	
glass works . . . . .	6	
Wood products industries . . . . .	62	13.6
of which:		
sawmills and planing-mills . . . . .	41	
Paper and printing industries . . . . .	57	12.4
of which:		
wood-pulp industry . . . . .	20	
paper and board mills . . . . .	17	
printing industry . . . . .	12	
Food products industries . . . . .	44	9.6
Textile and clothing industries . . . . .	61	13.5
Leather, hair, and rubber industries . . . . .	21	4.5
of which:		
boot and shoe factories . . . . .	11	
Chemical industries . . . . .	15	3.3
Power generating, lighting, and water works . . . . .	7	1.6

facturing and mining had increased more than that of any other group. In all probability, the corresponding shares of the "Stone, clay, and glass industries" and the "Leather, hair, and rubber industries" had also increased appreciably, while the group "Power, lighting, and water works", which had come into existence during the period reviewed, had also become of considerable extent.

For the industries that are not included in the Industrial Statistics, and for the mining industry before 1892, no data are available regarding how the workers were distributed as to sex and age. The largest gaps in our knowledge of the number of men and women employed thus occur in the returns from mines, ironworks, and sawmills. In these, however, the workers are almost exclusively men, and

the corrections required to obtain a homogeneous index series for the number of women employed in industry are therefore relatively slight. If we compare such a corrected index with the index series for all industrial workers, we find that, judging by these indices, the relation of men to women employed in industry has kept fairly constant during the whole period from 1860 to 1930.

The employment of minors has been slightly reduced during the period. A distinct reduction in the proportion of minors to adults is noticeable towards the end of the 'seventies and in the 'eighties, following the introduction in 1879 of a law regarding the employment of minors in industry.

Although to a less extent than in agriculture, the employment in manufacturing and mining too varies according to the season. The seasonal variations differ considerably in different industries. Brickworks and sawmills are busiest in the summer and autumn, printers and graphic establishments in the spring, certain food products industries at the end of the year, and so on. Owing to this circumstance, and to the fact that the seasonal changes differ in agriculture and industry, the total seasonal variations in employment can to some extent be equalized by the migration of labour from one branch to another. The regular interchange between agriculture and certain industries, e. g. the saw-mills, brick-works, and sugar-refineries, was particularly common earlier, but its extent has diminished in recent years. As late as 1920, however, the census gives some subsidiary occupation for nearly 5 % of all adult men in rural districts, which must be largely connected with seasonal changes of occupation. The seasonal variations of the total employment in the manufacturing and mining industries are shown in the indices below — in which cyclical variations have been eliminated — based on the reports of the Swedish Employers' Association on the number of workers employed by its members in the years 1925—1927:<sup>1</sup>

<sup>1</sup> *Arbetslöshetsutredningens betänhande* (Report of the Unemployment Committee), Vol. I, *Statens offentliga utredningar 1931: 20*, p. 340.

Jan.	Feb.	March.	April	May	June	
93.0	95.2	96.3	97.2	99.5	101.6	Annual average
July	Aug.	Sept.	Oct.	Nov.	Dec.	
101.7	102.7	103.1	102.2	104.3	102.7	100.0

*Organization of the Labour Market.*

The forms under which wages and working conditions have been regulated in the labour market by employers and employed have varied considerably from 1860 to 1930. A factor deserving special consideration is the extent to which collective bargaining has been adopted by labourers and employers. This is illustrated by the growth of the organizations, but it must be remembered that the strength of the two parties cannot be directly measured by the development and expansion of the organizations. Tacit agreements and joint actions among both workers and employers can be observed long before the rise of modern organizations. Strikes and lockouts have occurred in the Swedish labour market without any form of established organization. Modern organizations can therefore to some extent be regarded as a consolidation of previously existing collective tendencies. Their appearance certainly meant a strengthening of the collective unity on both sides but the effects of their introduction often went far beyond their nominal scope, and statistical information on their numerical strength will therefore only partly disclose their real influence.<sup>1</sup>

The old handicraft organizations had lost their importance by the beginning of the period under investigation. In the 'seventies the first trade unions, in the modern sense of the words, grew out of some surviving journeymen guilds. At first they only comprised workers of one trade, and were more or less restricted locally. During the next twenty years there was a tendency to combine the trade unions in different places, as well as in various related trades, into

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<sup>1</sup> The changes in the psychological attitude of the parties due to political, cultural, social and economic changes must not be disregarded. Such factors must, however, be left out of account in this connection.

so called trade federations. Most of these trade federations formed between them in 1898 the so called National Federation of Labour, which was gradually joined by most trade unions. A number of trade organizations still remain outside this organization, the most important being certain organizations of Government employees, and the syndicalist movement, which was founded in 1910. In 1923, when the National Federation comprised some 306,000 members, the members of the independent but similarly organized federations were estimated at about 63,000, and of the syndicalist organization at about 33,000.<sup>1</sup>

The increased importance in the labour market gradually assumed by the trade union movement was a consequence partly of this continuous strengthening of the organization and the simultaneous development of trade union fighting methods, and partly of an increasing number of workers joining the unions. As some indication of the growing influence of these, we give in Table 188 certain data regarding the membership of the trade unions. Although the material for these statistics is deficient, it will nevertheless give an approximate picture of the growth of the trade union movement.<sup>2</sup>

At first, mainly workers in occupations of handicraft character joined the trade union movement. Tradition probably played a part in this. The factory workers and the unskilled labourers did not join the trade union movement more generally until the end of last century.<sup>3</sup>

Extensive organization among agricultural and forest workers did not begin until later. The first collective agreements in agriculture were made in 1907. On January 1st, 1909, there were 35 collective agreements, comprising 92

<sup>1</sup> *Sigfrid Hansson, Den svenska fackföreningsrörelsen* (The Swedish Trade Union Movement), Stockholm 1932, p. 164.

<sup>2</sup> *Sigfrid Hansson, op. cit.* p. 160 fol. The statistics are based on information collected by the Secretariat, National Federation of Labour, and refer to the end of each year. In respect of members who are not affiliated to the National Organization, the data are deficient. They only refer to eight such federations. Other federations that have not affiliated, and the syndicalist organizations, are not included in the statistics. According to an estimate made in 1923, they include about 89 % of all organized labour, including syndicalists.

<sup>3</sup> *Op. cit.*

Table 188. Members of the Labour and Employers' Organizations.

Year	All trade unions (Thousands)	Trade unions affiliated to the National Federation of Labour (Thousands)	The Swedish Employers' Association	
			Number of members	Number of workers employed by members (Thousands)
1888 . . . . .	2.5	—	—	—
89 . . . . .	4.9	—	—	—
1890 . . . . .	8.4	—	—	—
91 . . . . .	9.4	—	—	—
92 . . . . .	9.6	—	—	—
93 . . . . .	10.2	—	—	—
94 . . . . .	11.5	—	—	—
95 . . . . .	15.2	—	—	—
96 . . . . .	23.3	—	—	—
97 . . . . .	37.3	—	—	—
98 . . . . .	59.4	—	—	—
99 . . . . .	64.2	37.5	—	—
1900 . . . . .	65.8	43.6	—	—
01 . . . . .	67.3	42.3	—	—
02 . . . . .	66.5	39.5	40	—
03 . . . . .	78.1	47.8	78	21.1
04 . . . . .	97.9	81.7	111	25.7
05 . . . . .	104.1	86.6	173	35.3
06 . . . . .	179.6	144.4	245	47.5
07 . . . . .	230.7	186.2	752	102.8
08 . . . . .	212.9	162.4	1086	144.0
09 . . . . .	147.9	108.1	1423	163.1
1910 . . . . .	118.0	85.2	1315	158.3
11 . . . . .	113.9	79.9	1250	159.0
12 . . . . .	121.5	85.5	1213	161.0
13 . . . . .	134.4	97.3	1151	166.3
14 . . . . .	140.5	101.2	1145	175.0
15 . . . . .	150.8	110.7	1113	171.2
16 . . . . .	188.6	140.8	1441	184.7
17 . . . . .	244.1	186.1	1784	250.4
18 . . . . .	302.6	222.2	1943	262.0
19 . . . . .	368.5	259.0	2873	276.7
1920 . . . . .	402.9	280.0	3744	288.2
21 . . . . .	389.8	252.4	3545	308.3
22 . . . . .	360.8	292.9	3178	231.4
23 . . . . .	363.0	313.0	2508	219.4
24 . . . . .	416.9	360.3	2002	241.6
25 . . . . .	433.3	384.6	2046	247.0
26 . . . . .	461.7	414.9	1985	254.3
27 . . . . .	488.1	438.0	2028	260.2
28 . . . . .	521.0	469.4	2097	268.9
29 . . . . .	561.6	508.1	2191	286.6
1930 . . . . .	607.2	553.5	2528	305.4



employers and 2,095 workers, in force in agriculture and market gardening. Labour organizations first arose in neighbourhoods where the workers in the manufacturing industries were in close touch with the agricultural population, as was the case in, for instance, the south part of Sweden and on the agricultural estates in western Sweden owned by manufacturing and mining concerns. After the reverse suffered by the labour organizations in the great labour conflict of 1909, which severely affected agriculture too, the agricultural labour organizations lost ground, and not until after the war have they again become of any importance. At the end of 1930, the collective agreements involved about one fifth of the workers employed on the larger farms and estates.<sup>1</sup>

The Swedish employers organized slightly later than the workers, and on their first appearance their associations were more in the nature of defensive alliances against the growing power of the trade unions. The first employers' organizations arose towards the end of the eighteen-nineties. In 1902 the Swedish Employers' Association was formed, and gradually became the dominant organization. The changes in the number of members, and workers employed by them, are shown in Table 188. Employers in the handicrafts (bakers, tailors, painters), and those who for technical and economic reasons cannot without serious inconvenience take part in a general lockout (farmers, newspaper publishers, private railways, shipowners, etc.) have formed separate associations, owing to the very far-reaching solidarity demanded by the Swedish Employers' Association. A special position is held by the Negotiating Association of the Swedish Towns (*Svenska städernas förhandlingsorganisation*), which is an organ of the urban municipal authorities in their negotiations with the Municipal Labour Federation. 40 towns, employing between them about 17,000 permanent workers, had joined the organization in 1930.

The collective agreements between the labour and em-

<sup>1</sup> Cf. *Lantarbetarnas arbets- och löneförhållanden inom olika bygder och å typiska lantegendomar* (The Conditions of Work and Wages of Agricultural Workers in Different Districts and on Typical Farms), published by the Social Board, Stockholm 1915, p. 59.

ployers' organizations usually contain stipulations regarding wages, working time, apprentices, compensation for accidents and illness, sanitary arrangements in the factories, and procedure in negotiations between the parties. In 1930 these agreements involved 581,000 workers. The agreements apply to the whole country, to one district, to one locality, or to a single working place. Their scope has gradually been extended as the organizations have expanded. At the end of 1930 the different forms of agreement applied to 38, 7, 14, and 41 % respectively of all the workers affected by collective agreements. The term of the agreements is now usually limited to one or two years. Of all new agreements during 1930, 51 % were for one year or less, 39 % for from one to two years, and only 9 % for more than two years. Before the war agreements were usually made for longer terms. In 1908, for instance, 25 % of all the new collective agreements were for longer terms than two years.

The official statistical accounts of the scope and results of labour conflicts (strikes and lockouts) did not begin until 1903. The rather incomplete information available before that shows that strikes and lockouts were becoming more extensive with the advance of the organizations in the labour market.<sup>1</sup> At the same time the number of conflicts shows certain short-run variations which were obviously connected with the business cycles. From 1872 to 1874, in 1890, 1891, and during the last years of the 'nineties, for instance, there were a relatively large number of conflicts that led to stoppages of work. Information is available on the result of 748 out of 1,454 such conflicts recorded from 1863 to 1902:

Result	Number of labour conflicts during the years								Total
	1863	1870	1875	1880	1885	1890	1895	1900	
	-69	-74	-79	-84	-89	-94	-99	-02	
Employers' demands . . . .	5	8	6	3	26	41	39	24	152
Workers' demands . . . .	2	3	—	2	29	74	150	93	353
Compromise . . . .	—	6	2	6	16	29	102	82	243
Total	7	17	8	11	71	144	291	199	748

<sup>1</sup> *Arbetsinställelser under åren 1903—1907* (Labour Conflicts in the Years 1903—1907), *Arbetsstatistik E: 1* Stockholm 1909, p. 325 fol.

These figures indicate that from the middle of the 'eighties on the issue of the conflicts has changed in favour of labour. It should be pointed out, however, that for the later years the figures in the table are based on notices in the labour press, and that the gains of the labour part may therefore be to some extent exaggerated. Some reaction to the business cycles also seems to be indicated by the table. During the years of expansion from 1895 to 1899, the results of the conflicts were thus particularly favourable to the labour side.

Apart from the strike at the Sundsvall sawmills in Norrland in 1879, there were no labour conflicts of any considerable size until in the 'nineties. The following figures,<sup>1</sup> give the results of 16 large conflicts from 1890 to 1901, involving in all 22,300 men. They also point to a certain superiority of the workers towards the end of last century:

Results	Number of conflicts	Total number of workers involved
Employers' demands . . . . .	3 <sup>a</sup>	3600
Workers' demands . . . . .	6	7000
Compromise . . . . .	7	11700

From the beginning of 1903 more complete information is available in the current Official Statistics.\* The number of conflicts and of workers affected by each are shown in Table 189. In the five years from 1903 to 1907 about 20 % of all conflicts were settled in accordance with the demands of the workers, 23 % on the conditions of the employers, and 55 % by compromise, counted on the basis of workers involved. The number of trade union members was about trebled in this period. The extent of the National Federation of Labour was considerably greater than of the principal employers' association, the Swedish Employers' Association, which only began to show a more rapid growth

<sup>1</sup> Op. cit., p. 329.

<sup>a</sup> The three conflicts in which the employers were victorious did not directly concern wages.

\* *Arbetsinställelser under åren 1903—1907* (Labour Conflicts in the Years 1903—1907). *Arbetsinställelser i Sverige* (Labour Conflicts in Sweden) in the years 1908—1922. *Arbetsinställelser och kollektivavtal samt förlikningsmännens verksamhet* (Labour Conflicts, Collective Agreements and the Work of the Mediators) in the years 1923—1931.

Table 189. Number of Labour Conflicts, and Workers involved.

Year	Number of conflicts				Workers involved			
	Strikes	Lock-outs	Of mixed character	Total	Strikes	Lock-outs	Of mixed character	Total
1903	109	16	17	142	5970	982	17619	24571
04	169	12	34	215	8299	1218	2731	12248
05	152	12	25	189	13186	456	19264	32906
06	239	8	43	290	15050	560	3045	18655
07	243	23	46	312	11278	5669	6593	23540
08	229	38	35	302	17187	2672	20498	40357
09	102	22	14	138	229248	71364	1137	301749
1910	66	5	5	76	3420	101	150	3671
11	85	9	4	98	4940	15145	491	20576
12	108	4	4	116	5797	2166	2017	9980
13	118	1	—	119	9574	17	—	9591
14	105	8	2	115	8832	5368	185	14385
15	70	7	3	80	4277	813	29	5119
16	218	2	7	227	19287	41	1383	20711
17	458	8	9	475	45019	1016	666	46701
18	668	10	30	708	50377	756	10090	61223
19	414	10	16	440	69980	727	10334	81041
1920	455	9	22	486	42657	37988	58394	139039
21	302	22	23	347	44053	742	4917	49712
22	354	11	27	392	43547	287	31845	75679
23	192	6	8	206	42995	21506	38395	102896
24	238	11	12	261	19495	1545	2936	23976
25	211	15	13	239	20438	117772	7568	145778
26	191	4	11	206	28046	24116	729	52891
27	164	15	10	189	7634	1142	701	9477
28	173	12	16	201	18055	48748	4658	71461
29	155	9	16	180	12176	138	362	12676
1930	238	10	13	261	19675	262	814	20751
Total	6226	319	465	7037	820492	363317	247551	1431360

from the beginning of 1907 (Cf. Table 188). In 1908, and from 1910 to 1912, the percentage of results favourable to the workers, counted on the same basis as above, was 7, while in the case of the employers it stopped at 22. 71 % of the stoppages ended in a compromise. The trend is distinctly less favourable to the workers than in the preceding period. During this period the employers consolidated their organizations, while the trade unions suffered a reverse in connection with the general strike of 1909,<sup>1</sup>

<sup>1</sup> Cf. *Redogörelse för lockouterna och storstrejken i Sverige år 1909* (An account of the Lockouts and the General Strike in Sweden in 1909), Stockholm 1910.

their membership being reduced by about half from 1907 to 1911. The membership then again began to increase, but not until 1917 had the 1907 level been regained. The labour successes increased in the period 1913—1917 to 32 %, while their opponents won 23 %. It is very striking that compromises have been more frequent in recent years, which may indicate a more equal balance of power between the two opponents in the labour market. Our tabulation of the conflict results thereby loses its interest, as the outcome of the compromises is now decisive.

We would once more emphasize that the figures given here must only be taken as an indication of the changing situation in the labour market. Statistics on the result of the conflicts, if based on the number of conflicts, would show a greater relative number of labour successes, as these have more often been gained in minor conflicts. Moreover, the statistics quoted give no information regarding the result in cases when the disputes have not led to cessation of work, nor on the gain.

Apart from their main object, to represent the workers in wage disputes, the trade unions generally support their members when unemployed, and also to some extent act as employment agencies.

The employment agencies are chiefly run by the municipalities. Official Labour Exchanges were introduced in 1902, and in 1930 about 237,000 applicants found employment through them. In the last twenty or thirty years a government organization for conciliation and arbitration has also been developed. Among other government measures affecting the labour market may be mentioned laws on working hours (the first in 1919), on the employment of women and children (the first in 1879), and on protection against occupational risks (the first in 1889).

In post-war years unemployment has assumed large proportions, and has become a question of the utmost importance to the labour market. Available information indicates that unemployment was considerable also before the

war.<sup>1</sup> It was, however, not until after the war that unemployment relief took more extensive and systematic forms.<sup>2</sup>

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<sup>1</sup> The Unemployment Statistics, particularly in early years but also recently, are far too unreliable and encumbered by sources of error to be quoted here without too voluminous commentaries. Cf. *Arbetslöshetsutredningens betänkhande* (Report of the Unemployment Committee), Vol. I, *Statens offentliga utredningar 1931: 20*.

<sup>2</sup> Cf. *Social Work and Legislation in Sweden*, edited by the Social Board, Stockholm 1928.

For the general economic and social changes in Sweden during the 19th century cf. *Arthur Montgomery, Industrialismens genombrott i Sverige* (The Progress of Industrialization in Sweden), Stockholm 1931, and by the same author *Svensk socialpolitik under 1800-talet* (Swedish Social Policy in the 19th century), Stockholm 1934.

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## CHAPTER XXII.

### THE TREND OF INDUSTRIAL WAGES AND PRODUCTION.

IN THIS chapter the wage series prepared at the Institute are presented, together with various other relevant economic data. The manner in which this is done has been chosen, with regard to the theoretical basis of analysis, so as to make the statistical evidence bear directly on the problems under consideration. As far as possible the statistical material has been presented in its original form in order to give flexibility to the arrangement and to permit re-grouping, if desired.

Industrialization has undoubtedly been the dominant dynamic factor in the economic development of Sweden during the period in question. Although the process of industrialization was necessarily very complex, it seems permissible to assume as a working hypothesis that the changes in the industrial sphere were the decisive factor in the trend of wages, not only in the manufacturing industries, but also in other branches. An examination of the trend of wages in agriculture shows that wages there have been strongly influenced by the development of the manufacturing industries (cf. below). It is quite clear that economic changes have to a large extent spread from these industries to other parts of the labour market via industrial wages, and a comparison between the trend of industrial production and wages therefore forms a natural starting point for a study of the general trend of wages.

The value added by manufacturing and mining in the period 1861—1930 has been computed at the Institute<sup>1</sup> as a

<sup>1</sup> Cf. National Income of Sweden 1861—1930 (in the press).

## GENERAL MOVEMENT OF WAGES

Table 190. Value Added, Wages, and Product Prices in Manufacturing and Mining 1861—1930.

Year	1	2	3	4	5	6	7	8	9
	Value added (Mill. Kronor)	Number of workers (Thousands)	Value added per worker (Kronor)	Index of value added per worker (1910-13 = 100)	Index of annual earnings per worker (1910-13 = 100)	Col. 4 x 100 col. 5	Amark's index of raw material prices (1910-13 = 100)	Price index of ind. raw materials (1910-13 = 100)	Board of Trade price index of industrial products (1913 = col. 7 x col. 8 : 2)
1861	92.5	69.8	1325	40.9	32.7	125.1	113.2	94.0	—
62	118.2	67.1	1762	54.4	34.5	157.7	125.1	93.2	—
63	119.5	67.1	1781	54.9	35.1	156.4	135.2	93.2	—
64	120.2	69.9	1720	53.1	34.5	153.9	140.6	92.5	—
65	123.7	72.2	1713	52.8	36.0	146.7	130.6	90.9	—
66	116.5	74.0	1574	48.6	35.9	135.4	119.6	91.7	—
67	114.0	71.5	1594	49.2	36.2	135.9	110.5	85.3	—
68	110.1	72.6	1517	46.8	37.5	124.8	108.7	82.1	—
69	113.9	75.5	1509	46.6	38.6	120.7	111.4	82.9	—
1870	119.6	80.7	1482	45.7	39.4	116.0	107.8	79.7	—
71	139.3	88.2	1579	48.7	40.0	121.8	109.6	83.7	—
72	172.2	98.0	1757	54.2	43.9	123.5	126.9	111.6	—
73	185.4	109.4	1695	52.3	47.9	109.2	136.1	127.5	—
74	209.2	117.7	1777	54.8	51.4	106.6	121.5	114.0	—
75	227.0	120.6	1882	58.1	52.6	110.5	114.2	102.8	—
76	208.0	120.1	1732	53.4	51.6	103.5	105.9	92.5	—
77	215.4	117.3	1836	56.6	52.6	107.6	104.1	88.5	—
78	188.5	107.8	1749	54.0	48.5	111.3	95.0	78.9	—
79	176.8	103.0	1717	53.0	45.3	117.0	93.1	78.1	—
1880	199.8	113.0	1768	54.5	48.9	111.5	98.6	85.3	—
81	222.8	123.1	1810	55.8	50.8	109.8	94.1	78.9	—
82	232.4	128.3	1811	55.9	52.2	107.1	96.8	82.9	—
83	223.7	132.0	1695	52.3	52.2	100.2	93.1	82.1	—
84	227.9	135.3	1684	52.0	53.6	97.0	88.6	78.9	—
85	225.3	135.8	1659	51.2	53.1	96.4	84.9	75.7	—
86	222.7	138.1	1613	49.8	52.1	95.6	81.3	71.7	—
87	222.5	138.5	1606	49.5	52.6	94.1	77.6	70.1	—
88	230.6	152.1	1516	46.8	53.8	87.0	83.1	73.3	—
89	258.7	169.7	1524	47.0	57.0	82.5	85.8	78.9	—
1890	274.5	178.1	1541	47.5	58.3	81.5	86.8	81.3	—
91	289.4	192.9	1500	46.3	58.9	78.6	83.1	76.5	—
92	302.5	191.2	1582	48.8	58.5	83.4	77.6	71.7	—
93	315.6	192.7	1638	50.5	59.3	85.1	75.8	70.1	—
94	330.8	203.0	1630	50.3	60.3	83.4	72.1	68.5	—
95	363.9	217.9	1670	51.5	61.3	84.0	72.1	68.5	—
96	436.3	238.4	1830	56.5	63.3	89.3	72.1	70.1	—
97	463.7	257.5	1801	55.6	65.2	85.3	74.0	72.5	—
98	516.4	276.9	1865	57.5	69.2	83.1	76.7	74.9	—
99	562.7	289.3	1945	60.0	72.1	83.2	85.8	86.9	—



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**Table 190. (Cont.). Value Added, Wages, and Product Prices in Manufacturing and Mining 1861—1930.**

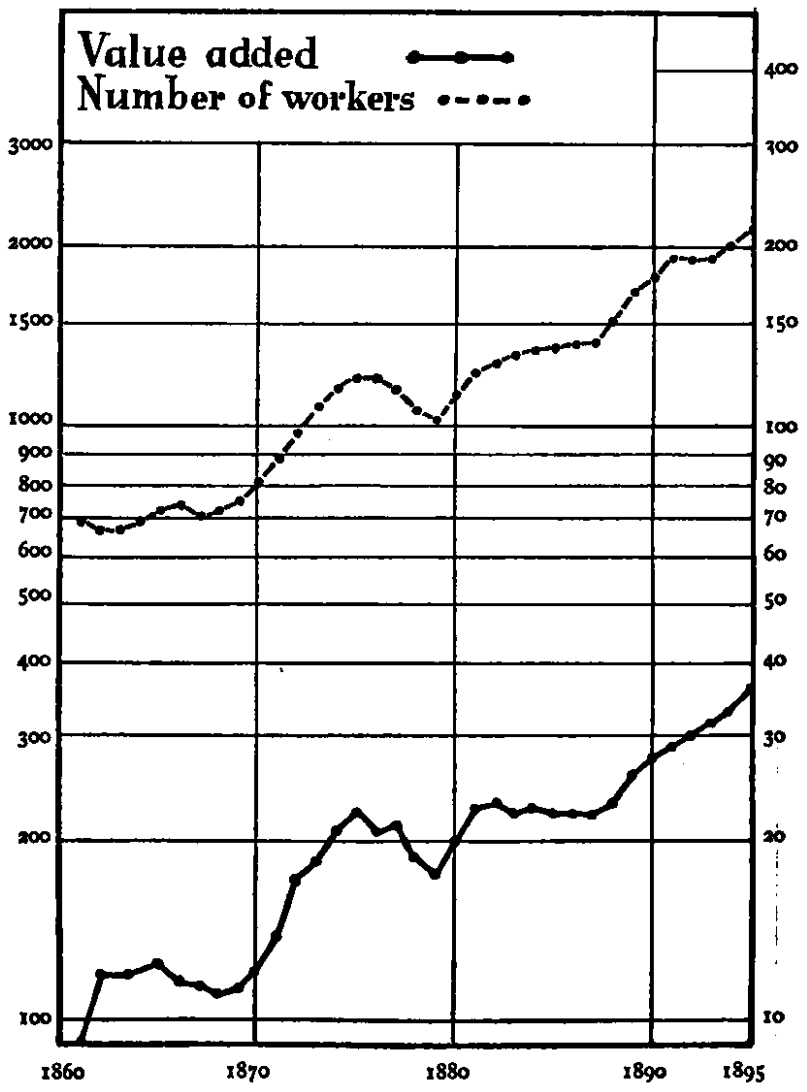
Year	1	2	3	4	5	6	7	8	9
	Value added (Mill. Kronor)	Number of workers (Thousands)	Value added per worker (Kronor)	Index of value added per worker (1910-13 = 100)	Index of annual earnings per worker (1910-13 = 100)	Col. 4 x 100 col. 5	Amarr's index of raw material prices (1910-13 = 100)	Price index of ind. raw materials (1910-13 = 100)	Board of Trade price index of industrial products (1913 = col. 7 x col. 8 : 2)
1900	585.2	298.3	1962	60.5	74.5	81.2	91.3	99.6	—
01	592.0	295.1	2006	61.9	73.4	84.3	85.8	87.7	—
02	608.5	296.1	2055	63.4	74.7	84.9	84.0	82.1	—
03	654.1	304.0	2152	66.4	76.2	87.1	85.8	85.3	—
04	679.1	310.9	2184	67.4	78.4	86.0	85.8	84.5	—
05	729.1	314.4	2319	71.5	78.3	91.3	85.8	83.7	—
06	852.0	330.0	2582	79.7	85.4	93.3	94.1	91.7	—
07	938.5	337.0	2785	85.9	90.2	95.2	96.8	96.4	—
08	931.3	329.4	2827	87.2	90.2	96.7	91.3	90.1	—
09	887.6	320.6	2769	85.4	82.0	104.1	92.2	91.7	—
1910	1024.7	334.4	3064	94.5	96.8	97.6	96.8	95.6	—
11	1075.7	337.6	3186	98.3	98.0	100.3	97.7	94.8	—
12	1138.0	344.7	3301	101.8	101.7	100.1	101.4	101.2	—
13	1234.7	361.6	3415	105.4	103.3	102.0	104.1	108.4	106.3
14	1284.9	364.8	3522	108.7	99.4	109.4	—	—	110.6
15	1545.3	373.9	4133	127.5	103.8	122.8	—	—	129.7
16	2074.2	397.8	5214	160.9	115.6	139.2	—	—	174.3
17	2700.8	401.3	6730	207.6	138.5	149.9	—	—	251.9
18	3072.9	385.3	7975	246.0	191.0	128.8	—	—	337.0
19	3361.0	392.9	8554	263.9	240.0	110.0	—	—	327.4
1920	4145.7	417.4	9932	306.4	278.1	110.2	—	—	356.1
21	3048.2	328.4	9282	286.3	245.7	116.5	—	—	257.2
22	2640.2	326.2	8094	249.7	185.9	134.3	—	—	199.8
23	2678.3	358.1	7479	230.7	183.3	125.9	—	—	187.1
24	2780.6	379.5	7351	226.8	193.9	117.0	—	—	180.7
25	2868.8	391.7	7324	225.9	197.1	114.6	—	—	179.6
26	3019.8	406.7	7425	229.1	205.0	111.8	—	—	172.2
27	3174.8	410.1	7742	238.8	206.8	115.5	—	—	169.0
28	3177.4	438.5	7246	223.5	199.8	111.9	—	—	168.0
29	3543.5	453.2	7819	241.2	215.7	111.8	—	—	162.6
1930	3537.7	454.7	7780	240.0	213.5	112.4	—	—	155.2

link in an inquiry into the trend of the national income in Sweden. From the aggregate f. o. b. factory values of the products were deducted the duplications of value which this sum contains, as well as the values of raw materials and

Chart 37. Value Added (left hand scale) and Number of Workers

Mill. Kronor

Thousands

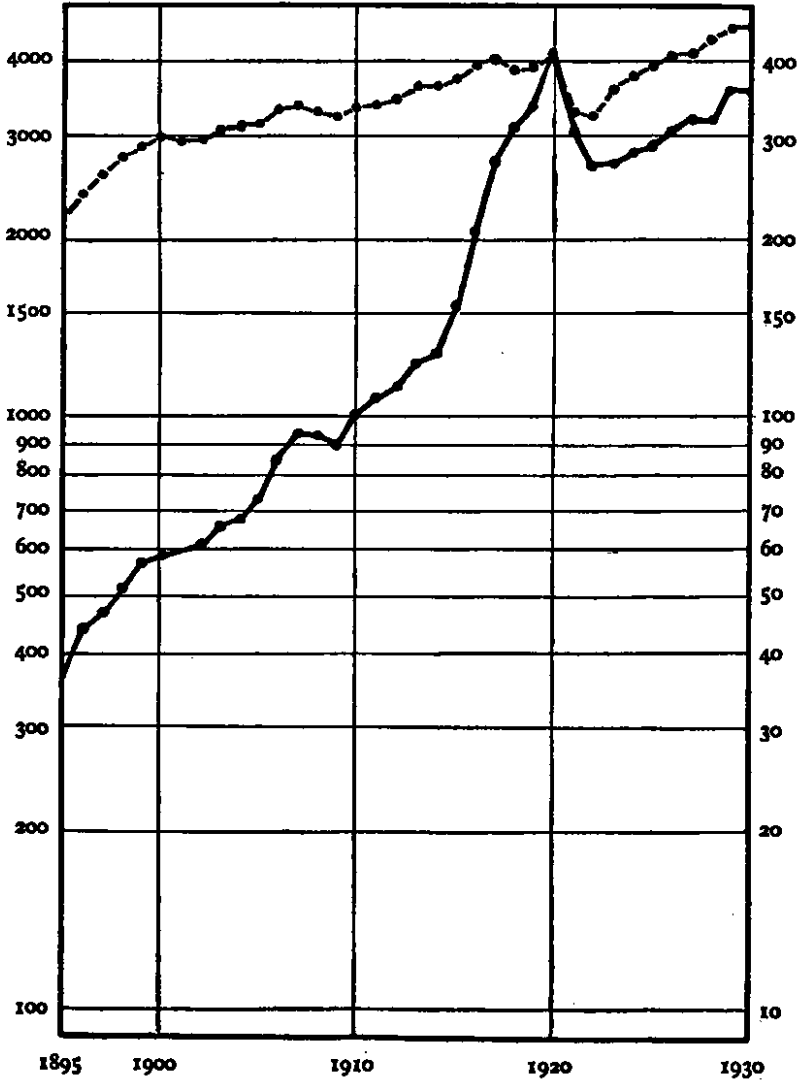


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(right hand scale) in Manufacturing and Mining 1861—1930.

Mill. *Kroner*

Thousands



services received from other industries or from abroad. The resultant net value includes value added by the various handicrafts, and it has proved impossible to apportion the raw materials and the services received from outside to the manufacturing industries and handicrafts respectively.<sup>1</sup> For our purposes, it would have been better if the value added by handicraft could have been distinguished from the value added by manufacturing and mining, especially as the estimated value of handicraft production is based on a comparatively rough calculation. It cannot, however, involve any considerable error to let the series of the value added by manufacturing, mining, and handicraft represent the trend of the value added by the manufacturing and mining industries alone. This appears from a comparison of the respective gross values of production, which shows that the gross value of handicraft production is a relatively insignificant and moreover constant part of the total gross value of the aggregate product of the manufacturing industries and handicraft.

The changes in the value added may be regarded as being the result of the variations of two different components: the number of workers engaged, and the value of the production per worker. From the point of view of distribution of income, and as a starting point for the analysis of the trend of industrial wages, it is of interest to eliminate the effects of changes in the number of workers, and so to obtain a measure of the average value added per worker. This series cannot be compared with the series of wages unless corresponding methods are used for measuring the number of workers and the wages.

Up to 1913, the series of annual earnings that has been used refers to full-year workers, that is workers who, with a certain margin for permissible absence owing to illness, have been present throughout the whole working time of the year (cf. Part I, Chapter II). As regards the returns of the number of workers for the Industrial Statistics, instructions have been issued since 1913 to the effect that

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<sup>1</sup> The net value also includes certain transport costs and trade profits; cf. *op. cit.*

the number of workers reported shall be the average for the time each establishment has been working.<sup>1</sup> This comes nearest to the concept of full-year working time on which the calculation of annual earnings is based. Before 1913 there were no instructions as to how the number of workers in the Industrial Statistics had to be computed, but it is probable that similar methods were used. A comparison between our series of annual earnings and the value added per industrial worker therefore seems permissible. The Social Board series of annual earnings per worker, which has been used from 1913, is based on the same definition of «worker» as adopted in the Industrial Statistics for the computation of the number of workers. That these data are coordinated in this respect is confirmed by a comparison with the corresponding series of hourly earnings according to the Social Board's statistics and the series of aggregate numbers of working hours in manufacturing and mining published in the Industrial Statistics from 1920.

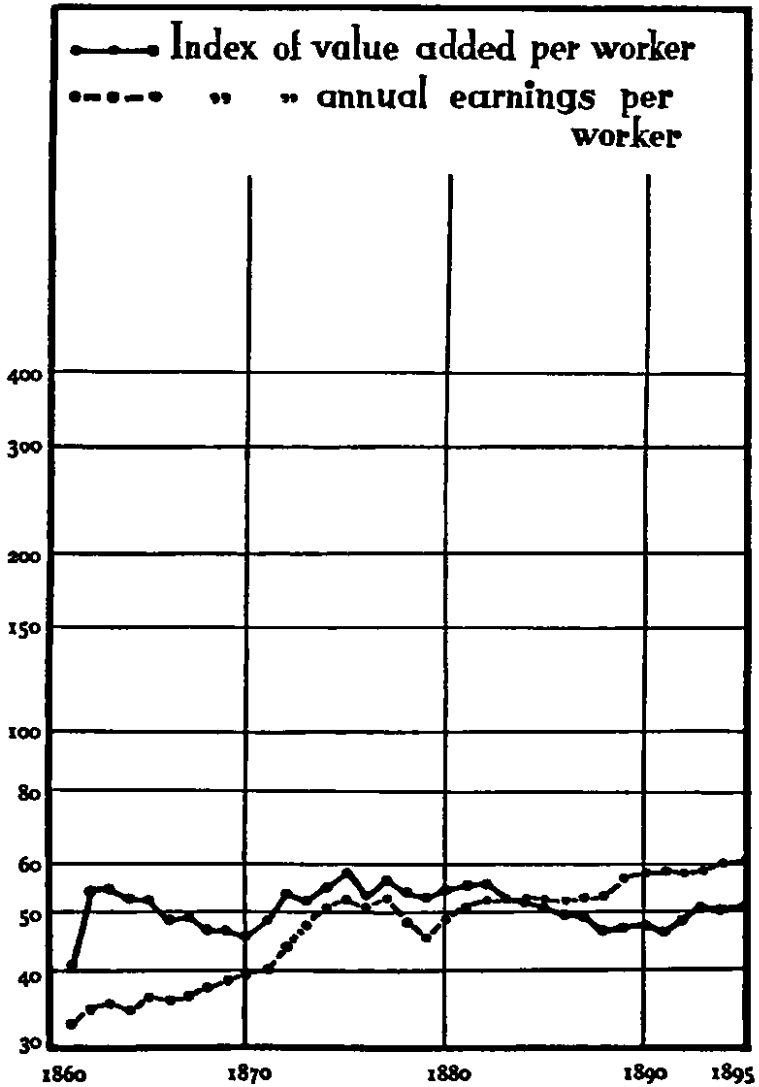
When comparing the trends of value added and wages, the representativeness of the wage series must also be taken into consideration. This question has been dealt with in detail in Part I. We only wish to emphasize that the different industries have been given fixed weights when computing the average for manufacturing and mining, and that the trend of this average is consequently not influenced by changes in the relative importance of the different industries.

The series of value added and wages are both relatively unreliable in the earlier years, especially in the 'sixties. If we disregard those years, it can be stated that the total progress of the two compared series from the 'seventies to the last decade has been about the same (cf. Chart 38). In other words, the workers' share in the value added by industrial production does not seem to have changed appreciably during this period. As the value of the raw materials does not enter into the value added, it must have been distributed among the industrial workers and the owners of other factors of production — including also the entrepreneurs — in about

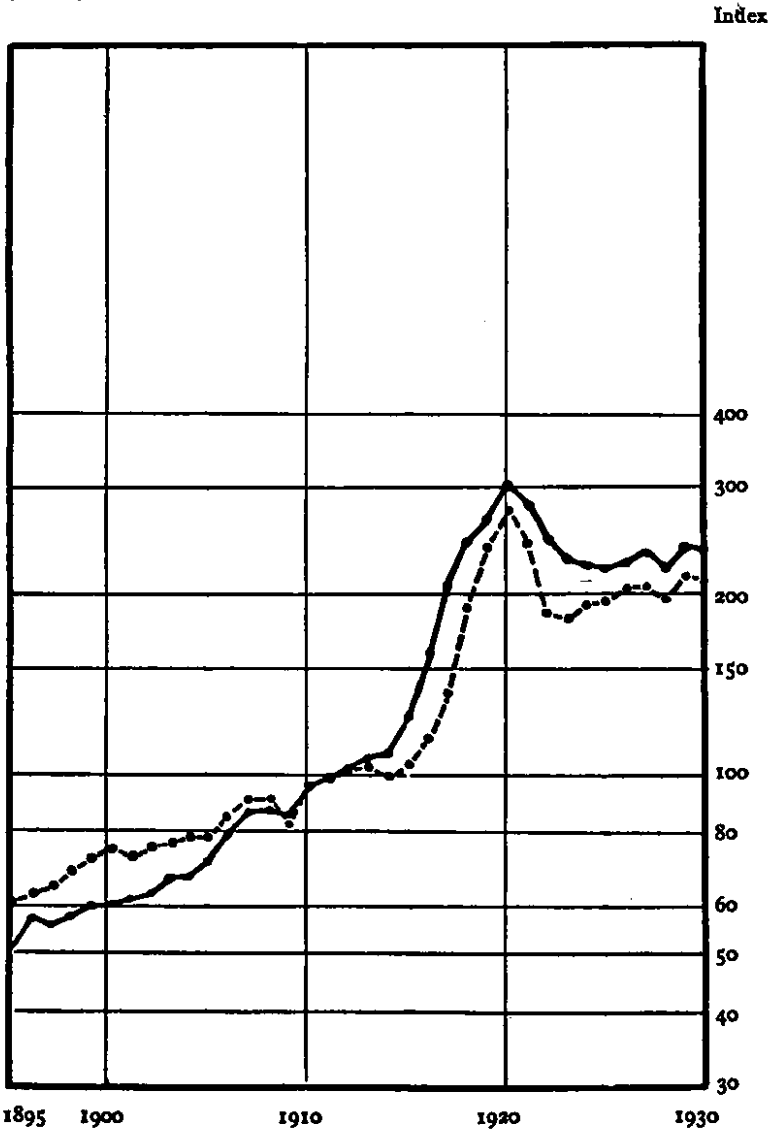
<sup>1</sup> For the computation of the index of the number of industrial workers used here, see Chapter XXI, p. 217 fol.

Chart 38. Value Added and Annual  
(Index:

Index



Earnings per Worker 1861-1930.  
 1910-1913 = 100.)



the same proportion at the beginning of the period as at its end.

Even if the end results agree closely, the secular trends of earnings and of value added per worker show certain divergencies. If indices of value added and of earnings per worker and year are compiled, and if the ratio between them is computed, the resultant index of the relative trend of value added and wages shows considerable secular variations (cf. Chart 39). The index falls, with breaks for small short-term divergencies, from the 'sixties to the middle of the 'nineties, the drop being particularly rapid from the end of the 'seventies.<sup>1</sup> It then rises up to the end of 1917. In later years the trend becomes more irregular, but a falling tendency dominates.

It is obvious that these variations on the whole coincide with the well-known secondary secular movements in the general trend of product prices. For a closer study of this correspondence, attention might be concentrated on those prices which directly affect the value added by the manufacturing industries. By compiling a suitable index, the changes in this value could conceivably be split up into changes of product prices and of production volume. The latter changes, reckoned per worker, are called "changes in productivity". A parallel trend of value added and earnings per worker would imply that wages have varied with the changes in productivity in the same way that purely piece-work earnings would do, and that in addition they have been adjusted to changes in the product prices. The above variations in the ratio between value added and earnings, if coinciding with the variations of the suggested price index, would mean that earnings had varied in the same way as pure piece-work earnings at fixed rates that had not been influenced by changes in product prices.

When computing a price index corresponding to the value added, a price index problem arises which, however, seems to be possible to solve by a generalization of the ordinary

<sup>1</sup> As shown on p. 222, the trend of the index of workers in manufacturing and mining is somewhat too low up to 1896. If we made a correction for this error, the fall in the ratio of value added to wages up to the middle of the 'nineties would be still more marked.



price index method. The gross value of industrial production being the sum of the product values of the various industrial enterprises, the corresponding price index should be computed by weighting the product prices by the respective quantities produced. Value added, on the other hand, is a sum of values in which the raw materials have a negative sign. It seems conceivable that the method of computing price indices might be generalized by constructing a price index in which final product prices are weighted by the corresponding quantities, with positive signs, and raw material prices are weighted by the corresponding quantities, with negative signs. If we disregard changes in the stock of raw materials, such a price index would obviously be identical with one in which the net prices, not the gross prices, were weighted by the quantities of final products, the net price being then calculated as the gross price of finished products less primary raw material unit costs<sup>1</sup>. This index would make it possible to differentiate between such changes in value added as are due to price variations and those due to changes in the manufacturing processes. A fall in the value added may, for instance, occur at unchanged production owing to a rise in the price of certain raw materials. A price index based on the gross value of production would register a rise in the price level,

<sup>1</sup> Such an index could, for instance, be computed in the following way. Let  $Q_1$  and  $Q_2$  be the production of final products,  $P_1$  and  $P_2$  their prices,  $q_1$  and  $q_2$  the quantities of raw materials and services received from other industries and from abroad,  $p_1$  and  $p_2$  their prices during two compared periods. The suggested price index ( $I$ ) could then be written as follows:

$$I = \frac{\sum Q_1 P_1 - \sum q_1 p_1}{\sum Q_1 P_1 - \sum q_1 p_1} \quad \text{If } q = k \cdot Q, \quad I = \frac{\sum Q_1 (P_1 - k \cdot p_1)}{\sum Q_1 (P_1 - k \cdot p_1)}$$

If we introduce the following notations:

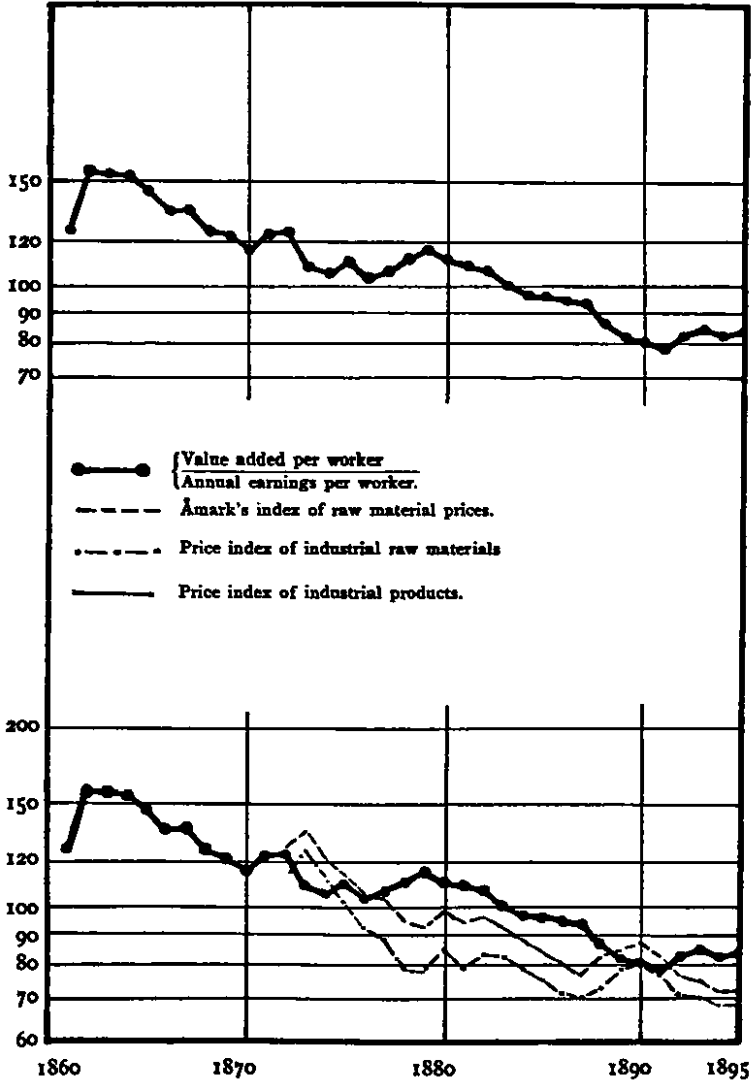
$$\sum Q_1 \cdot P_1 = F_1, \quad \sum q_1 \cdot p_1 = R_1, \quad F_1 - R_1 = N_1, \quad \frac{\sum Q_1 P_1}{\sum Q_1 P_1} = I_F \quad \text{and} \quad \frac{\sum q_1 p_1}{\sum q_1 p_1} = I_R,$$

the first formula for  $I$  can be written 
$$\frac{F_1 \cdot I_F - R_1 \cdot I_R}{N_1},$$

i.e. the suggested price index can be computed as an average of price indices of final products and of primary raw materials and services, weighted respectively by the aggregate value in the base year of final products (with positive sign) and of raw materials and services (with negative sign). If, for example, the value of raw materials and services received from other industries or from abroad in the base year were 50 % of the value of final products, we get  $I = 2I_F - I_R$ .

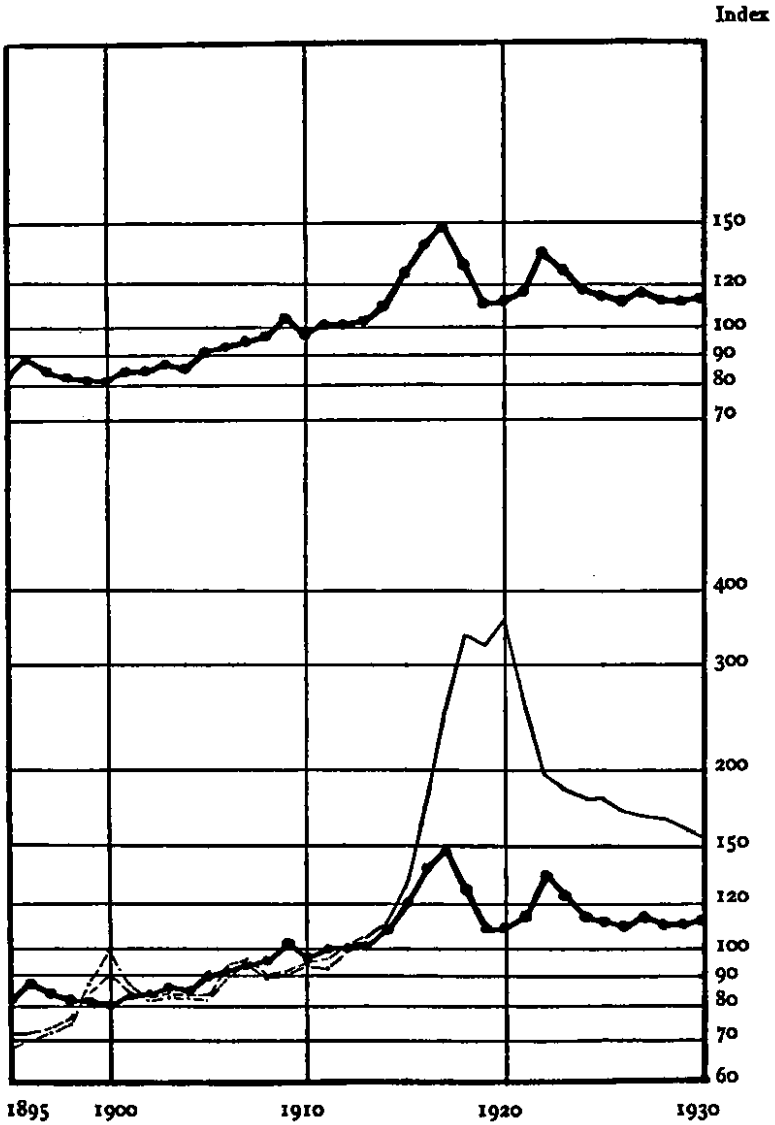
Chart 39. Index of Value Added, Earnings, and

Index



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## Prices in Manufacturing and Mining 1861—1930.



and, if this price index were used to reduce the value added, the result would be a further fall in this value. An index in which the prices of raw materials were given negative weights would, on the contrary, register a fall in the price level, and thus counterbalance the fall in the value added.

The price data that are at present available do not allow the computation of such an index for the pre-war period, the greatest deficiency being the lack of prices of finished products. The construction of a price index of the type outlined above is therefore out of the question. We have in fact no choice, the only index possible to use — however deficient for our purpose — being the price index of raw materials for the manufacturing and building industries, and agriculture, constructed by Åmark.<sup>1</sup> For our purpose, some of the prices included in this index, especially the raw materials for agriculture, ought to be excluded. Besides, the weights attributed to the different prices ought to be readjusted, the weights of certain metals, e. g. lead and tin, being for example too high. As the price data do not in any case allow the construction of an adequate price index, we have confined ourselves to computing the mean of the price indices for the nine most important industrial raw materials and semi-finished products.<sup>2</sup> This price index will below be called the index of industrial raw materials, to distinguish it from Åmark's index of raw materials. The two price indices have been used alternately to show the trend of prices. The price data collected by Åmark are especially unreliable in the first years, and as the trends of his two indices then deviate considerably, they have not been used until from 1872. In spite of their differ-

<sup>1</sup> *Karl Åmark, En svensk prisindex för åren 1860—1913* (A Swedish Price Index for the Years 1860—1913) in *Kommersiella Meddelanden* (Commercial Bulletin) 1921, p. 1259 fol. Åmark's index for "other commodities than food products" includes prices of the following items: raw materials for the building industry (sawn boards, bricks, and cement) fuel and lighting materials (coal, petroleum, firewood), raw materials for agriculture (maize, oil-cakes, Chile saltpetre, superphosphate), and industrial raw materials (textile raw materials, metals etc.).

<sup>2</sup> Copper, pig-iron, bar-iron, coal, fire-wood, boards, wool, cotton, and hides. The price index of cotton has been excluded for the years 1860—1866, when the heavy rise of the cotton prices was accompanied by a strong reduction of the Swedish imports of cotton.

ent scope and the different weighting, the two indices follow each other closely from that year, except that the trend of Åmark's raw material index was somewhat lower in the 'nineties. It must be remembered that these indices can only be substituted for an adequate price index as discussed above if the secular trend of the prices is sufficiently uniform. The following discussion must therefore be regarded as tentative.

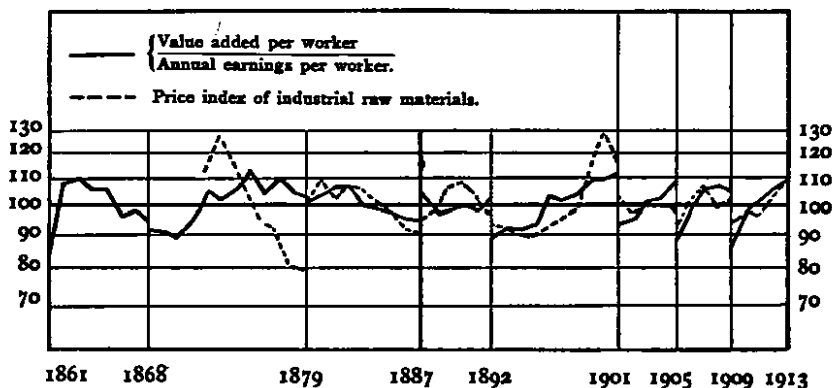
It will be seen from Table 190 and Chart 39 that up to 1913 there is a fairly close agreement between the secular trends of the ratio of value added to earnings and of the secular trend of the price indices.<sup>1</sup> In so far as the price indices are representative, the changes in the ratio of value added to wages thus seem to coincide with changes in product prices. This may also be expressed by saying that the changes in the ratio of wages to value added per worker correspond to such changes in the value added as are due to variations in the prices. On the other hand, the trend of the wages agrees approximately with the changes in productivity.

In other words, wages have developed approximately as if the basis were purely piece-work pay at unchanged rates. If piece-work had been predominant, this would have suggested that this trend was an outcome of the rigidity of wages. But such was the case in some industries only. The sawmill workers alone were paid almost exclusively by piece-work, while in the mining, paper, and food products industries time-wages seem to have dominated. In the other manufacturing industries the two wage systems are both involved. Speaking generally, one may say that a tendency towards a greater importance of piece-work pay prevails, especially from the 'nineties onwards.

For short intervals no corresponding correlation can be noticed of the ratio of value added to earnings with the trend of prices. At first glance this may seem to preclude any possibility of a connection between the relative trend of earnings and the movement of product prices.

<sup>1</sup> If the series of value added per worker were corrected as suggested on p. 248, note 1, the agreement would be still closer.

Chart 40. Short-term Variations of Value Added, Wages, and Prices 1861—1913.



It might be claimed that an institutionally conditioned rigidity of wages in comparison to prices should be apparent in the short-term changes, and that the existence of a rigidity of wages as compared with the secular price movements that would not appear in the short intervals would consequently hardly be conceivable. The lack of correlation in the short-term variations therefore might seem to support the opinion that the secular correspondence observed between the trend of prices and the relative trend of earnings was of no causal significance.

There seems, however, to be a satisfactory explanation of these short-term divergencies. If we examine the two series compared, we find that the yearly variations are clearly connected with general business cycles. The price index shows marked cyclical variations, which approximately coincide with the industrial fluctuations represented by, for instance, the production of mechanical equipment for the manufacturing industries, whereas the ratio of value added to earnings repeatedly falls, or its rate of growth is reduced, already in the last years of the expansion period (see Charts 40 and 46<sup>1</sup>). The ratio of value added to wages has therefore increased, roughly speaking, in periods of

<sup>1</sup> For the method of drawing these charts, cf. p. 290.

depression and revival, and decreased, or grown at a reduced rate, during boom periods.

It seems possible to account for these divergencies by one or several of the following circumstances:

1) As has been pointed out above, it is impossible to obtain an adequate price index distinguishing such changes in the value added as are due to price-fluctuations. Raw material prices dominate the price indices which have been used. Even though the secular trend of prices may be fairly uniform, raw material prices deviate in a typical manner from the general cyclical trend of prices. Considerable divergencies of a cyclical nature may therefore be expected between a price index corresponding to the value added by industrial production — which reflects the changing price tension between final products and raw materials — and the price index used here.

2) Certain rapid variations occur in the average efficiency of labour and in the technical conditions governing production, which, it seems reasonable to assume, offer an adequate explanation of this reversed cyclical movement. Firstly, it seems probable that a falling-off in the average efficiency of labour occurs as production is expanded and new workers are engaged, and that the contrary occurs during a contraction period. This must affect the average productivity of labour, but not the wage index used for comparison, which is based on the earnings of workers whose qualifications were as far as possible unchanged from year to year. Secondly, the value added per worker presumably tends to decline during an expansion period, owing to poorer organization of the work.<sup>1</sup> Changes in the personal efficiency of the individual workers during the business cycles may have a similar effect. The consequent changes in productivity are obviously of quite another kind than those connected with progressive technical improvements. There is consequently no reason to expect them to bear the same relation to the changes in wages as do the latter.

3) Variations of a special institutional nature also occur in the earnings during the industrial fluctuations. During a

<sup>1</sup> Cf. *W. C. Mitchell*, *Business Cycles*, Berkeley 1913.

boom, earnings automatically rise as over-time work increases, while the opposite occurs during a depression. Such variations may obviously contribute further to the divergencies pointed out above.

4) Finally, it is obvious that if earnings actually have a tendency to inflexibility in relation to the product price movements, the statistical material will not show this inflexibility quantitatively unchanged and independent of other variations. Cyclical fluctuations will cause rapid changes in the labour market, and especially in the demand for labour, which may influence the trend of wages. Any correlation between product price variations and the relative trend of value added and earnings must therefore be expected to show short-time irregularities, but this fact would not prevent its appearance as a tendency in the long run.

The inconsistency encountered, that the variations in the relative level of wages should be connected with price fluctuations in the long run but not for short intervals, thus seems to have a possible explanation in certain cyclically determined changes in the system of prices, productivity, and wage system, and in the evident fact that the inflexibility of wages is not absolute.

During the business cycle accompanying the war, changes occurred in the ratio of value added and earnings similar to those during previous business cycles. The value added per worker rose in relation to the wage series up to 1918, fell during the boom-period up to 1920, and again rose during the two following years of depression. These variations however, were of quite another magnitude than those met with in previous business cycles. Simultaneously, violent fluctuations in prices occurred, greatly exceeding in size the preceding secular changes. Any price index for this period will be difficult to interpret, owing to the reversals in production and price system. The Board of Trade index of industrial product prices, which is based on the factory values of finished and semi-finished goods weighted by the quantities produced in each year, rises rapidly up to 1920, and falls equally rapidly in the following years (Table 190; Chart 39).



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The Social Board cost-of-living index exhibits similar variations (Part I; Chart 17). It is obvious that the inflexibility of wages has given way under the pressure of the violent price fluctuations. Wages have followed prices upwards during the inflation, and have also dropped rapidly during the deflation.

From 1922, when the rapid deflation ceased, up to 1926 the ratio of value added to earnings fell, and has since remained fairly stable.<sup>1</sup> Product prices have also moved downwards, according to the Board of Trade index of industrial product prices. From this period, however, a richer price material is available than from earlier years, which can be used to show the relative trend of prices of final products and primary raw materials. Without undertaking the considerable work of rearranging the available price statistics, no definite conclusions can be drawn regarding the influence of price changes on the trend of value added. Available price indices indicate, however, that the tension between the prices of final industrial products and primary raw materials diminished in the period 1922—1930.

The above analysis of the relative trends of value added, wages, and commodity prices, ought to be supplemented by

<sup>1</sup> The trend of the ratio of value added to annual earnings per worker used in the above analysis can in 1920—1930 be checked by a comparison with the ratio of value added per working hour to hourly earnings:

Year:	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Ratio of: Value added per working hour to hourly earn- ings (1924— 1926 = 100)	93.0	103.1	116.7	110.7	101.6	99.7	98.7	100.3	96.5	98.4	97.8
Value added per worker to an- nual earnings (1924—1926 = 100) . . .	96.3	101.8	117.3	110.0	102.2	100.1	97.7	100.9	97.8	97.7	98.2

The correspondence between the two series is close. The number of workers and the annual earnings per worker can therefore be regarded as coordinately measured.

a review of the price trends of the other agents of production, in the first place the cost of using capital goods. For an entrepreneur about to invest, these costs will vary with the price level of the capital goods, and with the rate of interest. Owing to their steadily changing quality, a price index of capital goods can but rarely be constructed. The other part of the cost of capital investment, the rate of interest, is also difficult to follow. Up to the war Sweden was mainly a capital-importing country, but has since been an exporter of capital. Sweden's role in the international capital market, both as lender and borrower, has presumably been so unimportant that the secular changes in her capital market may be regarded as determined mainly by the international situation. It must, however, be realized that the transition from a borrowing to a lending nation meant a downward trend of the rate of interest in Sweden in relation to the rate of interest in the international capital markets.

No data regarding the rate of interest on industrial long-term loans, which are of the greatest importance in this connection, have been available for this study. Lacking such direct information, we have in Table 191 collated some series illustrating the trend in the long-term loan markets: the effective yields of British Consols and of Swedish Government bonds, and the average rate of interest on deposits in the Swedish savings-banks. It must be remembered that the average rate of interest on savings-banks deposits naturally varies less than the corresponding loan rate in these banks. The general trends of the series compared agree in so far that they declined up to the end of the 'nineties, rose up to 1920, and fell to a lower level in the following years. As could be expected, the Swedish series have approached the lower level of the English series, especially after 1910. The pre-war periods of secular fall and rise in the rate of interest correspond to the secular movements of product prices, value added, and wages, discussed above. The period of falling rate of interest was thus characterized by an increase of the share of labour in the value added

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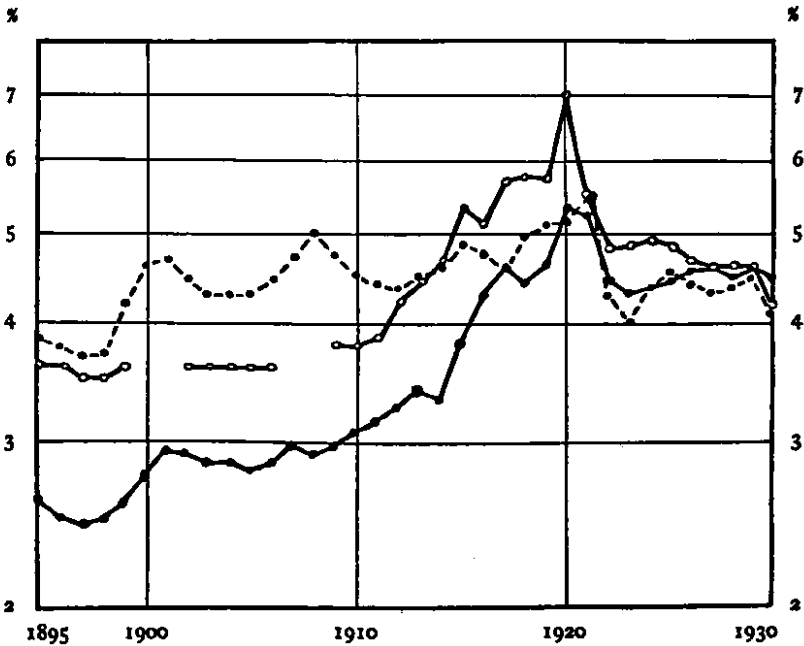
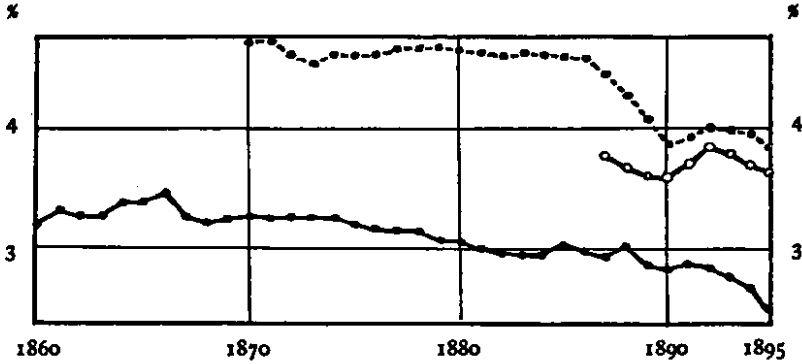
Table 191. Rates of Interest 1860—1930.

Year	Yield of British Consols %	Yield of certain Swedish Government bonds <sup>1</sup> %	Average rate of interest on deposits in Swedish savings-banks <sup>1</sup> %	Year	Yield of British Consols %	Yield of certain Swedish Government bonds <sup>1</sup> %	Average rate of interest on deposits in Swedish savings-banks <sup>1</sup> %
1860	3.19	—	—	1896	2.48	3.61	3.77
61	3.28	—	—	97	2.45	3.50	3.68
62	3.23	—	—	98	2.48	3.50	3.70
63	3.24	—	—	99	2.58	3.60	4.19
64	3.33	—	—				
65	3.35	—	—	1900	2.76	—	4.58
66	3.41	—	—	01	2.92	—	4.67
67	3.23	—	—	02	2.91	3.60	4.44
68	3.20	—	—	03	2.83	3.60	4.28
69	3.23	—	—	04	2.83	3.60	4.29
1870	3.24	—	4.95	05	2.78	3.60	4.29
71	3.23	—	4.98	06	2.83	3.60	4.42
72	3.24	—	4.80	07	2.97	—	4.70
73	3.24	—	4.70	08	2.90	—	4.97
74	3.24	—	4.78	09	2.97	3.80	4.73
75	3.20	—	4.78				
76	3.16	—	4.79	1910	3.08	3.80	4.49
77	3.15	—	4.86	11	3.15	3.87	4.39
78	3.15	—	4.88	12	3.28	4.21	4.35
79	3.08	—	4.89	13	3.40	4.42	4.48
				14	3.34	4.66	4.58
1880	3.05	—	4.85	15	3.82	5.31	4.85
81	3.00	—	4.84	16	4.31	5.09	4.76
82	2.98	—	4.78	17	4.57	5.65	4.55
83	2.97	—	4.82	18	4.40	5.76	4.97
84	2.97	—	4.79	19	4.63	5.71	5.08
85	3.02	—	4.79				
86	2.98	—	4.77	1920	5.32	7.00	5.16
87	2.95	3.75	4.57	21	5.21	5.48	5.47
88	3.02	3.64	4.32	22	4.43	4.82	4.29
89	2.87	3.59	4.10	23	4.31	4.86	4.01
				24	4.39	4.90	4.37
1890	2.85	3.58	3.85	25	4.43	4.83	4.52
91	2.87	3.69	3.94	26	4.55	4.68	4.41
92	2.85	3.85	4.00	27	4.56	4.58	4.32
93	2.79	3.78	4.00	28	4.48	4.59	4.37
94	2.72	3.68	3.98	29	4.60	4.56	4.50
95	2.59	3.63	3.83				
				1930	4.48	4.18	4.15

<sup>1</sup> *Svensk sparbankstidshrift* (Journal of Swedish Savings-Banks) 1934, p. 825 fol.

GENERAL MOVEMENT OF WAGES

Chart 41. Rates of Interest 1860—1930.



- Yield of British Consols.
- " " certain Swedish Government bonds.
- Average rate of interest on deposits in Swedish savings-banks.

by industrial production, and *vice versa*. Without further inquiry, there is of course no certainty that the trend of the rate of interest on industrial loans has been the same, but the same long run tendencies should have prevailed in the market for such loans.

Even if the changes in the costs of capital investment were completely known, they could not — at least not directly — explain the changes in the distribution to the agents of production of the value added. Once an investment is made, the production may well be carried on whether or not the depreciation charges and interest on the invested capital are covered. The indirect effects of a change in the rate of interest, via investments, savings, and pricechanges, will depend on the contemporaneous real changes in the manufacturing processes.

The changes in the productivity of labour, as defined above, may be regarded as the result of changes in three factors, the personal efficiency of labour, the technique, and the degree of substitution of other agents of production for labour. Although the effects of changes in these factors can only be distinguished at the margin, they are evidently realities to be reckoned with, and they have a quite different bearing on the problem of distribution.

A change in the personal efficiency of the workers will, as productivity is changed, also affect the supply of labour. During the period under review, personal efficiency has presumably increased continuously under the influence of the rising standard of living, new methods of production, and shortened hours of work. This must have tended to increase the supply of labour more than the recorded rise in the number of workers. At the same time, the effects of increased personal efficiency on the supply of labour have been counterbalanced by the shortening of working hours, which in all has amounted to about 25 %. That shortening seems to have been wholly confined to the period of secularly rising prices from the 'nineties to 1920, when the 8-hour working day was introduced. We have no means of judging how far this shortening of the working hours was compensated by an accelerated increase in the personal efficiency

of the workers. The difficulties of distinguishing, or even defining, changes in personal efficiency during a period of such rapid technical advances are obviously insurmountable.

It is consequently also impossible to distinguish what changes in productivity should be ascribed to technical progress, but the manifold increase of productivity during the period is most likely chiefly due to this factor.

On the one hand, technical progress has involved a tendency to increase the results of the manufacturing processes in relation to the factors of production utilized. On the other hand, it has, as a rule, been accompanied by increased substitution of capital equipment for labour. The increase in general productivity must evidently tend to increase the value added as compared with investment costs, while the substitution of capital for labour must tend to reduce the value added per unit of investment cost. It is impossible to decide *a priori* which of these has been the dominant tendency. At fixed wages per unit of time, however, the share of labour costs in the value added will probably be more reduced the more the technical development involves a tendency to more capitalistic production or — inversely — the wages per unit of time must be raised more if the share of labour in the value added is to be maintained. From this point of view it would be of interest to compare the changes in the ratio of value added to wages with the rate of investment in capital equipment.

Information on the investments in capital equipment in the manufacturing industries is very incomplete. Nothing but vague estimates of the construction of factory buildings can be made. A more reliable computation of the annual gross investments in mechanical equipment (calculated as the durable goods for manufacturing industries manufactured in the country, + imports — exports of such goods) has been made at the Institute in connection with the inquiry into the national income of Sweden. These figures refer mainly to machinery, and include both production for replacement and for extension. It is an impossible task to try to distinguish what part of these investments forms a replacement of old capital equipment, and thus to estimate

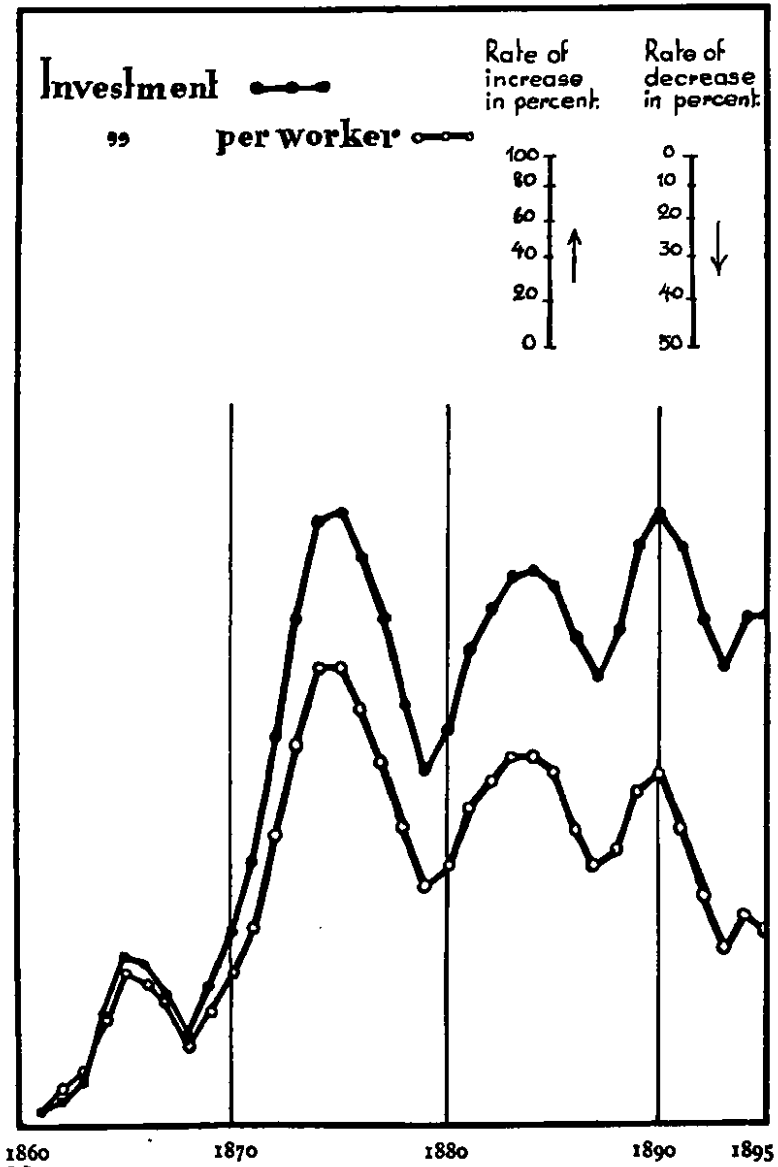
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**Table 102. Manufactured Mechanical Equipment for  
Manufacturing and Mining 1861—1930.<sup>1</sup>**

Year	Production Mill. Kronor	Investment (production + im- ports — ex- ports) Mill. kr.	Invest- ment per worker Kronor	Year	Production Mill. Kronor	Investment (production + im- ports — ex- ports) Mill. kr.	Invest- ment per worker Kronor
1861	2.5	3.7	53	1896	21.2	28.9	121
62	2.5	3.8	57	97	23.6	32.9	128
63	2.9	4.1	61	98	30.5	42.1	152
64	3.7	5.2	74	99	34.2	47.7	165
65	4.0	6.3	87				
66	4.0	6.2	84	1900	36.2	43.8	147
67	3.8	5.6	78	01	33.9	37.0	125
68	3.6	4.8	66	02	34.3	36.4	123
69	4.0	5.7	75	03	35.7	39.0	128
				04	39.0	45.7	147
1870	4.8	7.0	87	05	34.8	40.9	130
71	5.8	9.0	102	06	51.3	55.5	168
72	8.3	14.1	144	07	61.6	69.5	206
73	10.5	21.6	197	08	56.8	60.0	182
74	15.6	30.8	262	09	52.6	49.1	153
75	16.8	31.8	264				
76	15.6	27.0	225	1910	60.9	54.9	164
77	13.8	21.8	186	11	66.0	54.3	161
78	11.6	16.0	148	12	77.3	59.7	173
79	9.7	12.3	119	13	99.5	84.1	233
				14	100.0	87.2	239
1880	11.6	14.5	128	15	123.4	90.4	242
81	14.7	19.4	158	16	205.4	135.7	341
82	17.6	22.3	174	17	293.8	199.5	497
83	18.9	25.1	190	18	326.8	260.6	676
84	17.9	25.7	190	19	315.1	252.6	643
85	16.1	24.4	180				
86	14.1	20.1	146	1920	368.7	333.9	800
87	12.7	17.7	128	21	203.0	191.6	583
88	14.4	20.6	135	22	119.8	111.0	340
89	19.0	28.4	107	23	133.8	117.9	329
				24	158.1	129.2	340
1890	20.6	31.9	179	25	189.5	148.6	379
91	18.2	28.1	146	26	212.2	168.6	415
92	14.2	21.8	114	27	213.7	171.9	419
93	15.6	18.3	95	28	237.8	190.5	434
94	17.3	22.0	108	29	248.5	217.5	480
95	19.0	22.0	101				
				1930	253.1	241.5	531

<sup>1</sup> According to the inquiry into the National Income of Sweden, carried out at the Institute.

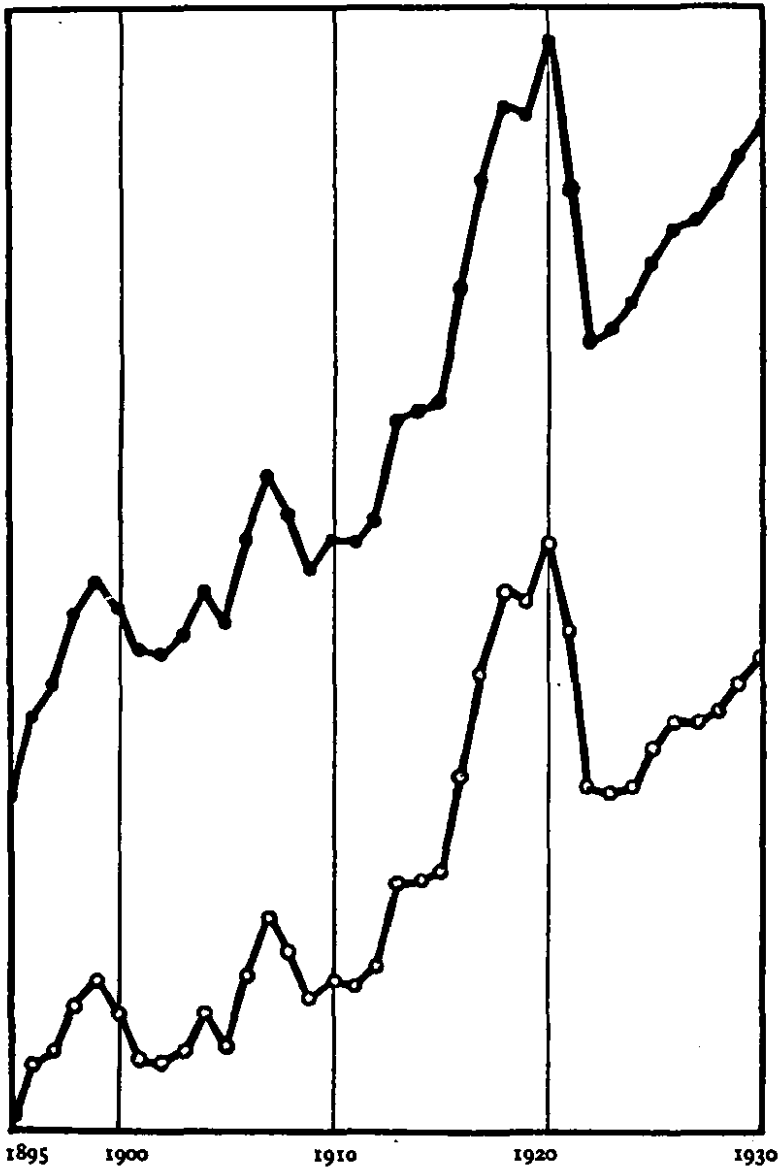
Chart 42. Investment in Mechanical Equipment





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in the Manufacturing Industries 1861—1930.



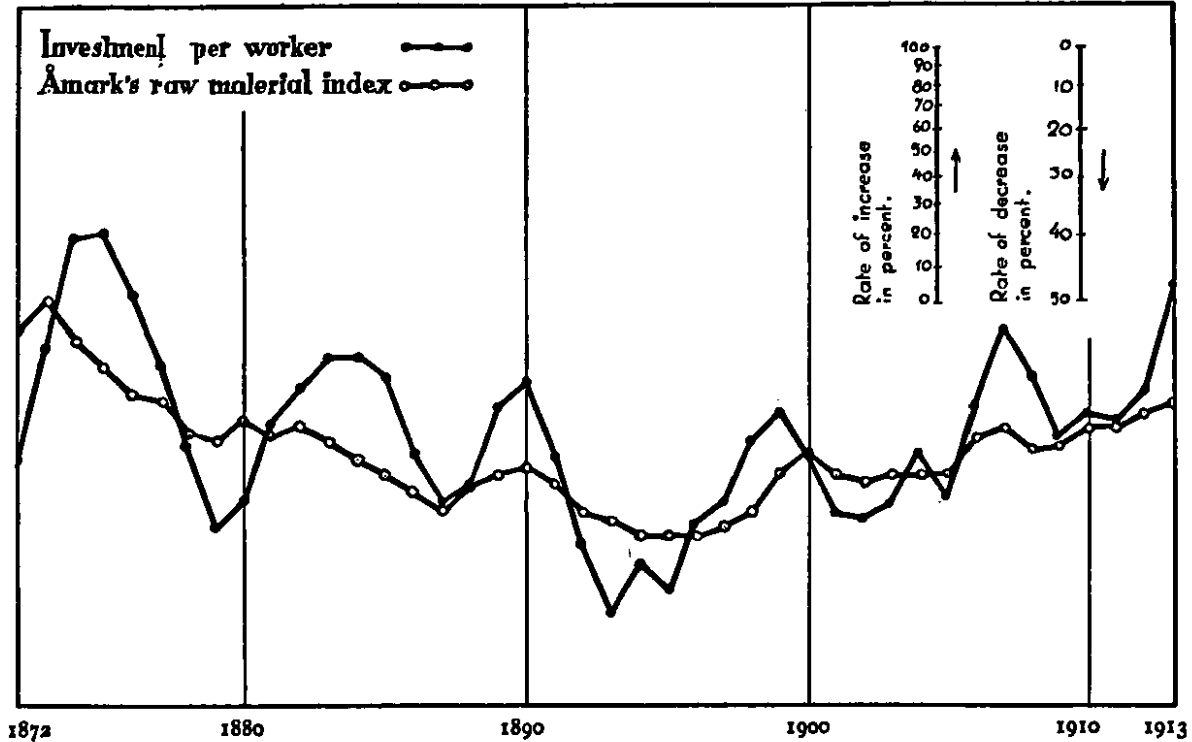
the increase in the stock of capital equipment, for the mere reason that new capital goods replacing old are not necessarily identical with the old capital goods.

For the same reason, however, the figures giving the gross investment in mechanical equipment in the manufacturing industries are of a certain symptomatic value. In view of the rapid technical progress during the period discussed, we are entitled to assume that, in relation to the older capital equipment, new capital equipment — whether replacing old or freshly added — generally represents some new technique. New technical methods have, as a matter of fact, often been the reason for replacing old capital equipment, or for new investments. Collated with known data on technical progress, the information on the gross investments in capital equipment may therefore be of great value, even though it must be interpreted with care.<sup>1</sup>

Chart 42 shows the strongly rising trend of the annual gross investment in mechanical equipment. To show the magnitude of these investments in relation to the extent of the industries existing in each year, the gross investment per worker has been computed. There is no price index by which this value-series can be converted into a quantity-series. A comparison with the price trend of industrial goods (Chart 43) indicates, however, that in the period 1872—1913 the gross investment per worker varied with the secular price movements. This agreement at least does not make probable any great secular changes in the volume of investment per worker. On the other hand, we know that the number of workers in manufacturing has grown at a slower rate since the end of the 'nineties than before (cf. Chart 37). As, moreover, the industrial expansion from the end of the 'nineties was especially strong in the engineering and the paper-pulp industries, of which at least the latter is characterized by a relatively capitalistic technique, it does not seem improbable that, from the end of the 'nineties up to the war, the development of the manufacturing industries was more capitalistic than in the preceding twenty-five years. This should

<sup>1</sup> Cf. Chapter XXIII.

**Cart 43. Investment in Mechanical Equipment per Worker in Manufacturing and Mining, and the Trend of Prices 1872—1913.**



have accelerated the increase of the value added as compared with the quantity of labour utilized, and tended to reduce the share of labour in the value added. Without more detailed investigations it is impossible to reach certainty on this point, but it must be borne in mind as a possible explanation of the secular changes in the relative trends of value added and wages.

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## CHAPTER XXIII

### INDUSTRIAL WAGES AND THE SECULAR CHANGES IN THE LABOUR MARKET

THE changes on the supply side of the labour market are recorded in most detail in the decennial censuses. A study of these changes as an integral part of the changes in the labour market can therefore suitably be made decennially. In order to exclude as far as possible the influence of business cycles, substitutions of contiguous years for the exact census years have been made whenever necessary. To facilitate a comparison between the different periods, the annual rate of increase in each has been given in parenthesis (cf. also Chart 45).

*The 'sixties.* From 1861 to 1870, both of which years fall in approximately the same cyclical phase, the annual earnings of industrial workers rose by 20 % (2.1 % per year). In the same time the value added by industrial production grew by 29 % (1.0 %). The trend of prices is uncertain: Amark's raw-material index dropped in the same period by almost 5 % (0.5 %), the price index of industrial raw materials by 15 % (1.6 %), and the Institute's cost-of-living index by just over 4 % (0.4 %). The number of industrial workers rose at the same time by 16 % (1.6 %). The change in the productivity of labour has probably not been considerable. The gross investment in mechanical equipment for manufacturing and mining remained at a level which, in comparison with the following period, was very low. Its value grew from 3.7 millions in 1861 to 7.0 millions in 1870.

In the chapter on the labour market we pointed out that agriculture had in the previous decades stored up a considerable population surplus. In the 'sixties the productive ages

Table 193. Changes in the Productive Population  
(in Thousands).

End of	1	2	3	4	5	6	7	8	9
	Population from 15 to 65 years of age	Men from 15 to 65 years of age							
1860	2365	1142	1861—1870	157	(93) <sup>2</sup>	11 <sup>3</sup>	6.6	(3.9)	0.5
1870	2522	1208	1871—1880	287	99 <sup>4</sup>	32	11.4	3.9	1.3
1880	2809	1349	1881—1890	15	270	65	0.5	9.6	2.3
1890	2824	1348	1891—1900	216	144	120	7.6	5.1	4.2
1900	3040	1469	1901—1910	265	154	36	8.7	5.1	1.2
1910	3305	1602	1911—1920	374	38	83	11.3	1.1	2.5
1920	3679	1796	1921—1930	373	64	37	10.1	1.7	1.0
1930	4052	1993							

of the population increased by about 6.6 % of their number in 1860. Only about 11,000 workers were absorbed by manufacturing and mining, that is hardly 0.5 % of the productive population of 1860. Emigration was increasing, but up to the end of 1867 the average annual number of emigrants was only just over 5,000 persons. In connection with the agricultural depression towards the end of the 'sixties, emigration became very extensive. From 1868 to 1870 an average number of 29,000 persons emigrated annually. This increase made the gross emigration in the productive ages rise to almost 4 % of the productive population in 1860.<sup>5</sup> This emigration relieved the population pressure just at the time of the industrial depression towards the end of the 'sixties. Nor did this cause any fall in the industrial wages, which instead rose considerable above those prevailing during the previous depression in the beginning of the 'sixties. The bad harvests of 1866—1868 raised the cost of living during the depression, while, as far as can be

<sup>1</sup> Cf. Table 187.

<sup>2</sup> Gross emigration.

<sup>3</sup> 1862—1870.

<sup>4</sup> Number of immigrants 1871—1874 estimated.

<sup>5</sup> There is no information available regarding immigration, but this was probably relatively insignificant before and at the beginning of the period of heavy emigration.

judged from the available price material, there was no corresponding rise in the prices of industrial products. This may possibly help to explain the relatively rapid rise of wages in this decade.

*The 'seventies.* The years 1870 and 1880 were fairly similar in regard to cyclical phase. They both came at the beginning of a period of expansion in the production of investment goods. Between them came the boom of the 'seventies. The value added by industrial production was almost doubled from 1870 to 1875, and then decreased again up to 1880. The increase from 1870 to 1880 was nevertheless nearly 70 % (5.5 %).<sup>1</sup> Åmark's raw-material price index rose rapidly from 1870 to 1873, after which year there was a protracted fall, which continued until 1879. The result was a reduction of the product prices between 1870 and 1880 by 9 % (0.8 %); the price index of industrial raw materials on the other hand rose by 7 % (0.7 %). The strong increase in the value added by industrial production in this decade thus probably corresponds to a considerable increase in the volume of production. During the boom from 1869 to 1875 the number of industrial workers increased by 60 %,² but was slightly reduced in the next few years. The total increase from 1870 to 1880 was 40 % (3.4 %). The rate of increase was thus considerably higher than in the preceding decade. The increase of the value added per worker was nevertheless 19 % (1.8 %).³ The increase of productivity accompanying the advance of industrial production during this decade ought consequently to have been very considerable. The rise in the wages, amounting to 24 % (2.2 %), was of the same order of magnitude.

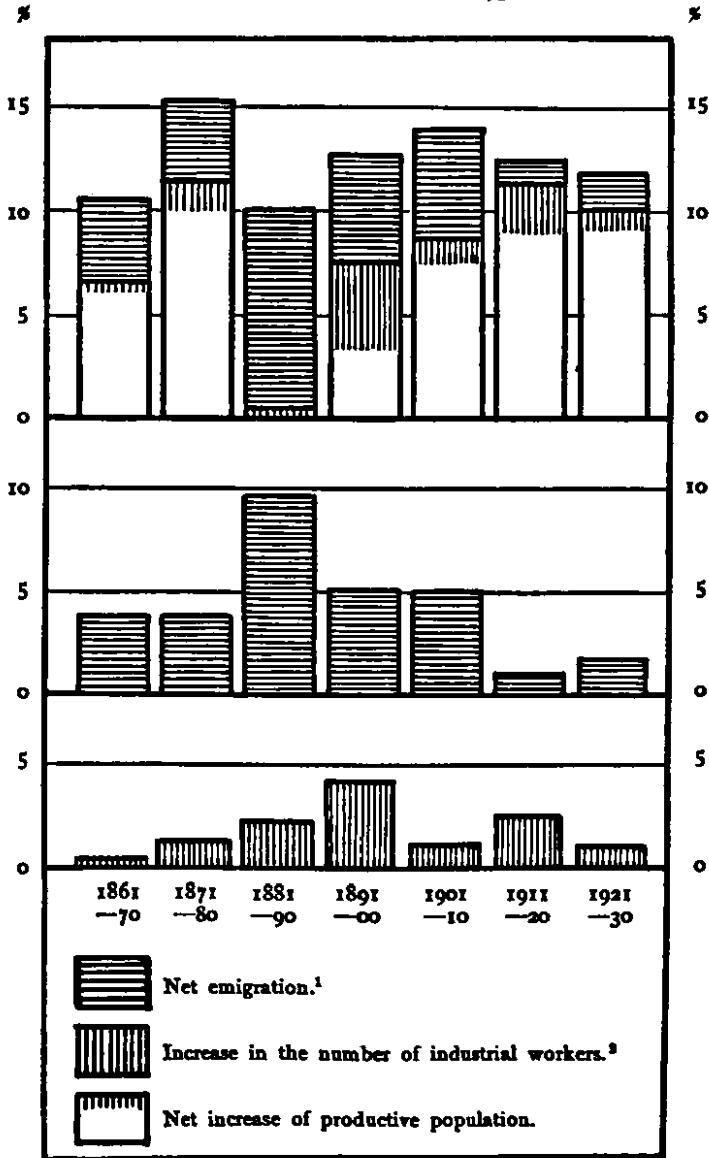
The annual gross investment in mechanical equipment in the manufacturing industries also showed a strong in-

<sup>1</sup> The relative growth of the handicrafts probably affected this figure to some extent. Its share in the total gross value of industrial and handicraft production increased from 14 % in 1870 to 16 % in 1880.

<sup>2</sup> If the sawmill industry had been included in the index of the number of industrial workers, the increase would probably have been even greater (cf. p. 222).

<sup>3</sup> In view of the sawmill industry being left out of the index of the number of workers, and of the relative increase in the handicraft product value, the actual increase was probably slightly less.

**Chart 44. Changes in the Productive Population, in per cent of the Productive Population at the Beginning of each Decade 1860—1930.**

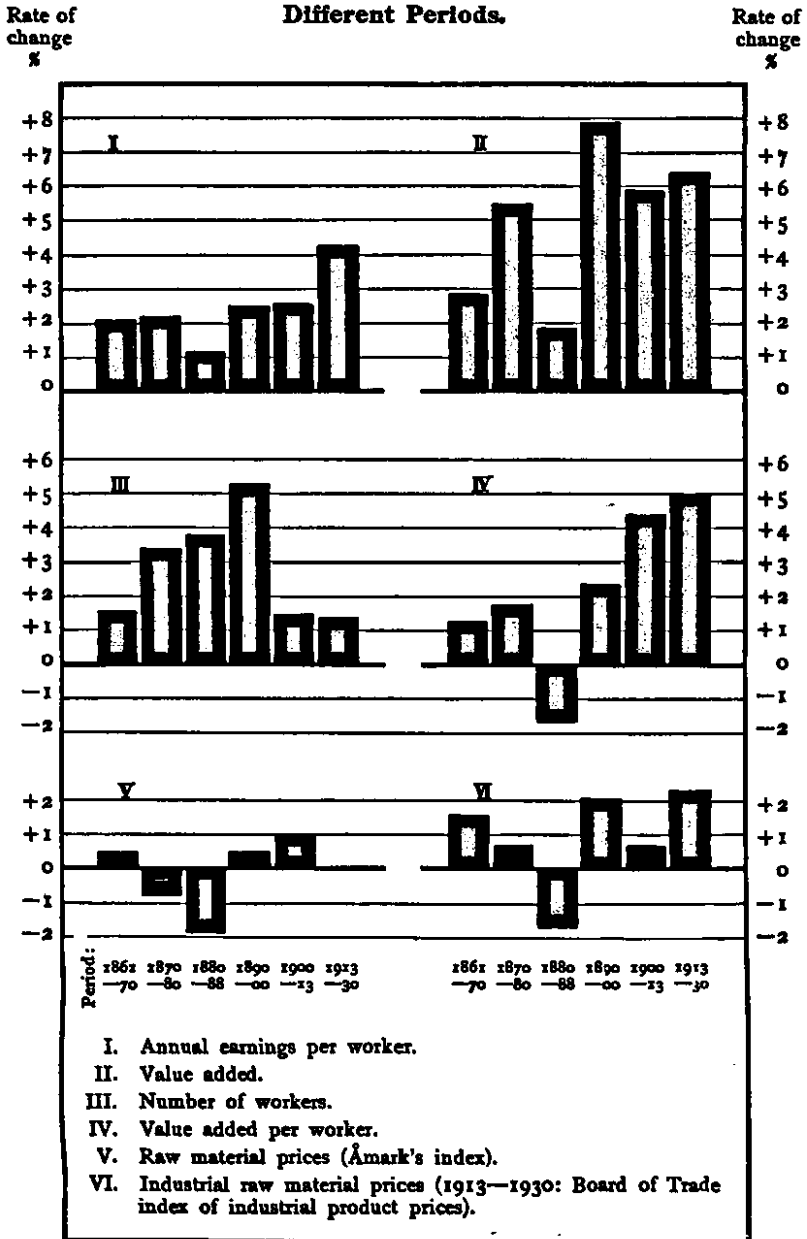


<sup>1</sup> In 1861—1870: gross emigration.

<sup>2</sup> In 1881—1890 the increase of the number of workers actually surpassed that of the productive population.



Chart 45. Annual Rate of Increase or Decrease of Wages and Production in Manufacturing and Mining during Different Periods.



crease (cf. Table 192), which considerably exceeded the increase in the number of workers. The value of this investment, reckoned per industrial worker, was more than twice as large in the latter half of the 'seventies as the average in the 'sixties. There was probably no corresponding price change, and this increase must instead be interpreted as a rapid renewal and extension of the machinery in conjunction with the advance in industrial technique.

A good deal of capital was also absorbed by extensive railway building.<sup>1</sup> These large investments did not cause the rate of interest to be raised. The rate of interest seems even to have been slightly lower than in the preceding decade.

In the 'fifties, births had been relatively numerous, and if there had been no external migration the population of productive age would have increased by about 400,000, that is by 16 %, in the 'seventies, the highest figure for the natural increase of productive population reached in the whole period 1860—1930. Emigration diminished in comparison with the last few years of the 'sixties. In 1879 and 1880 it again increased considerably. The net emigration of people of productive age from 1871 to 1880 scarcely averaged 10,000 a year, barely 4 % in all of the productive population at the beginning of this period. The net increase in the productive ages was therefore as much as 11.4 % of the population in 1870. In spite of the rapid relative increase in the number of workers, the manufacturing industries were still too small to absorb more than about a tenth of the net increase in the productive ages.

The pressure exerted by this population increment in the industrial labour market was reduced by the favourable conditions in agriculture. The value of the crop rose considerably, in comparison with the previous decade,<sup>2</sup> and the agricultural prosperity reacted strongly on agri-

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<sup>1</sup> The total length of track was increased from 1,727 kms. in 1870 to 5,876 kms. in 1880.

<sup>2</sup> Cf. Table 195.

cultural wages.<sup>1</sup> Railway construction also absorbed a considerable amount of labour.

The rise of the cost of living by 9 % in connection with the agricultural prosperity must be taken into account when considering the high trend of industrial wages in the 'seventies.

*The 'eighties.* The following decade was characterized by a strong increase of wages in comparison to the trend of the value added by industrial production. The years 1880 and 1890, however, did not fall in corresponding cyclical phases (cf. Chart 46). 1880 marked the beginning of an expansion, while a peak occurred in 1890. It is therefore more suitable to compare 1880 with 1888, the first year of expansion in the second cycle in this decade. Between these years a business cycle culminated in 1883. In the period 1880—1888 the annual earnings increased by 10 % (1.2 %). Meanwhile the manufacturing industries expanded even more rapidly than in the 'seventies; the number of workers increased by 34.6 % (3.8 %). The value added grew by 15 % (1.8 %). The value added per industrial worker was thus reduced by almost 14 % (1.7 %), but there was a simultaneous fall in the Åmark raw-material price index of 16 % (1.9 %) and in the index of industrial raw materials of 14 % (1.7 %). The productivity consequently seems to have remained relatively unchanged; the earnings thus increased relatively fast during this decade. Compared with the previous decade, the average annual gross investment in mechanical equipment increased at approximately the same rate as the value added by industrial production, but remained almost unchanged if expressed per industrial worker. From the above figures it appears that, contrary to what was the case in the previous decade, the capital goods turned out were used chiefly for expansion, and not for capitalistic intensification of industrial production. This trend of industrial progress was naturally favourable to labour. At the same time, the continued expansion of the railways, and the brisk

<sup>1</sup> Cf. Table 169.

building activities characteristic of this decade, made great demands on the capital market. Extensive investment was favoured by the low rate of interest (cf. Table 191).

The 'eighties were characterized by a continuous agricultural depression<sup>1</sup>. A surplus of labour had probably been stored up in agriculture during the previous decade, for which a living could no longer be provided, and which therefore sought employment elsewhere. The natural increase of the population in the productive ages diminished considerably at the same time, however. The depression in agriculture towards the end of the 'sixties was accompanied by a considerable reduction in the number of births, and not until the middle of the 'seventies had it regained their former level. In the 'eighties, the natural increase of population of productive age therefore only amounted to about 300,000, or 10 %, compared with 16 % in the 'seventies.

The increase of population was felt most strongly in agriculture, which at the beginning of the decade still comprised almost 68 % of the population of the country. It is difficult to judge how this surplus affected the supply of labour in the industrial labour market. The surplus agricultural population had to choose between changing over to industry and emigrating. Its mobility in these two directions would therefore determine the pressure exerted in the industrial labour market. Certain circumstances indicate that Swedish agricultural labourers were as ready to emigrate as to seek employment in the manufacturing industries.<sup>2</sup> Emigration was favoured by the relative prosperity in America, and totalled almost 400,000 persons from 1881 to 1890. The rise of the agricultural day-rates for male workers was almost 5 % (0.6 %) from 1880 to 1888 in spite of the agricultural depression, and the falling cost of living indicates that the surplus agricultural labour was effectively absorbed by emigration. The net

<sup>1</sup> The average value of the crop of cereals and roots from 1881 to 1890 was about 5 % lower than in the preceding decade.

<sup>2</sup> Even in 1884 and 1885, when there was a pronounced depression in America, about 23,000 persons emigrated yearly.

emigration in the productive ages during this period amounted to 270,000 persons, i.e. nearly 10 % of the productive population at the end of 1880. It thus absorbed almost the whole of the natural increase of productive population. The manufacturing industries had now attained so great relative importance, that the growth of the number of workers amounted to 2.3 % of the population of productive age at the end of 1880. The population absorbed by emigration and industry thus exceeded the natural increase in the productive ages, and the agricultural population diminished in absolute numbers.<sup>1</sup>

*The 'nineties.* The period 1890—1900 comprises a whole business cycle. The production of mechanical equipment for industrial production, which has here been used as an indicator of the cyclical trend, culminated both in 1890 and in 1900.<sup>2</sup>

The progress of the manufacturing industries was stronger in the 'nineties than in any other decade of the 70-year period dealt with. The value added by industrial production increased by about 113 % (7.9 %), while raw material prices according to Åmark's index rose by 5 % (0.5 %), and the price index of industrial raw materials by 23 % (2.1 %).<sup>3</sup> As in the 'seventies, industrial progress was both extensive and intensive. The increase of the industrial labour class reached its maximum. At the end of the decade the number of workers exceeded the number at the beginning by two thirds. In spite of a considerable reduction of the daily working time,<sup>4</sup> the value added per industrial worker increased by 27 % (2.4 %). Simultaneously with the rapid increase of productivity, the annual earnings per worker increased by about 28 % (2.5 %)<sup>5</sup> from 1890 to 1900.

<sup>1</sup> Cf. Table 184.

<sup>2</sup> Cf. Chart 46.

<sup>3</sup> Any price index will naturally be unsatisfactory during so violent an expansion of production, which simultaneously involved considerable changes in the composition of the production.

<sup>4</sup> A comparison between the series of annual and hourly earnings shows that the daily working time was shortened by about 6 % in the 'nineties.

<sup>5</sup> The wage index does not take into account any changes in the wage level possibly brought about by changes in the relative importance of the various branches of industry.

The gross investment in mechanical equipment receded slightly in the years of depression 1891 and 1892, but subsequently grew rapidly up to 1900. The total increase 1890—1900 was less, however, than that of the value added by industrial production. Reckoned per industrial worker, the investment in mechanical equipment even fell below that of the preceding decade, but this fall was probably due to the simultaneous fall in prices. The small extent of the investments may seem surprising in view of the increase of productivity. That increase had obviously been made possible by the technical improvements, mainly in the engineering, the electro-technical, and the pulp industries. In comparison with the previous decade, the rate of interest decreased slightly in the 'nineties.

The natural increase in the productive ages rose considerably in comparison with the previous decade; it amounted to about 375,000 persons, or 13 % of the productive population at the beginning of the period. From 1890 to 1893 emigration remained at the same high level as in the 'eighties. The long and severe depression during the following years in America reduced emigration strongly. The American boom towards the end of the decade coincided with the boom in Sweden, and only caused a relatively small increase in emigration. Immigration was higher than in the preceding decade. The net emigration therefore sunk to 180,000 persons. The net emigration of people of productive age amounted to 5.1 % of the whole productive population at the beginning of the period, however, and thus absorbed about 40 % of the natural increase. By this time the manufacturing industries had attained such importance that their expansion had great influence on the trend of population. The total increase in the number of industrial workers during this decade was 4.2 % of the productive population at the beginning of the period, and about 30 % of the natural increase of the productive age-groups. Between them, emigration and the manufacturing industries thus absorbed about 70 % of the natural increase in the number of persons of productive age. We must also remember that the

heavy stream of emigrants in the 'eighties had effectively exhausted the reserves of the labour market. The agricultural situation had also improved, mainly owing to the introduction of corn duties. On the basis of the census figures at the end of 1890 and 1900, the net migration from agriculture to other occupations, chiefly in the manufacturing industries, in this decade may be estimated to have approached 350,000, that is to say no less than 12 % of the agricultural population. The depletion of the labour market in the previous decade, the continuing emigration, the demand from industry, and the improved conditions in agriculture, created a favourable situation for agricultural labour. The daily earnings of male day-labourers rose from 1890 to 1910 by over 45 % (3.8 %)<sup>1</sup>. The manufacturing industries' power to attract labour from agriculture must under these circumstances have diminished considerably.

It seems possible to explain the success of industrial labour in the wage disputes of the 'nineties without reference to the development of their organizations.<sup>2</sup> It is a noteworthy fact that the wages of unorganized agricultural labour rose more rapidly than those of industrial labour.

1900—1913. The examination of the first decade of the 20th century has been extended to cover also the years immediately before the war, 1911—1913, as the cyclical stages of 1900 and 1913 seem fairly comparable. Moreover, the trend from 1900 to 1913 was very uniform in comparison with the periods before and after. The annual increase in the number of workers was relatively small. Prices advanced steadily. The trend of the value added by industrial production approaches that of a smooth exponential curve. After 1913, emigration ceased to be of the same dominant importance to the labour market as before. Finally, certain important re-arrangements of the official statistics were made in 1913.

<sup>1</sup> This rapid rise may be partially explained by the change-over to more casual labour. According to the more homogeneous series of the Agricultural Statistics (cf. Chapter XVI), the day-rates only increased about 33 %.

<sup>2</sup> Cf. p. 230 fol.

With the beginning of the century there is a distinct retardation in the industrial expansion. This is most notable in the number of industrial workers, which from 1900 to 1913 increased by only 21 % (1.5 % per year), compared with an annual rate of increase of 3.8 % in the 'eighties and 5.3 % in the 'nineties. The increase in the value added by industrial production was also slightly less, 111 % (5.9 %) compared with 113 % (7.9 %) from 1890 to 1900. Prices, however, rose a little more quickly than before, by 14 % (1.0 %) according to Amark's raw-material index, and by 9 % (0.7 %) according to the price index of industrial raw materials. The value added rose more rapidly than the number of workers; its average per industrial worker rose by 74 % (4.4 %). A comparison with the increase of prices shows that the increase in productivity reached its maximum in this period. Wages exhibit a comparatively low trend. The annual earnings of industrial workers rose by 39 % (2.6 %).

The intensification of industrial progress is primarily connected with the general adoption of a technique based on the utilization of electricity, which had made its appearance already in the 'nineties. A characteristic feature of this is the rapid increase in the number of workers employed in power and lighting plants, and in water works<sup>1</sup>. The need of new machinery consequently grew rapidly. The gross investment in mechanical equipment in the manufacturing industries grew during this period more rapidly than the value added by industrial production. The relatively slow increase of the number of workers as compared with the rate of investment in mechanical equipment seems to indicate that the development of the manufacturing industries was more capitalistic than in preceding years.<sup>2</sup> Another characteristic feature of this period was the brisk activity in the building trade. The rate of interest rose above the level of the preceding decade (Chart 41).

<sup>1</sup> Cf. p. 187.

<sup>2</sup> Cf. p. 266 fol.



The natural increase in the productive age-groups from 1900 to 1910 was about 430,000, or 14 % of the productive population at the beginning of the decade. This figure was only exceeded during the whole 70-year period by that of the 'seventies. Only in 1902—1903, when there was a pronounced boom in America, did emigration assume the same proportions as in the 'eighties, remaining otherwise at about 20,000 persons per annum. At the same time, however, the annual immigration approached 10,000 persons. From 1901 to 1910 the net emigration was about 190,000 persons, and from 1911 to 1913 34,000, making about 225,000 persons in all. From 1901 to 1910 the net number of emigrants of productive age was 154,000 persons, i.e. it bore the same proportion [5.1 %] to the population of productive age at the beginning of the decade as in the 'nineties. It was slightly more than one third of the natural increase in the productive age-groups. Manufacturing and mining only absorbed 36,000 persons, i.e. about 8 % of the natural increase in these age-groups. At the same time, however, there seems to have been a relatively rapid increase in other industrial occupations, handicrafts, small industries, etc.,<sup>1</sup> and the number of persons engaged in commerce and communications shows a considerably higher rate of increase than before.<sup>2</sup> Nor does the net migration from agriculture to other occupations seem to have been much below the figures of the 'nineties.<sup>3</sup> According to the *Markegång* rates, the day-rates for male agricultural labour rose between 1900 and 1913 by 36 % (2.4 %). In spite of the net increase in the productive age-groups, and the insignificant increase in the number of industrial workers, there seems to have been no particularly strong pressure from the supply side of the labour market.

During this period the employers' organizations reached a position in the industrial labour market which was on a par with that of the labour organizations. The

<sup>1</sup> Cf. p. 209 fol.

<sup>2</sup> Cf. p. 178.

<sup>3</sup> Cf. p. 180.

conflict statistics<sup>1</sup> indicates that the parties were more equal in power than before. The period forms in this respect a transition to the following, when the industrial labour market was wholly dominated by the organizations.

1913—1930. During and after the war the labour market showed features which markedly distinguish this period from the preceding ones. The industrial labour market was completely dominated by the labour and employers' organizations, which regulated the conditions of work by collective agreements. This has altered the conditions for migration between agriculture and industry, and must have influenced the connection between the agricultural and industrial trends of wages. Emigration was further impeded, first by the war and later by the restriction of immigration into America, and lost its old importance to the trend of the labour market. The labour market can therefore, contrary to what was previously the case, be considered practically closed. It is therefore of special interest to compare the changes in the labour market during this period with the pre-war development outlined above.

Considerably more comprehensive statistical material is available from the period 1913—1930 than from earlier years. The utilization of all this material would entail a much more comprehensive study than can be given here,<sup>2</sup> and we have therefore instead chosen to illustrate the trend of wages 1913—1930 by data corresponding to those used in this study for the earlier years. Even though the description of the trend of the labour market will be very sketchy, it will render a rough comparison with the trend in earlier periods possible.

As must always be the case, the distinction made in the early years between the cyclical movement and the secular trend was to some extent arbitrary. A *sine qua*

<sup>1</sup> Cf. p. 235 fol.

<sup>2</sup> An exhaustive inquiry into the developments in the labour market, especially during the period 1920—1929, will be found in *Arbetslöshetsutredningens betänkning* (Report of the Unemployment Committee), Vol. I, *Statens offentliga utredningar 1931: 20*.

*non* for the realization of this method is that the cyclical deviations from the trend are relatively small. The period now under consideration is characterized by so great short-term fluctuations that any attempt to distinguish the secular changes must be rather doubtful. An analysis of part of the period, for example the nineteen-twenties, might present a different picture of the changes in the labour market. The production of mechanical equipment in the manufacturing industries, which is here used as a standard of cyclical chronology, showed a rapid increase from 1915 to 1920, followed by a regression in 1921—1922. This was followed by a period of expansion, which continued until the end of the period. There was only a slight cyclical recession in Sweden in 1930, and the years 1913 and 1930, which have been selected for comparison, can therefore be regarded as fairly comparable from the cyclical point of view.

The annual earnings of industrial workers rose from 1913 to 1930 by 107 % (4.3 %). The value added by industrial production increased in the same period by 187 % (6.4 %). Industrial product prices in 1930 exceeded pre-war prices by 46 % (2.3 %). If this index were used to correct the changes in the value added for price changes, the resulting increase of industrial production would be slower than the corresponding increase during the pre-war periods. That this was the case seems to be confirmed by the fact that the prices of final industrial products rose more from 1913 to 1930 than the prices of primary raw materials. The Board of Trade wholesale price indices for finished and semi-finished goods rose in 1913—1930 by 23 % and 28 % respectively, and a price index of export goods<sup>1</sup> by 34 %, while the Board of Trade wholesale price index of industrial raw materials only rose by 17 %.

The number of industrial workers also increased slowly in comparison with last century, by only 25.7 % (1.4 %). The value added per industrial worker thus increased by 127.8 % (5.0 %). If we reduce for changed eroduct

<sup>1</sup> *Index*, bulletin edited by Svenska Handelsbanken.

prices in the way indicated above, we get a slower increase of productivity in the whole of this period than in the period 1900—1913 (cf. Chart 45). Consideration must, however, be given to the simultaneous shortening of the working hours per day by almost 20 %.

The Board of Trade index of the volume of production in manufacturing and mining, which is based on the gross data of the Industrial Statistics, shows an increase 1913—1930 by only 50 % (3.2 %), corresponding to an increase per industrial worker of 19.3 % (1.0 %)<sup>1</sup>. These figures support the conclusion, drawn from the value-added figures, that the expansion of industrial production during the period as a whole was slower than in the preceding decades.

The natural increase in the productive ages was about the same in 1920—1930 as in 1910—1920, and was consequently slightly lower than in the two preceding decades. The net emigration in the productive ages in the two last decades was, however, only 38,000 and 64,000 persons respectively, that is 1.1 and 1.7 % of the productive population at the beginning of the periods. The net increase in the population of productive age thus amounted to 11.3 and 10.1 % respectively. Only in the 'seventies was the increase as large, 11.4 %. The 'seventies, however, were preceded and followed by decades when the increases in the productive ages were relatively low. Taking the two last decades together, the net increase of the productive population therefore exceeds, both absolutely and relatively, the increase in any preceding 20-year period. The increase in the number of industrial workers was only 22 and 10 % respectively in the two decades. The excess for which work had to be found was consequently larger than in any previous 20-year period (cf. Chart 44).

Owing to decreased mobility between the different parts of the labour market, great divergencies became pos-

<sup>1</sup> According to the calculations of the Unemployment Commission, the product volume per working hour in industry rose by 43 % (2.3 % per year), from 1915 to 1929. These calculations are based on the gross industrial production. *Arbetslöshetsutredningens betänkhande* (Report of the Unemployment Committee), Vol. I.

sible in the trends of agricultural and industrial wages. Compared with an increase of about 106 % from 1913 to 1928 in the annual earnings of male industrial workers, the annual earnings of male servants, including allowances in kind, rose by 64 %, and of *statare* by 85 %, while the summer and winter day-rates for casual labourers boarding themselves increased by 59 and 69 % respectively. The agricultural population still continued to shrink, although at a slower rate than before. The migration from agriculture to other occupations does not seem to have been considerably less than in the previous decades.

Certain occupations outside the manufacturing industries: small-scale industries, handicrafts, service industries, commerce, communications, etc., have meanwhile grown considerably. Until the 1930 census is completed, this trend can only be followed with exactitude up to 1920. From 1910 to 1920, the number of persons engaged in the group manufacturing, mining, handicrafts, etc., grew, according to the census, by about 245,000 persons. A large part of this increase must obviously be ascribed to building activities, service industries, small industries, and handicrafts, which seem to have continued their relative advance also in later years. At the same time the number of people engaged in Commerce and Communications grew by about 140,000 persons. Even if the occupational figures of the census are unreliable as a guide to employment, the above nevertheless indicates that these branches have attracted a considerable portion of the increase of the population of productive age.

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## CHAPTER XXIV.

### SHORT-TERM VARIATIONS OF INDUSTRIAL WAGES

THE wage series for workers in manufacturing and mining prepared at the Institute must be used with great caution in a study of the short-term variations of wages. Above all it must be remembered that these wage series refer primarily to the more permanently employed and more skilled labourers. Furthermore, business cycles cause changes both in the relation of permanent to casual labour and in the average efficiency of the employed workers, with consequent fluctuations in the average wages. Such fluctuations will not be disclosed in the wage series, which refer to labour of as far as possible unchanging personal efficiency.<sup>1</sup>

The role played by wages in the business cycle is usually regarded from two different points of view: on the one hand as the cost of using a factor of production, and on the other as the basis of the purchasing power of a large social class.

From the point of view of costs, it would be desirable to ascertain how wages change in relation to other costs. For this purpose it would be suitable to examine the piece-work rate or, failing this, the earnings per hour. An investigation of this kind, on the basis of the wage material of the Institute, must unfortunately be incomplete, as there are no reliable series of hourly earnings from two of the most important producers' goods industries — the iron and the engineering works —, which are of special interest when considering business cycles. From several indu-

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<sup>1</sup> Cf. Chapter II.

tries producing consumers' goods, on the other hand, the textile, food products, and paper industries, representative series of hourly earnings are available. In these industries the difference in trend of annual and hourly earnings is rather insignificant, and we might content ourselves with examining the variations in their annual earnings. But the same procedure would not apply to producers' goods industries. The average annual working time in such industries show considerably stronger cyclical variations, and consequently the trend of the annual earnings deviates considerably from that of the hourly earnings.

Another method of investigating the variations in the labour costs would be to compare the annual earnings, the number of workers, and the value added.<sup>1</sup> Apart from the statistical deficiencies, such a computation would not, however, adequately express the variations in relative labour costs, as we must take into account the fact that considerable changes in industrial technique generally occur during the business cycles. A change in the labour costs per unit of production may consequently arise without any change of labour costs in relation to other costs through a change in the technique.

Lacking sufficient information for an analysis of the labour costs, the following study of the short-term variations of wages has mainly been confined to the nominal and real earnings of labour.

It has not been possible to draw a clear distinction between producers' and consumers' goods industries. We have instead brought together such branches of industry as belong chiefly to one group or the other. Producers' goods industries are represented by an average of wages in mines, ironworks, and engineering works (Average A). Consumers' goods industries are represented by an average of wages in the paper, food products, and textile industries (Average B). In addition, those industries in either group from which the best wage material is available, namely the metal manufacturing and engineering industries

<sup>1</sup> Cf. Chapter XXII.

Table 194. Earnings and Number of Workers in Consumers' and Producers' Goods Industries 1860-1913.

Year	Producers' goods industries (Average A)	Consumers' goods industries (Average B)		Annual earnings		Number of workers		Annual earnings × number of workers	
				Metal manufacturing and engineering industries	Textile industries	Metal manufacturing and engineering industries <sup>1</sup>	Textile industries	Metal manufacturing and engineering industries	Textile industries
	Annual earnings	Hourly earnings	Thousands						
	Kronor	Öre	Kronor						
1860	466	—	—	512	—	—	—	—	—
61	467	—	—	500	—	—	13.8	—	—
62	505	—	—	526	—	—	12.6	—	—
63	507	—	—	533	—	—	10.0	—	—
64	492	—	—	502	—	—	10.3	—	—
65	528	389	12.1	565	364	—	11.0	—	4.0
66	523	378	12.1	555	340	4.8	12.1	2.7	4.1
67	544	378	12.1	581	342	4.6	12.1	2.7	4.1
68	574	387	12.3	600	343	4.4	11.9	2.6	4.1
69	615	384	12.1	674	344	4.8	12.2	3.2	4.2
1870	628	386	12.3	693	344	5.2	12.4	3.6	4.3
71	630	400	12.6	686	359	6.3	14.6	4.3	5.2
72	705	417	13.3	775	361	7.8	14.6	6.0	5.3
73	761	462	14.6	827	398	9.4	15.5	7.8	6.3
74	801	505	15.7	864	449	11.3	16.6	9.8	7.5
75	804	530	16.2	848	487	11.6	16.3	9.8	7.9
76	792	507	15.8	820	484	11.5	16.2	9.4	7.8
77	770	566	17.1	791	489	11.2	15.6	8.9	7.6
78	724	521	16.5	738	444	9.8	14.4	7.2	6.4
79	666	513	16.1	677	411	9.4	13.5	6.4	5.5
1880	727	540	16.2	754	464	9.7	14.4	7.3	6.7
81	772	553	16.7	842	480	12.2	15.4	10.3	7.4
82	794	562	17.0	855	514	14.0	15.4	12.0	7.9
83	795	562	16.7	832	530	15.3	15.8	12.7	8.4
84	817	570	17.0	854	522	14.3	16.1	12.2	8.4
85	798	579	17.2	827	523	14.5	17.0	12.0	8.9
86	758	569	17.1	787	507	14.2	17.4	11.2	8.8
87	753	591	17.3	792	511	12.4	17.9	9.8	9.1
88	777	598	17.4	829	519	15.6	18.7	12.9	9.7
89	823	614	17.5	889	523	18.5	21.2	16.4	11.1
1890	853	656	18.4	901	534	18.5	22.1	16.7	11.8
91	858	670	19.4	924	543	19.2	23.0	17.7	12.5
92	837	675	19.9	876	539	22.3	22.7	19.5	12.2
93	857	666	20.2	926	540	23.1	23.7	21.4	12.8
94	843	686	20.6	910	585	24.1	26.1	21.9	15.3
95	877	688	20.7	954	592	26.2	28.2	25.0	16.7
96	912	712	21.3	1001	605	29.2	30.8	29.2	18.6
97	933	751	22.7	1021	638	32.8	33.3	33.5	21.2
98	996	786	24.0	1102	668	36.2	35.8	39.9	23.9
99	1045	804	24.7	1155	684	39.4	37.2	45.5	25.4

<sup>1</sup> The scope of this series was extended in 1874 and 1892.



Table 194. (Cont.) Earnings and Number of Workers in Consumers' and Producers' Goods Industries 1860-1913.

Year	Producers' goods industries (Average A)		Consumers' goods industries (Average B)		Annual earnings		Number of workers		Annual earnings × number of workers	
	Annual earnings	Hourly earnings	Metal manufacturing and engineering industries	Textile industries	Metal manufacturing and engineering industries	Textile industries	Metal manufacturing and engineering industries	Textile industries	Metal manufacturing and engineering industries	Textile industries
1900	1095	823	25.3	1229	651	39.8	37.2	48.9	24.2	
01	1044	837	25.9	1163	682	37.2	36.8	43.3	25.1	
02	1075	863	26.8	1213	712	36.9	37.5	44.8	26.7	
03	1088	864	26.6	1204	698	37.6	38.0	45.3	26.5	
04	1151	861	27.0	1294	691	39.2	39.4	50.7	27.2	
05	1079	921	28.3	1128	759	40.2	40.7	45.3	30.9	
06	1233	987	29.8	1362	820	45.0	42.0	61.3	34.4	
07	1313	1033	31.4	1452	835	47.5	42.0	69.0	35.1	
08	1303	1031	32.6	1451	846	46.6	40.8	67.6	34.5	
09	1143	999	33.9	1292	838	44.0	41.3	56.8	34.6	
1910	1397	1101	34.4	1504	892	45.2	43.0	68.0	38.4	
11	1422	1122	35.0	1546	941	44.9	42.6	69.4	40.1	
12	1475	1187	36.5	1582	1009	47.2	43.6	74.7	44.0	
13	1480	1214	37.5	1557	1030	—	43.8	—	45.1	

and the textile industries, have been dealt with separately. The latter cannot be regarded as representative of all consumers' goods industries, as it manufactures durable consumers' goods which are affected in a different way by the business cycles than is the manufacture of non-durable consumers' goods.

In order to establish a fixed chronology of business cycles, the production of mechanical equipment for the manufacturing industries<sup>1</sup> has been used as a kind of "reference cycle".<sup>2</sup> The timing of the short-term variations of all the series analyzed has been examined in relation to the timing of this series of capital production.

The production of mechanical equipment for the manufacturing industries shows pronounced cyclical variations, in which the following phases can be distinguished.

<sup>1</sup> Cf. Table 192 and Chart 42.

<sup>2</sup> Cf. J. M. Clark, *Strategic Factors in Business Cycles*. New York 1934, p. 8 fol.

Expansion	Contraction
—1865 (1866)	1866—1868
1868—1875	1875—1879
1879—1883	1883—1887
1887—1890	1890—1892
1892—1900	1900—1901
1901—1904	1904—1905
1905—1907	1907—1909
1909—1913	

In order to make possible a closer comparison of the variations of the various series during the business cycles without eliminating the "secular trend" within each cycle, Chart 46 has been drawn in the following way: The period 1861—1913 has been divided into eight sub-periods, each of which represents a complete cycle, extending from one minimum in the reference cycle to the next (the period 1909—1913, however, does not include a complete cycle). The mean value of each cycle has been computed for each series analyzed. It should be noted that the minimum years of contiguous cycles are the same, and that the values of those years are therefore included twice. The several series have then been plotted, using a semi-logarithmic scale which has been shifted so as to make the mean values of the different cycles fall on the same base-line. The charts thus show the relative deviations from the mean value of each series in the different cycles.

The short-term fluctuations of annual earnings in the producers' goods group (Average A) agree closely in time with the reference cycle. The increase up to 1875, however, began as early as 1867, while according to the reference cycle the expansion did not begin until 1869. This may be due to the heavy increase in the cost of living following the bad harvests of 1867—1868. On two occasions (in 1883—1884 and 1890—1891) annual earnings lagged one year behind the down-swing.

On one or two occasions the point at which the turn occurred in wages in the consumers' and the producers' goods industries did not coincide: in the former the downward swing in 1875—1877 occurred two years and in 1884—1885 and 1891—1892 one year later than in the latter, while the upward turn in 1886—1887 occurred a year

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earlier and in 1892—1893 a year later. The years of contraction, measured by the fall in the wages, are accordingly fewer in the consumers' goods industries. In the 49-year period 1865—1913 wages were lower than in the preceding year 14 times in the producers' goods industries, but only 10 times in the consumers' goods industries.

The table below shows the variations of the annual earnings in producers' and consumers' goods industries during the periods of expansion (+) and contraction (—). The figures give the earnings at the end of each period in per cent of those at the beginning.

Periods	Annual earnings				Hourly earnings, Average A	Cost of living
	Average A	Average B	Metal manufacturing and engineering industries	Textile industries		
—1866—1868	110	102	108	101	102	110
+1868—1875	140	137	141	142	132	107
—1875—1879	83	97	80	84	99	88
+1879—1883	119	110	123	129	104	104
—1883—1887	95	105	95	96	104	84
+1887—1890	113	111	114	105	106	111
—1890—1892	98	103	97	101	108	101
+1892—1900	131	122	140	121	127	105
—1900—1901	95	102	95	105	102	98
+1901—1904	110	103	111	101	104	101
—1904—1905 <sup>1</sup>	94	107	87	110	105	102
+1905 <sup>1</sup> —1907	122	112	129	110	111	107
—1907—1909 <sup>2</sup>	87	97	89	100	108	101
+1909 <sup>2</sup> —1913	129	122	121	123	111	105

The annual earnings regularly increase more in the producers' goods industries (Average A) during expansions than in the consumers' goods industries (Average B), even though in a couple of instances the difference is not considerable. The relative trend of wages in producers' and consumers' goods industries is not the same, however, throughout the expansion periods (cf. Chart 46). The annual earnings in the producers' goods industries fairly regularly show the most rapid increase at the beginning

<sup>1</sup> Strike at engineering works.

<sup>2</sup> General strike.

**Chart 46. Short-term Variations of Wages in Manufacturing and Mining 1861—1913.**

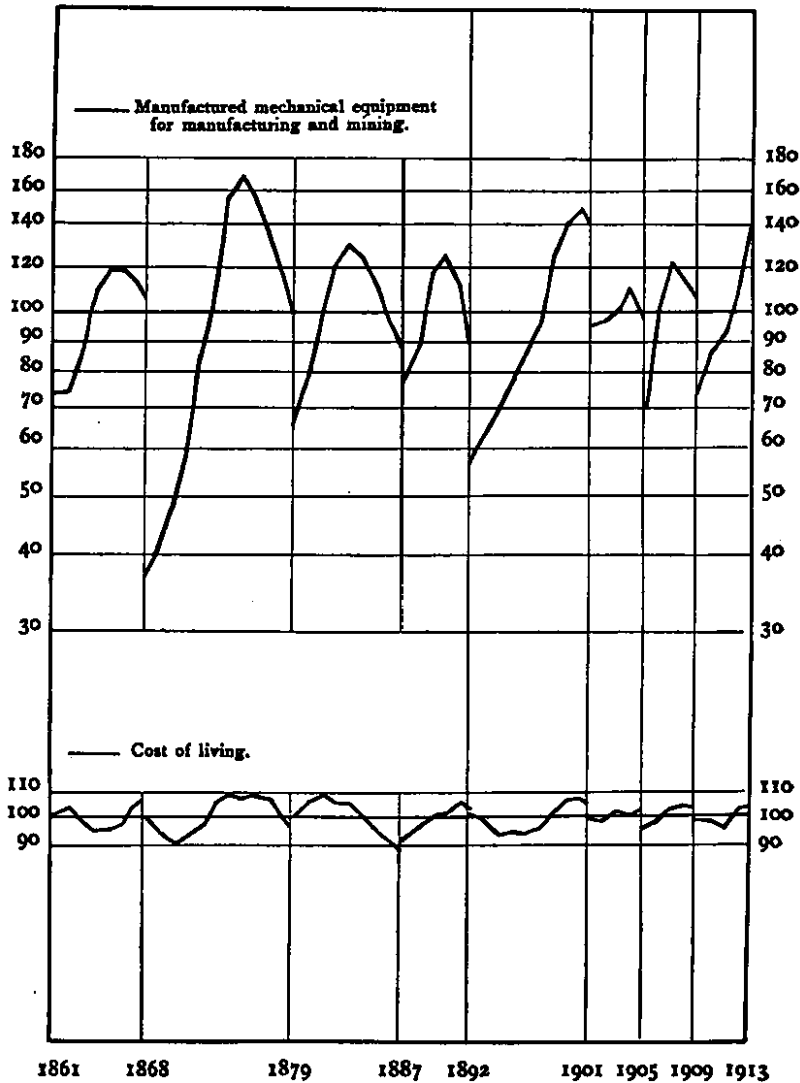


Chart 46. (Cont.) Short-term Variations of Wages in Manufacturing and Mining 1861-1913.

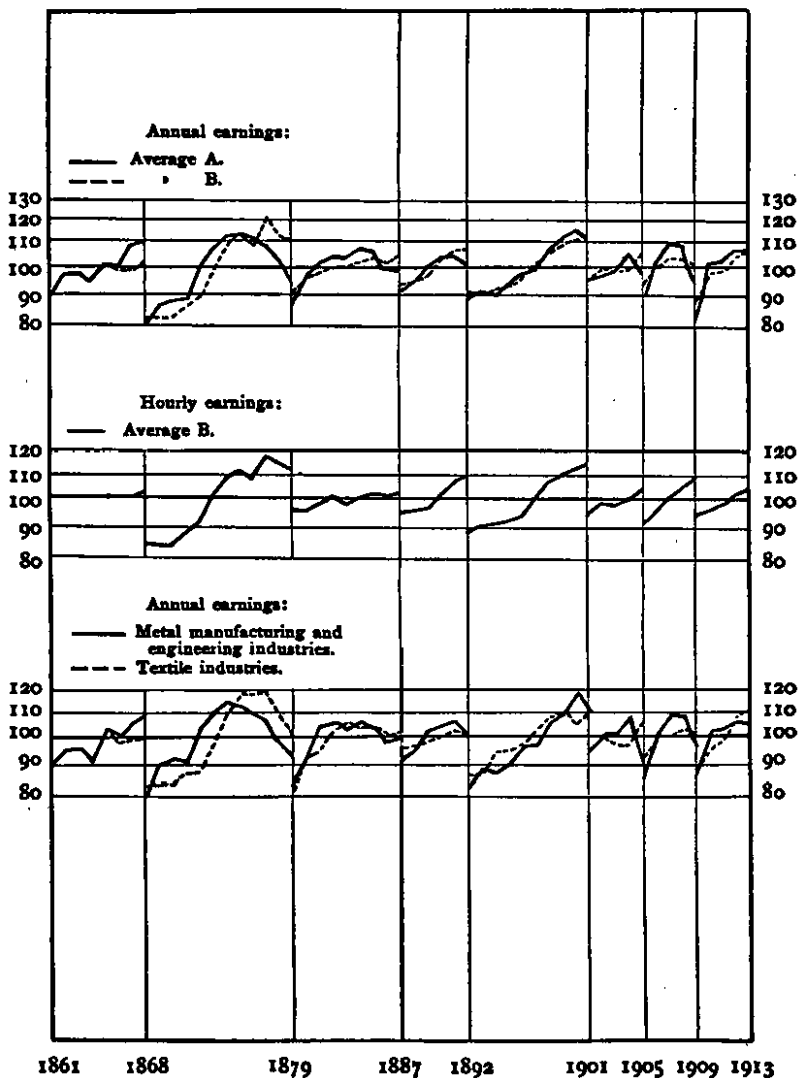
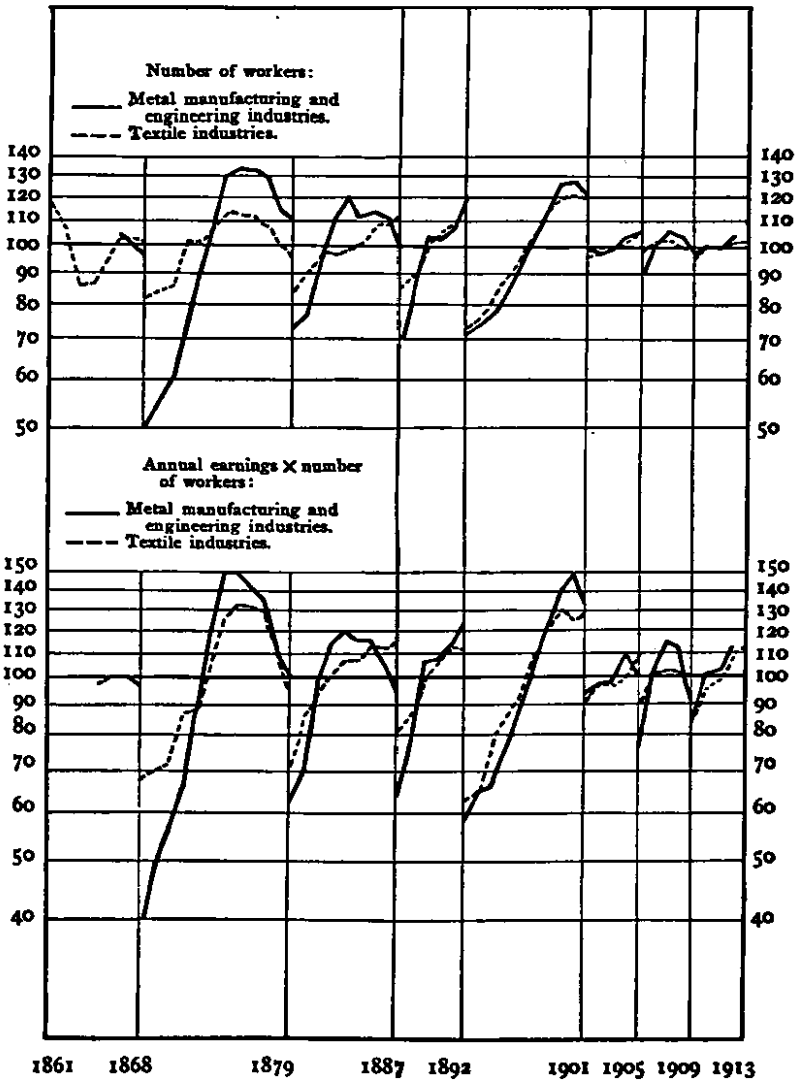


Chart 46. (Cont.) Short-term Variations of Wages in Manufacturing and Mining 1861-1913.



of a boom, while in most cases the annual earnings increase even faster towards the end of the boom in the consumers' goods industries.

Except twice, in 1875—1879 and in connection with the strike in 1909, Average A has regularly dropped during periods of contraction, while Average B has risen, though at a slower rate than during the preceding period of expansion.

The amplitude of the cyclical changes of wages in the engineering works is usually larger than of the average for all producers' goods industries (Average A). The textile industries manufacture relatively durable consumers' goods, and thus differ from other consumers' goods industries in their cyclical changes. In the two expansion periods 1868—1875 and 1879—1883 the annual earnings in the textile industries increase even more than in the producers' goods industries.

In the consumers' goods industries, the hourly earnings were even less affected by the depressions than the annual earnings. They only decrease in seven of the years from 1866 to 1913. Their cyclical variations were generally less than those of the corresponding annual earnings (cf. table above), even though the difference is relatively small. The hourly earnings frequently had their most rapid rate of increase one year later than the annual earnings. This was so in 1880—1881, 1890—1891, and 1906—1907.

The development of the real annual earnings is indicated by a comparison of the nominal annual earnings with the cost-of-living index (Chart 46, Table, p. 291). The latter frequently deviates, as far as the timing of its variations is concerned, from the general business cycle. Usually, however, it rises during the expansion periods and falls during the contraction periods. The most striking exception is the eighteen-sixties when, owing to disturbances of the agricultural production, the cost of living varied inversely with the industrial cycle.

In the producers' goods industries, the cyclical variations of the annual earnings are generally wider than the

variations in the cost of living. The real annual earnings are therefore generally positively correlated with the cyclical changes in industry. The period of depression 1883—1887 is an exception, when the fall in the cost of living exceeded the reduction in the nominal wages.

In the consumers' goods industries, on the other hand, real annual earnings form no typical business cycles, which fact is obviously connected with the less pronounced cyclical variations of the nominal annual earnings in this branch of production. The increase of the real earnings in the consumers' goods industries during the expansion periods was often insignificant, and repeatedly exceeded by the increase of the real wages during the following period of depression.<sup>1</sup>

Variations in the purchasing power of the industrial workers depend on two factors, of which the annual earnings are one. The second factor is the number of workers employed in industry. The total earnings in the metal manufacturing and engineering industries and the textile industries, representing respectively producers' and consumers' goods industries, have been obtained by multiplying these factors.<sup>2</sup> It must be remembered, however, that this calculation is subject to statistical errors. In the first place, the wage index does not take into account the changes in the average efficiency of labour that in all probability take place during business cycles. Changes in the average efficiency of labour by the engagement of untrained workers probably cause corresponding changes in the average wages, which do not appear in our averages. This will result in too large an increase in the series of total earnings during the expansion period and too large a decrease during the contraction period.

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<sup>1</sup> The special trend of the cost of living in the 'sixties caused the real wages to fall in 1866—1868. The reduction of real wages in 1907—1909 was connected with the strike in 1909.

<sup>2</sup> The number of workers has been obtained from the Industrial Statistics. The figures for the metal manufacturing and engineering industries include the workers under the headings *Järn- och stålvarufabriker*, *Mekaniska verkstäder* and *Gjuterier*. Regarding the correspondence between the measurement of the annual earnings and the number of workers, see p. 244 fol.



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The table below gives the changes in annual earnings, in number of workers, and in their products during the periods of expansion (+) and contraction (—), the first year of each period being used as the base of the index numbers. In the last column the changes in the cost of living are given for the sake of comparison.

Periods	Annual earnings		Number of workers		Annual earnings x number of workers		Cost of living
	Metal manufacturing and engineering industries	Textile industries	Metal manufacturing and engineering industries	Textile industries	Metal manufacturing and engineering industries	Textile industries	
—1866—68	108	101	92	98	96	100	110
+1868—75	141	142	<sup>1</sup> (264)	137	<sup>1</sup> (377)	193	107
—1875—79	80	84	81	83	65	70	88
+1879—83	123	129	163	117	198	153	104
—1883—87	95	96	81	113	77	108	84
+1887—90	114	105	149	123	170	130	111
—1890—92	97	101	<sup>1</sup> (121)	103	<sup>1</sup> (117)	103	101
+1892—00	140	121	178	164	251	198	105
—1900—01	95	105	93	99	89	104	98
+1901—04	111	101	105	107	117	108	101
—1904—05	87	110	103	103	89	114	102
+1905—07	129	110	118	103	152	114	107
—1907—09	89	100	93	98	82	99	101
+1909—12	122	120	107	106	132	127	105

The number of workers shows considerably more regular cyclical changes than the annual earnings. Apart from the incompletely developed cycle of 1901—1905, the increase in the number of workers during the expansion periods was larger in the engineering works. Similarly, the reduction in employment during depressions was also most pronounced there. The depression in the beginning of the 'nineties was an exception to this. The strong increase in the number of workers in the metal manufacturing and engineering industries in those years may be partly due to the changes made in the scope of the statistics, but it is also partly connected with the advance of the engineering industry throughout that decade. In the textile industry the number of workers remained

<sup>1</sup> Extended scope of the statistics.

practically constant, or rose slightly, during the depressions, except at the end of the 'seventies, when there was a considerable reduction.

The result is that the amplitude of the variations of the estimated total earnings is consistently much larger in the industries representing the production of producers' goods. The total earnings in the metal manufacturing and engineering industries rose rapidly during each cyclical expansion. In the early cycles, this was principally due to the increase in the number of workers employed, but in the later cycles variations in employment and in annual earnings had about an equal share. The reductions in annual earnings and in the number of workers had approximately as much effect on the reduction of the total earnings during the depressions.

In the textile industries, the relative importance of changes in employment and individual earnings to the increase in the total earnings during the expansion periods has varied. Except for the period 1875—1879, when both the number of workers and the annual earnings fell exceptionally rapidly, the total earnings have been practically constant, or risen slightly during periods of cyclical contraction.

The cyclical increase and decrease of total earnings in the producers' goods industries selected here generally considerably exceeded the corresponding changes in the cost of living. The purchasing power of the total earnings in the textile industries also rose regularly during the booms. During the years of depression this relationship was more irregular.

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## CHAPTER XXV.

### INDUSTRIAL CHANGES AND THE TREND OF WAGES IN AGRICULTURE AND FORESTRY.

THERE is reason to suppose that during the pre-war period of rapid industrialization the trend of industrial wages was intimately connected with that of industrial production. The industrial development probably also had a dominating influence on the trend of wages in other occupations. The extent to which this influence manifested itself in a uniform trend of wages, would depend on the mobility in the labour market.

The labour market was divided into a number of inter-communicating occupational sections, the most important of which were the industrial and the agricultural labour markets. Across these occupational divisions of the labour market cut its local subdivisions. We have, besides, to take into account what might be called the emigrant labour market. The connection between the trend of wages in any two sections of the labour market will evidently depend primarily on the mobility of labour between the two sections of the market in question, defined in terms of stimulus and response, but secondarily also on the mobility of labour between them and other sections of the labour market. If the mobility between for example an industrial and an agricultural section of the labour market is restricted, the trend of agricultural wages may be affected by changes in agricultural production which do not affect the trend of industrial wages. If, in addition, the mobility between the agricultural and another section of the labour market is greater than between this third market and the industrial labour market, the trend of agricultural and industrial wages will be affected in different ways and in different degrees by changes in the third market.

*The Position of Agriculture in the Pre-War Labour Market.*

None but very general statements can at present be made regarding the mobility of labour between agriculture and the manufacturing industries in the pre-war period. As the degree of local mobility was quite restricted, particularly in the earlier years of the period, owing to the limited possibilities of surveying the labour market, and to the undeveloped state of the means of communication, the mobility between these two occupations will depend on their localization in relation to each other. As pointed out above, a characteristic feature differentiating Swedish industry from that of most other countries was and is its predominant localization in rural districts. It is therefore clear that the contact between the agricultural and industrial labour markets must have been close. Industries in rural districts must have competed with agriculture for the available labour, and that competition must have been all the more effective for being locally restricted. Frequently labour moved seasonally between agriculture and some manufacturing industry, and the working conditions of the latter thus directly affected the supply of labour and wages in agriculture. This applies for instance to the brick industry, the sugar industry, and the stone-quarrying industry. Forestry work, which is closely associated with the wood-working industries, ought also to be mentioned in this connection, as supplementing agricultural work in the wooded parts of the country.

The contact between the agricultural and the industrial labour markets was still probably not close enough to prevent initial changes in the agricultural labour market to cause a to some extent special trend of agricultural wages. Some examples of this will be given later. There is, however, reason to suppose that the changes in the agricultural labour markets were to a great extent correlated with developments in the industrial labour market. The great advances in methods and organization made by agriculture were very likely largely due to the fact that the Swedish farmers — while finding an increased

sale for their produce owing to the growth of the industrial and urban population — were at the same time forced to compete with industry for the available labour. The manufacture of agricultural machinery, the improvement of communications, the growth of the credit system caused by the growth of industrial investments and of commerce, the increased savings connected with the increased incomes of the industrial population and the profits on industrial enterprise, were all factors which affected the general progress of agriculture. Agriculture thus progressed in close connection with industrialization, and we have accordingly less reason to expect that the trend of wages in agriculture should deviate from that in the manufacturing industries.

The relative trend of wages is also affected by the relative mobility of the industrial and agricultural labour to other sections of the labour markets. Of special importance is the extent of emigration in different occupational groups. In the first half of the period agriculture was probably more affected by emigration than was the manufacturing industry, and this seems to have left traces in the trend of wages. From 1895 the relative extent of emigration seems, on the other hand, to have been approximately the same in the industrial as in the agricultural population.<sup>1</sup>

A general idea of the connection between the trend of wages in industry and in agriculture can be obtained by comparing the respective national averages. In view of the locally confined labour markets in the period in question, this comparison must be supplemented by an examination of the local trends. This has been done in Chapter XXVII. The local trend of agricultural wages has there been compared with the progress of industrialization in various parts of the country, and with the trend of wages in certain locally concentrated industries.

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<sup>1</sup> Cf. *Myrdal*, *Industrialization and Population*, in *Economic Essays in Honour of Gustav Cassel*, London 1933.

*The Secular Trend of Industrial and Agricultural Wages,  
1860—1913.*

*The Statistical Material.* Apart from certain statistical complications, working conditions, qualifications of labour, nature and arrangement of the work, wage systems, etc., must be taken into consideration when comparing the trend of wages in different occupational groups. This applies especially to wages in agriculture and in manufacturing and mining. Consideration must among other things be given to such changes in the efficiency of labour as have occurred in the two branches of occupation during the period discussed. There is a possibility that the very migration from agriculture to industry has affected the average efficiency of labour in these two occupations. Various demographic investigations indicate that the more mobile elements of population differ in type from those who are more permanently settled. It does not seem unlikely that this also applies to the efficiency of labour, and that it was the most capable elements that left agriculture to find more profitable employment in other occupations. Under such circumstances there must have been a tendency to a relative decrease of the average efficiency of labour in agriculture during periods of heavy emigration from this occupation.

The most representative industrial wage series is that of annual earnings. The available series of annual earnings of agricultural workers are, on the other hand, less representative. The data regarding servants' annual wages thus only give the cash wages, while the information on *statare* wages is not very reliable. The principal weight in a comparison must therefore, as far as agriculture is concerned, be put on the average day-rates.

The most reliable day-rate average is that based on the *Markegång* rates. The construction of this average differs from that of the average for industrial labour. Whilst the latter is intended to show the trend of wages among workers of as far as possible unchanged qualifications, the former refers to the current day-rates, taking into account

for instance changes in the proportion of permanent to casual labour. The average based on the Agricultural Statistics, on the other hand, is an unweighted average of casual and permanent day-labour. Which of these differently weighted averages to use, is a question of the point of view. The *Markegång* rates being probably more representative, the average based on them has here generally been taken to represent agriculture.

When comparing these day-rates with the annual earnings in manufacturing and mining, one must also take into account that day-labour in agriculture is markedly seasonal in character, and to a large extent entirely casual. The day-rates cannot therefore be used to represent the trend of annual earnings. There is, on the other hand, reason to suppose that the trend of the daily earnings in manufacturing and mining has, at least in the long run, been the same as that of the annual earnings. Annual and hourly earnings in manufacturing and mining show a difference in the secular trend which, according to available information, exactly corresponds to the shortening of the daily working hours. This indicates that, in the long run, the number of working days per annum has been constant for the workers in manufacturing and mining included in the investigation, and that the annual earnings can be taken to represent the secular trend of daily earnings.

The wage series compared differ also in respect of the selection of workers. While the more permanently employed, skilled workers are in the majority in the averages for manufacturing and mining, the agricultural wage data refer mainly to unskilled, partly casual workers. It would have been of great interest to compare agricultural wages also with the wages of more casually employed and less skilled industrial workers. The trend of their wages has probably been more closely connected with the trend of agricultural wages.

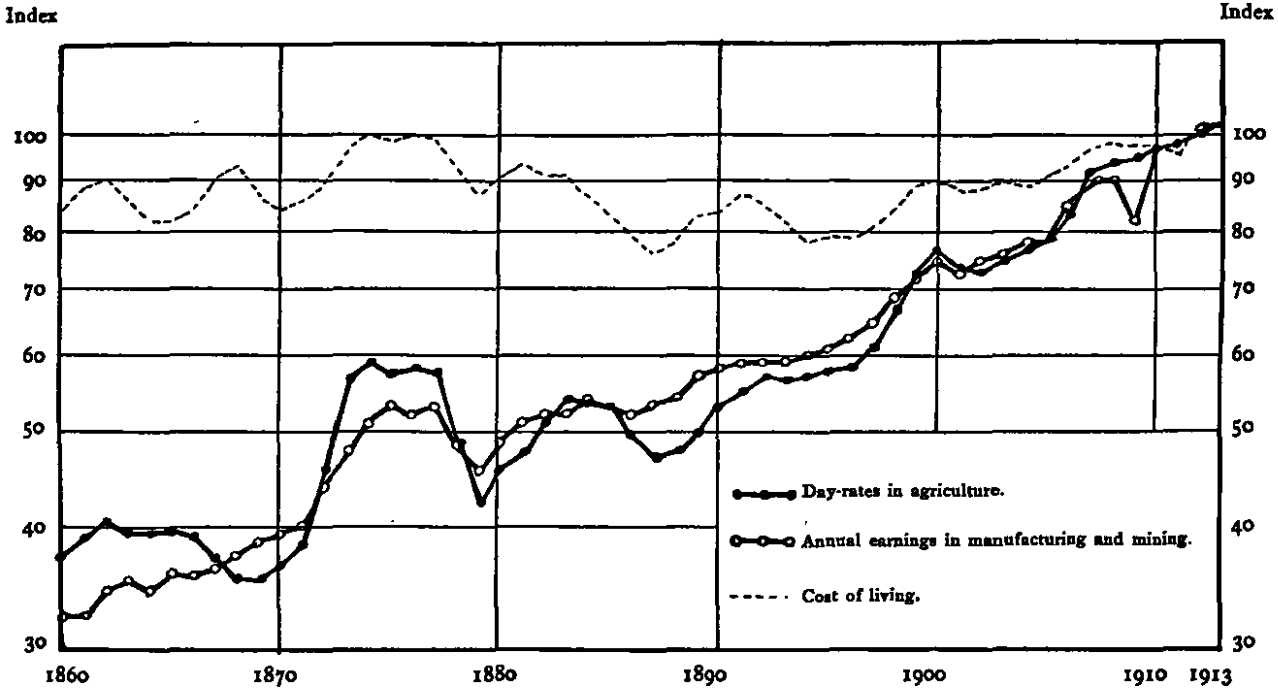
*The Secular Trend.* Between the periods 1860—1864 and 1910—1813, during which wages were relatively stable, the annual earnings in manufacturing and mining rose by 195 %, while the agricultural day-rates rose by barely

155 %; there is thus a difference of 40 % in favour of the former. The lower trend of the agricultural wages did not prevail uniformly during the whole period. The agricultural wages show wider cyclical fluctuations, and a comparison of indices of wages in agriculture and manufacturing and mining, taking say the years 1910—1913 as base, will therefore give different results in boom and in depression years: During booms the index of the agricultural day-rates is usually higher, and lower during depressions. Up to the beginning of the 'nineties the secular trend of the agricultural wages is, however, distinctly lower than of the annual earnings in manufacturing and mining. Between the two periods 1860—1864 and 1890—1894, which seem fairly comparable in respect of phase of business cycle, the annual earnings of the industrial workers rose by 74 %, while according to the *Marktgäng* rates the daily earnings in agriculture only rose by 42 %. From the earlier half of the 'nineties up to the war, on the other hand, the secular trend of agricultural wages was relatively high. Agricultural day-rates rose by 80 %, while the annual earnings in manufacturing and mining only rose by 70 %. After 1920 the relative increase of agricultural wages changed into a relative decrease which was far stronger than any relative changes in the pre-war period (cf. below).

The wage series based on the Agricultural Statistics do not begin until in 1865. A comparison between the rise of wages in manufacturing and mining and in agriculture from the quinquennial period 1865—1869 to the years 1910—1913 would give a result quite different from that obtained by the above comparison. This is the result of the abnormal conditions in the years 1867—1869. While manufacturing industries expanded, agriculture experienced a depression caused by bad harvests, and accompanied by a strong reduction of wages. We have therefore preferred to make 1865—1866 the basis of the comparison. These years were according to the *Marktgäng* rates marked by stable wages in agriculture in comparison with the preceding years, and the increase of the



**Chart 47. Day-rates of Male Workers in Agriculture according to the *Markegång* Rates, and Annual Earnings of Male Workers in Manufacturing and Mining 1860—1913. (Index: 1910—1913 = 100.)**



day-rates up to 1910—1913 was, according to the *Markegång* rates, 154 %, that is to say about the same as from 1860—1864. Wages in manufacturing and mining, on the other hand, had risen between 1860—1864 and 1865—1866, and the rise from the latter period up to 1910—1913 was only 178 %. The increase in the day-rates of the Agricultural Statistics, again, was 132 %. The low rise of this series, as compared with that based on the *Markegång* rates, can be explained by the fact that it does not take into account the change to better paid casual labour that had taken place in agriculture in the period under review. The annual cash wages of male farm servants rose by 169 %. If the benefits in kind had also been included, the increase would have been considerably less. These remained almost unchanged in quantity during the period, and owing to the slight secular increase in the cost of living the value of that part of the wages can have increased but little. The average of *statare* wages based on the Agricultural Statistics, which is not very representative, increased by only 135 %, while according to the material collected by the Institute the *statare* wages increased by 152 %, that is to say almost as much as the day-rates according to the *Markegång* rates. As mentioned above, the material collected by the Institute is not comprehensive enough to be considered representative of the general movement of *statare* wages. Like the day-rates of the *Markegång* rates all agricultural wage series have a lower trend than the industrial wages up to the beginning of the 'nineties. From that time up to the war only the male farm servants' wages increased, as did the day-rates of the *Markegång* rates, faster than wages in manufacturing and mining. The difference in the trend of the day-rates of the Agricultural Statistics and of the *Markegång* rates might be explained by the increasing employment of more casual labour from the beginning of the 'nineties. The two series of *statare* wages both show an increase since the beginning of the 'nineties which is slightly less than the increase in the annual earnings in manufacturing and mining.

To sum up, agricultural wages rose in the fifty-year period as a whole considerably less than did the annual earnings in manufacturing and mining. The lower trend, however, was almost exclusively confined to the first thirty years, while in the twenty following years the trend of agricultural wages was anyway not much lower than that of the annual earnings of workers in manufacturing and mining. According to the most reliable source, the *Markegång* rates, wages in agriculture grew even faster than in manufacturing and mining, in connection with changes in agricultural working conditions.

A direct comparison of the labour costs in agriculture and in manufacturing and mining is impossible, if only for the reason that a certain stated working time means a different effective working time in each of the two branches. Even if we confine ourselves to a comparison of the trend of the labour costs, the difficulty remains that the working efficiency may have developed differently. A certain approximation may be arrived at, however, by calculating the wages per unit of time.

The data regarding the length of the working time in agriculture are rather approximate.<sup>1</sup> Up to the 'nineties, the net working time in the height of the season probably amounted to 14 hours. Later, it was gradually shortened, and at the end of the period it is stated to have been 10.5 hours. Simultaneously the winter working hours had probably been shortened still more. Assuming unchanged seasonal distribution of the work, we therefore have to reckon with a shortening of the average daily working hours in agriculture by at least 25 %. The corresponding reduction in manufacturing and mining was only about 8.5 %, and the difference in the trend of the wages will therefore be reduced if we allow for the changes in working hours per day. From 1860—1864 to 1910—1913 the series of hourly earnings in manufacturing and mining, which may be regarded as a fairly reliable indicator of the secular trend of wages, rose by 229 %. A reduction by 25 % in the working time in agriculture means that in the same period the

<sup>1</sup> Cf. Chapter XVII.

hourly earnings in agriculture, according to the *Markegång* rates, rose by 240 %, that is more than in manufacturing and mining. The *Markegång* rates, however, bring into account the change in the seasonal character of agricultural work that had in the meantime taken place in favour of casual summer labour. As the working time is longer in summer than in winter, we must reckon with a correspondingly less shortening of the average working time per day, and the increase of the hourly earnings will consequently be less than 240 %. The average agricultural day-rate obtained from the Agricultural Statistics, on the other hand, is an average the weighting of which in respect of casual and permanent agricultural labour has remained unchanged, and the calculated reduction of working hours by about 25 % therefore seems to be more applicable to this series. A computation based on this series gives the result that the increase of the hourly earnings in agriculture from 1865—1866 to 1910—1913 was 209 %, while in manufacturing and mining it was 213 %.

This approximate comparison of the wages per hour in agriculture and in the manufacturing industry indicates that their secular trend has agreed very closely.

*The Gap between Agricultural and Industrial Wages.* It would have been desirable to complete the above comparison of the trends of wages by one between the absolute wage levels in agriculture and in manufacturing and mining. The nominal annual earnings of the industrial workers selected for our inquiry were much higher than those of the agricultural workers for whom data regarding their annual earnings are available. The difference is of a magnitude which excludes its being due to any statistical sources of error. Nor is it likely that it could be entirely eliminated if we took into consideration the fact that on the one hand the more skilled workers dominate in the Institute inquiry into the trend of wages in manufacturing and mining, while on the other hand agriculture is only represented by its less skilled workers.

The actual level of the nominal wages, irrespective

of the cost of living in the place where they were paid, was probably often of direct significance to the migrants from agriculture to manufacturing and mining. In the first place, a worker who went over to manufacturing and mining would often not know very much of the cost of living in the place where he was going, and in the second place the higher nominal wages were of real importance to the wage-earner, if they were spent in the place from which the worker had moved. This may have been done by his having either remitted them to stay-at-home relatives, or saved them with a view to his eventual return there.

The cost of living in the place where the wages were earned must have been of greater importance to the worker. Recent investigations show that the cost of living varies greatly from place to place, and in any comparison the wages should therefore be reduced by the local cost of living. Unfortunately, our information on industrial wages and costs of living in pre-war days is not sufficiently differentiated to allow a comparison of wages reduced by local costs of living. Such a reduction would undoubtedly result in a strong reduction of the difference between industrial and agricultural wages, since the cost of living is generally much higher in industrial than in agricultural districts. It seems also probable that the relative level of the cost of living of industrial workers has increased in connection with the growth of the industrial communities and towns. The relative trend of real earnings has consequently been less favourable to industrial labour than the above comparison of nominal wages indicates.

To a limited extent it is possible to examine the relative trend of real wages by comparing the nominal wages in certain rural manufacturing industries with the agricultural wages in the surrounding district (cf. p. 352 fol.).

*Agricultural Wages and Industrial Fluctuations 1860—1913.*

Agricultural wages are generally considered fairly insensitive to the industrial business cycles, owing to a certain

conservatism in fixing agricultural wages.<sup>1</sup> That opinion is to some extent confirmed by the series of day-rates collected by the Institute from some selected farms. Some of these wage series, which generally refer to permanently employed workers, have a characteristic stepping-up secular trend: alternately with rises during booms, they remain stationary, or occasionally fall slightly, during depressions. Wage series from other farms, again, follow more closely the business cycles, in that the periods of depression are marked by very pronounced retrogression of the day-rates. This may conceivably be caused by employers on different farms being more or less tied by old traditions, and that consequently there has been a certain differentiation not only in wages, but also in the skill and age of the labourers employed. Lacking knowledge of the kind of workers on the different farms, it seems impossible to draw any definite conclusions from the series of day-rates collected from selected farms in respect of the business cycle pattern of agricultural wages. From this point of view the data referring to *statare* wages seem to be of greater value. These indicate that both the annual cash wages and the benefits in kind included in the *stat* have remained the same for decades, and that reductions of the cash wages, or of the quantity of the benefits, are very rare. The occasional changes of the *statare* wages do not seem to have been connected with the business cycles. Sometimes it has even happened that a reduction in the quantity of the benefits in kind has been made during boom years without any corresponding compensation in the cash wages. The variations in the total value of *statare* wages may be wholly ascribed to changes in commodity prices. There are thus fairly good grounds for saying that the cash wages and the quantities of benefits in kind of the permanent workers on the large farms of south and central Sweden did not fluctuate with the industrial business cycles. This statement cannot, however, be extended to apply to all the other categories of agricultural wages.

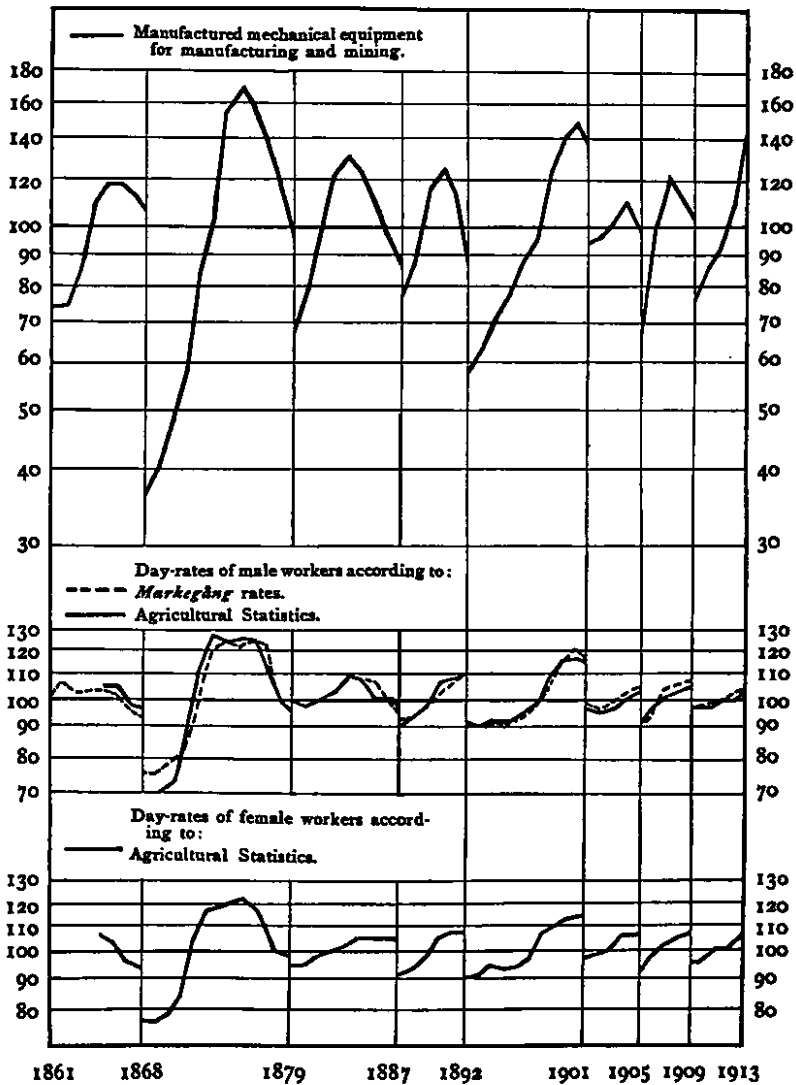
<sup>1</sup> Cf. for example *Jørgen Pederson, Arbejdslønnen i Danmark (Wages in Denmark), København 1930.*

The wage series extracted from the *Markegång* returns and the official Agricultural Statistics, which include day-rates for day-labourers, annual cash wages for servants, and the total value of *statare* wages, all show pronounced cyclical variations. In Chart 48 the timing of their cyclical variations has been examined in relation to that of the series of capital production, which in this study has been used as a reference cycle (cf. p. 289).

The chart indicates that the first three cycles occurring in the period 1861—1887 were characterized by large both upward and downward changes in the wage level, rising during the expansion periods and falling during the contraction periods. An exception from this rule is the *statare* wages during the period of industrial depression in 1867—1868. The increase in their total value was obviously connected with the rise in the food prices resulting from the failure of the harvests in 1867—1868, which affected the estimated value of the benefits in kind. From 1887 up to the end of the period in question followed a rise in all wage series, which was only broken by a slight fall during the depression after 1900 in the case of day-labourers and *statare*. Otherwise, wages continued to rise during the contraction periods, though at a slower rate than during the periods of industrial expansion.

In the latter half of the period reviewed, the stepping-up trend considered characteristic of agricultural wages can thus be observed more generally than earlier. This behaviour may of course be due to a certain conservatism in fixing wages, but why should the effects of this not be apparent in the earlier part of the period? Conceivably, other causes must be sought for. The rise of agricultural wages during the contraction period 1890—1892 might, for example, possibly be explained in another way: The development of economic conditions in these years was quite different in Sweden and in U. S. A. The depression after the 1890 crisis was much shorter in U. S. A. than in Sweden, and was followed by a revival already in the latter half of 1891, which turned into a boom in 1892. Owing to the contrary cyclical trends, the emigration

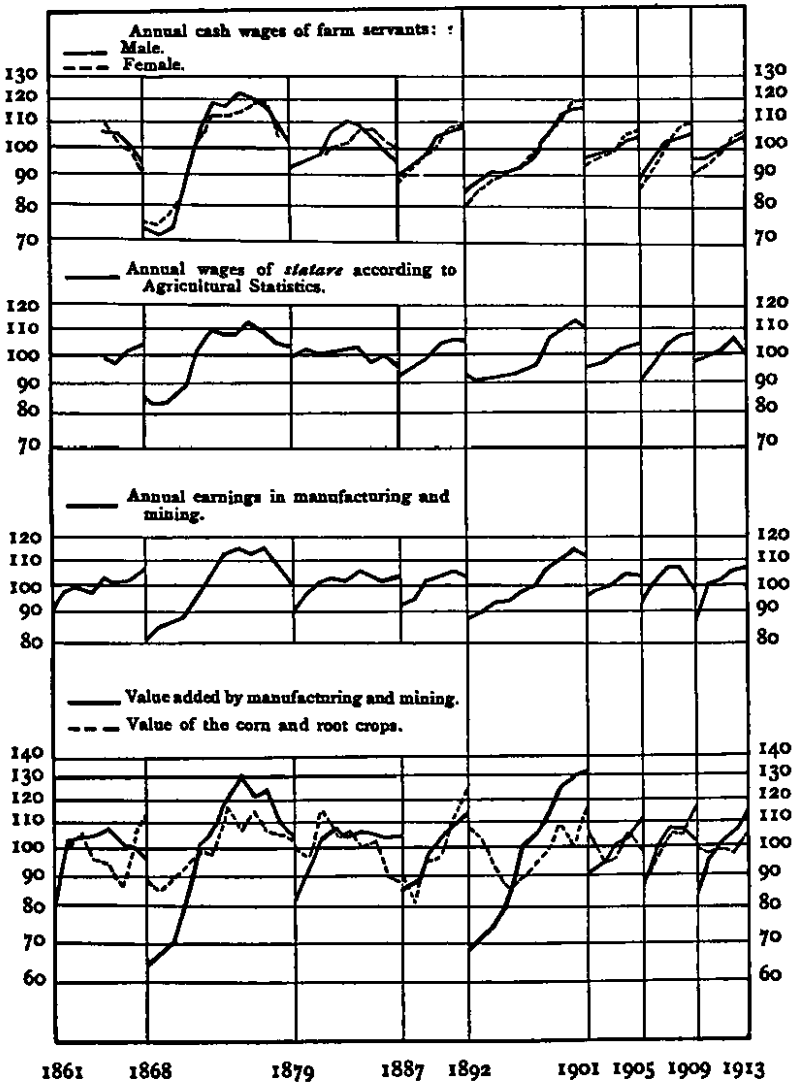
**Chart 48. Short-term Variations of Agricultural Wages  
1861—1913.**





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**Chart 48 (Cont.) Short-term Variations of Agricultural Wages  
1861—1913.**



from Sweden to U. S. A. increased and the supply of agricultural labour consequently diminished. One must also take into account the possible effects of the import duties on corn from 1888, and the consequent rise in corn prices and crop values.

As regards the timing of the down- and up-swings, the agricultural wages sometimes lag one or two years behind the series of capital production which has been used as reference cycles. While the peak of the reference series falls in 1875, the wage series exhibits two peaks, of which the first falls in 1873 or 1874 and the second in the period 1875—1877. Otherwise, only the wages of female workers lag at the down-swing. This was the case of female servants and day-labourers in the depression period 1890—1892, when the lag might be connected with the trends of emigration and of crop values, referred to above. The day-rates of female labourers also lag one year at the down-swings in 1900—1901 and in 1907—1908. Agricultural wages more generally lag at the up-swing. This happened in the case of female day-rates (Agricultural Statistics) in 1879—1880, in the case of male day-rates (*Markegång* rates and Agricultural Statistics) in 1892—1893 and 1901—1902, and in the case of female day-rates (Agricultural Statistics) in 1909—1910. The lead of female servants by one year in 1878—1879 forms an exception.

The correlation of the male day-rate series extracted from the *Markegång* rates with that from the Agricultural Statistics is very close. The agreement between these data from different sources indicates that this material really is reliable in respect of the annual variations in wages, and provides a good basis for the study of the cyclical changes in agricultural wages. The business cycle pattern of male servants' wages does not deviate in any typical way from that of the male day-rates, except in so far that in the second half of the period in question the trend of the former series is higher during the depression and the revival. In comparison with the male day-rates, the *statare* wages generally exhibit a lower trend during the expansion periods and a higher trend during

the contraction periods. The casual day-labourers were probably more rapidly absorbed by manufacturing and mining during the periods of industrial expansion than the more permanently employed labourers. On the other hand, the supply of casual day-labour in agriculture was probably most affected when the population-loss of agriculture diminished, or even turned into a gain during periods of industrial depression. Even a temporary slowing down of the migration during a depression may have been sufficient to cause a fall in the day-rates.

The female wages seem to have been less affected by the industrial fluctuations than the male wages. Male day-rates generally rise faster during expansion-periods and fall more, or rise less, during the following depression than female day-rates. The amplitude of male servants' wages was less than that of female servants' wages during the first half of the period. From 1887 on, the trend of female servants' wages is higher during the whole of the business cycles. The less pronounced cyclical variations of female wages are probably explained by the less use of female than of male labour in the manufacturing industries. The differences in the business cycle pattern of male and female wages may also be due to the fact that women are more extensively employed in certain consumers' goods industries (the textile and the boot and shoe industries), in which the business cycles are less pronounced than in the producers' goods industries, where the labour employed is chiefly male.

*Short-term Variations of Industrial and Agricultural Wages  
1860—1913.*

As the primary reason for the connection between the trend of agricultural wages and the industrial fluctuations probably is the existing intercommunication between the industrial and the agricultural labour markets it is, of special interest to compare the cyclical variations of wages in these two sections of the labour market.

The wages in manufacturing and mining rose steadily

all through the 'sixties<sup>1</sup>. Agricultural wages, on the other hand, showed a downward tendency from the middle to the end of the 'sixties<sup>2</sup>. The boom in the middle of the 'seventies had a much greater effect on agricultural than on industrial wages. While the annual earnings of industrial workers rose by 33 % from 1870 to 1875, the agricultural day-rates and servants' wages rose by from 56 to 73 %. In the same time *statare* wages rose by 30 % according to the Agricultural Statistics. The subsequent fall in agricultural wages occurred, as in manufacturing and mining, chiefly in 1878 and 1879, but most agricultural wage series began to fall already earlier. The annual earnings in manufacturing and mining fell by 14 % from 1877 to 1879, while the day-rates and servants' annual wages in agriculture — which had risen most from 1870 to 1875 — fell about 20 %, and *statare* wages by less than 10 %.

After the severe depression of 1879, wages recovered in both manufacturing industries and agriculture. In the former branch they rose from 1879 to 1884 by 18 %. The rise in agricultural wages, on the other hand, generally ceased in 1883. Up to that year the day-rates rose by 25 % according to the *Markegång* rates, and by 11 % according to the Agricultural Statistics. The average value of *statare* wages rose by only 2 %. In manufacturing and mining the recovery was followed by a slight reduction of the annual earnings of 2 % from 1884 to 1886, while the different series of agricultural wages show a uniform fall until 1887 by about 10 %.

From 1887 onwards there was a uniform and marked increase of agricultural wages right up to 1893, when there was a check. Industrial wages began to rise at the same time, and developed parallel to agricultural wages until 1890, when they stagnated until the middle of the 'nineties. From 1887 to 1892 the rise of agricultural wages

<sup>1</sup> The material on which the wage series for industrial workers are based was rather scanty in the 'sixties, and their representativity may be questioned.

<sup>2</sup> The divergent trend of wages paid in kind has been referred to above (p. 311).

averaged 18 %, while the annual earnings in manufacturing and mining only increased by 11 %. As we have pointed out above, this different trend in the two branches might conceivably be explained by changes in emigration and crop prices. The rise of wages during the second half of the 'nineties was stronger in agriculture than in manufacturing and mining. From 1895 to 1900 the annual earnings in manufacturing and mining rose 22 %, while the day-rates of the *Markegång* rates rose by 33 %, those of the Agricultural Statistics by 28 %, annual cash wages of male farm servants by 27 %, and the *statare* wages according to the Agricultural Statistics by 21 %. Wages, both in manufacturing and mining and in agriculture, were slightly lower in 1901 than in 1900. The day-rates of male agricultural workers continued to fall in 1902. From 1902 to 1905 there was a general rise of wages by about 6 %.

The industrial boom in 1906 and 1907 was accompanied, as we have indicated above, by a general strong increase of wages. Annual earnings in manufacturing and mining rose by 15 % from 1905 to 1907. The day-rates in agriculture rose by 17 % according to the *Markegång* rates, and by 13 % according to the Agricultural Statistics, the annual cash wages for male farm servants and *statare* increased by 16 %. Agricultural wages continued to rise in 1908, while industrial wages stagnated. They, however, recovered so strongly from 1908 to 1910, that the total increase from 1907 to 1913 was of approximately the same magnitude in both branches.

The above analysis has shown that the short run variations of agricultural wages have as a rule followed the cyclical fluctuations of wages in manufacturing industries. This correlation can be explained by the extensive migration from agriculture to manufacturing and mining, which varied with the cyclical changes in manufacturing industries. The amplitude of the variations of the daily wages in agriculture has generally been greater than that of the annual earnings of industrial workers, in spite of the annual earnings of industrial workers having presumably,

owing to variations in the working time per year, varied more strongly than their daily earnings. The difference in amplitude between the day-rates in agriculture and the corresponding industrial earnings per hour is still more pronounced. For a short period, during which no considerable shortenings of the daily working time have generally occurred, the day-rates in agriculture should be a good indicator of the changes in labour unit-costs. We thus find that cyclical variations in labour costs, at least as far as day-labour is concerned and in so far as our wage series are representative, have been wider in agriculture than in manufacturing and mining. That the attraction of the manufacturing industries has caused relatively strong cyclical variations in agricultural wages indicates that the demand for labour in agriculture is very inelastic, which is also affirmed by several *a priori* reasons. We may point to the large "overhead costs", and to the small units of production, which give increased importance to the "indivisibility" of labour.

It must be remembered, however, that the average for industrial workers is based on wages in different manufacturing industries, whose business cycle patterns are quite different. In certain industries, for instance in the metal manufacturing and engineering industries, wages generally fluctuate through as wide a range as in agriculture (cf. Charts 46 and 48). Casual unskilled labour is moreover, as we have said, not represented in the industrial wage series. It does not seem unlikely that in this labour group, which has probably played an intermediate part in the migration from agriculture to the manufacturing industries, wages have varied as widely as in agriculture.

Another remarkable deviation between the series of wages in agriculture and in manufacturing and mining is that the former repeatedly lag about a year behind at the up-swing and in some cases also at the down-swing. This deviation has its correspondence in the time-structure of the agricultural production. There are no data available to show adequately the short-term variations of the total agricultural production. The corn and root crops, however,

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Table 195. Value of the Corn and Root Crops 1860—1913.<sup>1</sup>

Year	Mill. kronor	Year	Mill. kronor	Year	Mill. kronor
1860 . . . . .	198.3	1880 . . . . .	315.1	1900 . . . . .	356.9
61 . . . . .	197.7	81 . . . . .	282.3	01 . . . . .	315.5
62 . . . . .	213.6	82 . . . . .	288.4	02 . . . . .	321.9
63 . . . . .	188.3	83 . . . . .	269.2	03 . . . . .	351.0
64 . . . . .	183.5	84 . . . . .	277.6	04 . . . . .	327.1
65 . . . . .	171.2	85 . . . . .	239.1	05 . . . . .	373.8
66 . . . . .	207.7	86 . . . . .	236.9	06 . . . . .	416.7
67 . . . . .	230.8	87 . . . . .	210.0	07 . . . . .	409.1
68 . . . . .	222.7	88 . . . . .	243.9	08 . . . . .	456.5
69 . . . . .	232.8	89 . . . . .	247.7	09 . . . . .	445.8
1870 . . . . .	246.7	1890 . . . . .	289.5	1910 . . . . .	450.2
71 . . . . .	263.3	91 . . . . .	324.0	11 . . . . .	445.7
72 . . . . .	255.4	92 . . . . .	314.7	12 . . . . .	488.7
73 . . . . .	307.0	93 . . . . .	285.5	13 . . . . .	471.2
74 . . . . .	280.7	94 . . . . .	256.2		
75 . . . . .	303.0	95 . . . . .	263.1		
76 . . . . .	278.6	96 . . . . .	278.2		
77 . . . . .	276.3	97 . . . . .	295.1		
78 . . . . .	270.0	98 . . . . .	329.7		
79 . . . . .	261.4	99 . . . . .	300.2		

regarding which a fairly reliable series is available, represent an important part of agricultural production. Their importance is from our point of view all the greater, as the growing of corn forms a relatively large proportion of the production on the large farms, where the agricultural labourers are chiefly employed. The series (Table 195) has been computed on the basis of the volume of the crop in each year and of the prices current after the harvest in the autumn. Evidently most work in agriculture in each year had been completed before the value of the crop in the same year could be estimated by the farmer, and the influence on the agricultural labour market of changes in the economic position of agriculture due to changes in the crop value was therefore mainly felt in the next calendar year. In manufacturing industries, on the other hand, there must have been a close connection between the *current* changes in production and prices and the changes in the labour market. In Chart 48 the cyclical develop-

<sup>1</sup> According to the inquiry into the National Income of Sweden, carried out at the Institute.

ment of the value added by industrial production and of crop value have been compared, the latter having been transposed one year forwards to allow for the probable lag in the reaction of wages to changes in the crop value.<sup>1</sup> The variations of the value added by manufacturing and mining follow fairly closely the cyclical trend indicated by the reference cycle, though the changes from rise to fall in the reference cycle sometimes only correspond to changes in the rate of increase of the value added. The short-term variations of the transposed crop value series, on the other hand, seem generally to deviate quite irregularly from the industrial fluctuations. The series, however, regularly declines in the year following the end of the industrial contraction period, that is to say in the first year of industrial revival, corresponding to the lag of agricultural wages behind industrial wages at the cyclical up-swing.

*The Trend of Industrial and Agricultural Wages  
1913—1928.*

The opportunities of comparing the trend of wages in agriculture and in industry improve after 1913. Comparatively representative series of daily and hourly earnings in industry are thus available. The relative trend of industrial and agricultural wages in the period 1913—1928 is shown by the table below, which gives the variations of the various wage categories in per cent.

From the middle of the 'nineties up to the war the secular trend of male wages in agriculture was as high as in manufacturing and mining, after having exhibited a lower trend in the previous thirty years.

The table shows that agricultural annual and daily wages continued to rise at a relatively rapid rate in the period from 1913 to 1920 as compared with wages in manufacturing and mining. The low trend of the annual

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<sup>1</sup> It must be observed that, to the extent that farmers sold the crop in the calendar year following the harvest year, the series computed on the basis of the harvest year prices may not be representative.



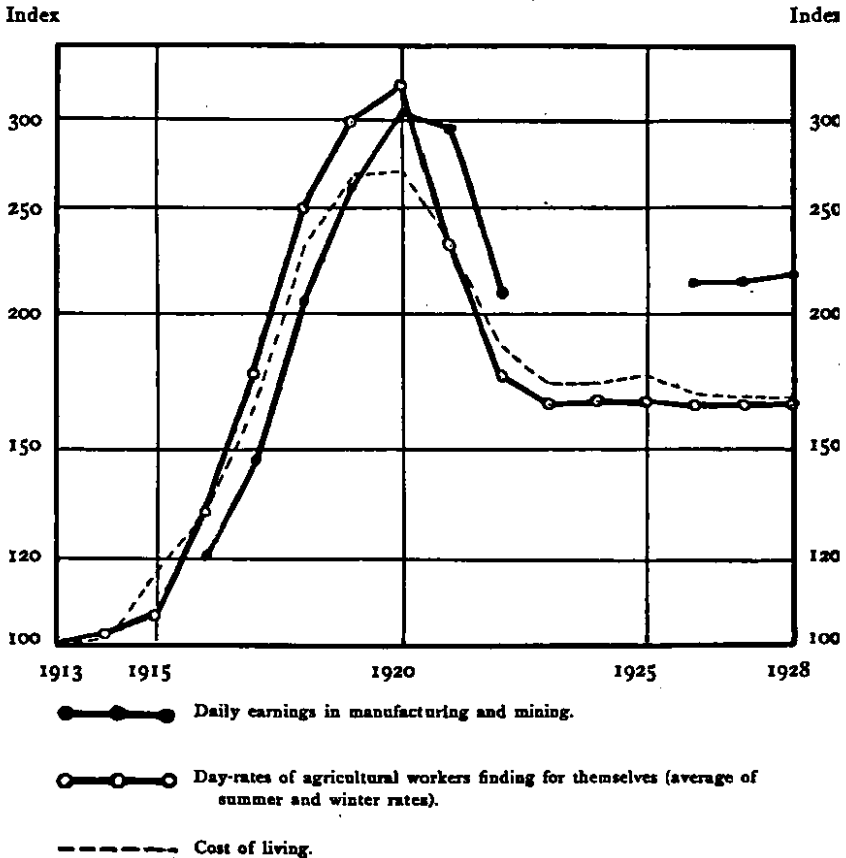
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	1913—20	1920—23	1923—28	1913—28
<i>Agriculture.</i>				
Male servants:				
Annual cash wages . . .	+ 230	- 47	- 1	+ 72
Annual wages including board and lodging . .	+ 208	- 45	- 3	+ 64
Female servants:				
Annual cash wages . . .	+ 236	- 36	± 0	+ 115
Annual wages including board and lodging . .	+ 208	- 39	- 2	+ 84
<i>Statars (Teamsters):</i>				
Annual cash wages . . .	+ 218	- 41	+ 2	+ 91
Annual wages and benefits in kind . . . . .	+ 227	- 46	+ 4	+ 85
Casual day-labourers finding for themselves:				
Male:				
Summer . . . . .	+ 215	- 49	- 1	+ 59
Winter . . . . .	+ 229	- 49	+ 1	+ 69
Female:				
Summer . . . . .	+ 218	- 43	± 0	+ 83
Winter . . . . .	+ 221	- 42	+ 2	+ 91
<i>Manufacturing and mining.</i>				
Annual earnings:				
Men . . . . .	+ 187	- 35	+ 11	+ 106
Women . . . . .	+ 223	- 31	+ 8	+ 141
Daily earnings:				
Men . . . . .	+ 202	-	-	+ 115
Women . . . . .	+ 229	-	-	+ 136
Hourly earnings:				
Men . . . . .	+ 262	- 34	+ 8	+ 158

and daily wages in manufacturing and mining is connected with the simultaneous heavy reduction in the daily working time of industrial labour. While the summer working time in agriculture was only shortened by about 6 %, the daily working time in the manufacturing industries was shortened by about 15 % in connection with the introduction of the eight-hour day. The rise of the industrial hourly earnings by 262 % exceeds the estimated increase of the agricultural hourly wages. If we take into account the shortening of the net daily working time, the rise in the hourly wages of casual agricultural labourers in summer can be estimated, on the basis of the daily wages, to have been about 235 % in the period 1913—1920.

Chart 49. Daily Wages of Male Workers in Manufacturing and Mining and in Agriculture 1913—1928.

(Index: 1913 = 100.)



The period 1920—1928 did not bring any important changes in the daily working time, and no consideration need therefore be given to this factor when comparing the annual and the daily earnings. The depression in the years 1921—1923 caused a considerably heavier reduction of agricultural than of industrial wages, which was not recompensed in the following years, when on the contrary industrial wages were slowly rising while agricultural wages changed but slightly.

The total increase of industrial wages in the period 1913—1928 is also considerably greater than of agricultural wages, however the comparison is made. The divergence in the trends of industrial and agricultural wages during this period is incomparably greater than that occurring in any part of the period 1860—1913 of corresponding length. If we compare the ratio of the 1928 wages to the 1913 wages in industry and agriculture, which will give the same result as a comparison between the relative wage levels at the beginning and end of the period, we get the following differences: the ratios of annual earnings in manufacturing and mining are 26 % and 11 % respectively higher than the corresponding ratios of the total wages of farm servants and *statare*. The ratios of industrial daily earnings are further 35 % and 27 % respectively higher than those of the summer and winter day-rates in agriculture. If, finally, we take into account the changes in the daily working hours, the gap between industrial and agricultural wages is shown to have widened still more rapidly: the ratio of industrial hourly earnings is thus about 50 % higher than the corresponding figures for the estimated agricultural hourly earnings in summer and winter. The data regarding annual and daily earnings indicate that the relative trend of agricultural to industrial wages has been approximately the same for women as for men. The figure giving the ratio of total annual earnings after and before the war is 31 % higher for female industrial workers than for female farm servants. The corresponding ratios of the daily earnings of industrial female workers are 29 and 24 % respectively higher than of female agricultural day-rates.

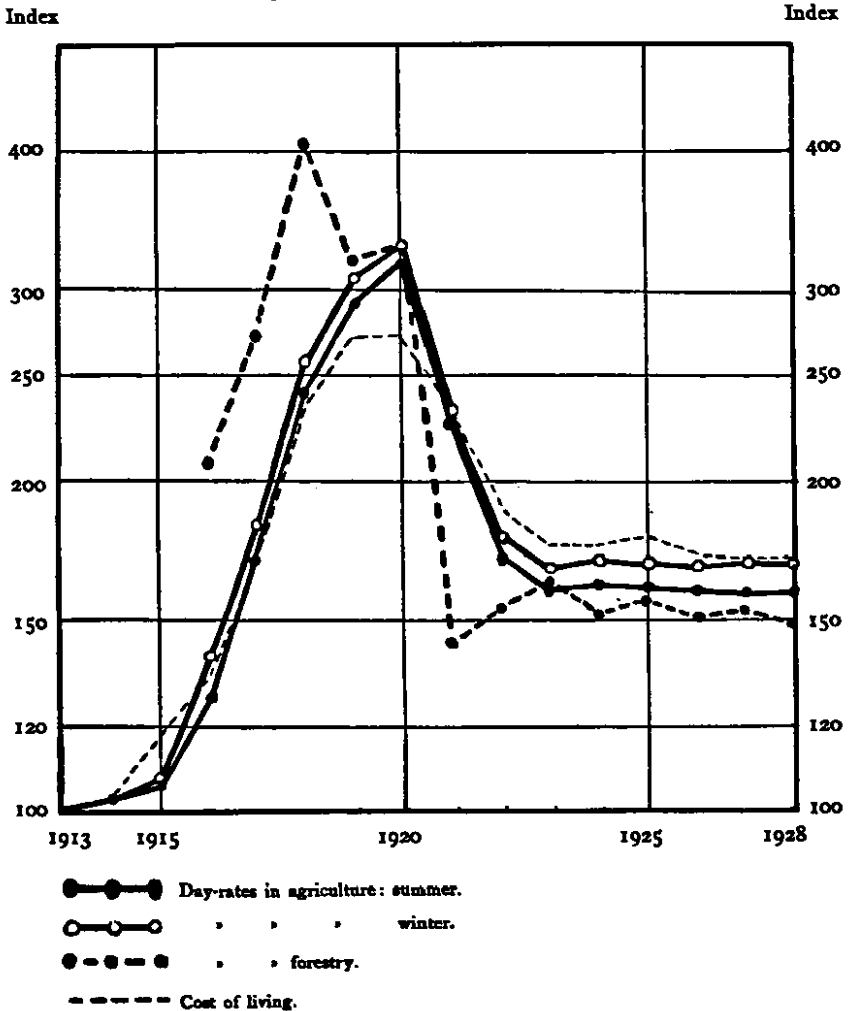
For this period too, the lack of information regarding the trend of the cost of living in rural districts precludes a comparison between the trends of the real wages in agriculture and in the manufacturing industries. As regards the comparability of the different wage series, the reservations made above in the account of the pre-war period apply as far as relevant.

*The Trend of Wages in Forestry.*

As appears from Chapter XX, the wage material for forest workers is very deficient, and no definite conclusions can therefore be drawn regarding their trend in relation to that in other categories of labour. Fairly complete wage material exists only in respect of forest maintenance work, which is paid by the day, and this only represents a small part of the work done in the forests. The day-rates of such workers have on an average risen by 170 % from 1860—1864 to 1910—1913. The increase thus falls between the rise of the agricultural day-rates (according to the *Markegång* rates) and that of the annual earnings in manufacturing and mining. This seems to agree well with the intermediate position between these two branches occupied by the forestry labour market. Like other wages, the wages of forest workers showed a lower rate of increase in the first half of the period investigated (57 % from 1860 to 1887) than in the second half (from 1887 to 1913 81 %). The difference in the rates of increase was, however, less marked than in other occupations. For the period 1860—1864 to 1890—1894, the rise of forestry wages (+ 64 %) considerably exceeded that of agricultural wages (+ 42 %) and approached, during this time of expansion in the sawmill industry, the increase in manufacturing and mining (+ 74 %). Between 1890—1894 and 1910—1913, on the other hand, the wages for forestry work rose by only 64 %, compared with 81 % in the agricultural day-rates and 69 % in the annual earnings in manufacturing and mining. It is of interest to notice that in the same time the annual earnings in the sawmill industry rose by only 37 %. The cyclical variations agree more closely with those in agricultural wages. Even apart from the deficiencies of the wage material pointed out above, no definite conclusions can be drawn regarding the relative trend of the standard of living among forestry workers without a thorough investigation into the special trend of the cost of living in the localities where forestry work is done.

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**Chart 50. Day-rates of Male Workers in Agriculture and Forestry 1913—1928. (Index: 1913 = 100.)**



The greatest divergencies of forestry wages from the trend of wages in other branches of industry occurred after 1913. Wages in forestry are characterized by relatively great flexibility. According to the Social Statistics, the daily piece-work earnings on logging work reached their

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maximum in the winter of 1918/19 in conjunction with the lack of fuel caused by the war, and with the increasing difficulties to provide the workers with food. In the forest districts proper, the daily wages of axemen were about four and those of teamsters more than four times as high as before the war. During the winter 1919/20 the improved food supply caused the daily wages to fall about 20 %, but in the following season they again rose slightly. The considerably reduced logging operations, and the keen competition among those seeking employment in the winter 1921/22 caused the average wages to drop by almost 60 %. In the next two seasons daily wages began to rise again, and have since become stabilized at about 50 % above the pre-war level. The increase since 1913 was thus less than in agriculture, where the summer and winter wages of casual male day-labourers had risen by 59 and 69 % respectively up to 1928.

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## CHAPTER XXVI.

### WAGES IN PUBLIC SERVICES COMPARED WITH WAGES IN OTHER OCCUPATIONS.

#### *Municipal Workers.*

UP to the middle of the nineteenth century, when municipal work was of a more occasional character, and often regarded as a kind of relief work for such workers as could not obtain employment elsewhere (e. g. for old men or those who for some reason or other were less able-bodied), there was a definite boundary-line between the industrial and the municipal labour markets. Gradually, as the work of the towns began to require a permanent staff of municipal labourers, on which the same demands were made as on other labourers, the mobility of labour between the two sections of the labour market naturally increased. The fact that as a rule no special training was required for municipal work facilitated this mobility. Any occupational training required for municipal work, for instance by joiners, blacksmiths, etc., was the same as that required by anybody else in the same trade. Should any special training be necessary, it could generally be acquired fairly quickly. The increased mobility between the industrial and the municipal labour-market naturally established a closer connection between the trends of municipal and industrial wages. Later, the growth of the municipal labour organizations<sup>1</sup> made deviations from the industrial wages again possible. Their wage policy was especially favoured by the demand of municipal employers for labour being of a relatively inelastic nature.

<sup>1</sup> The municipal workers began to organize in the 'nineties.

A comparison between the trend of wages in manufacturing and in municipal work is made more difficult by the fact that for the former the annual and for the latter the hourly earnings are the most representative. Especially in the earlier years, the trend of the annual earnings of municipal workers was affected by variations in the length of the season, and can therefore not until in later years be compared with the annual earnings in manufacturing and mining. As we have pointed out above, the hourly earnings in manufacturing and mining may, although the annual earnings are more representative, be considered sufficiently reliable in respect of secular trend. When comparing the secular trend of the hourly earnings one must, however, not forget that the trend of hourly earnings may also have been affected by changes in the seasonal nature of the work, and that the comparison may therefore be misleading until the municipal workers had changed over to full-year employment.

In another respect too, the averages for industrial and municipal work are not directly commensurable. The former average comprises both skilled and unskilled workers, of which the first category is in the majority. The unskilled and skilled municipal workers are treated separately, but among the skilled municipal workers almost only craftsmen have been selected, who are not directly commensurable with the selected skilled industrial workers.

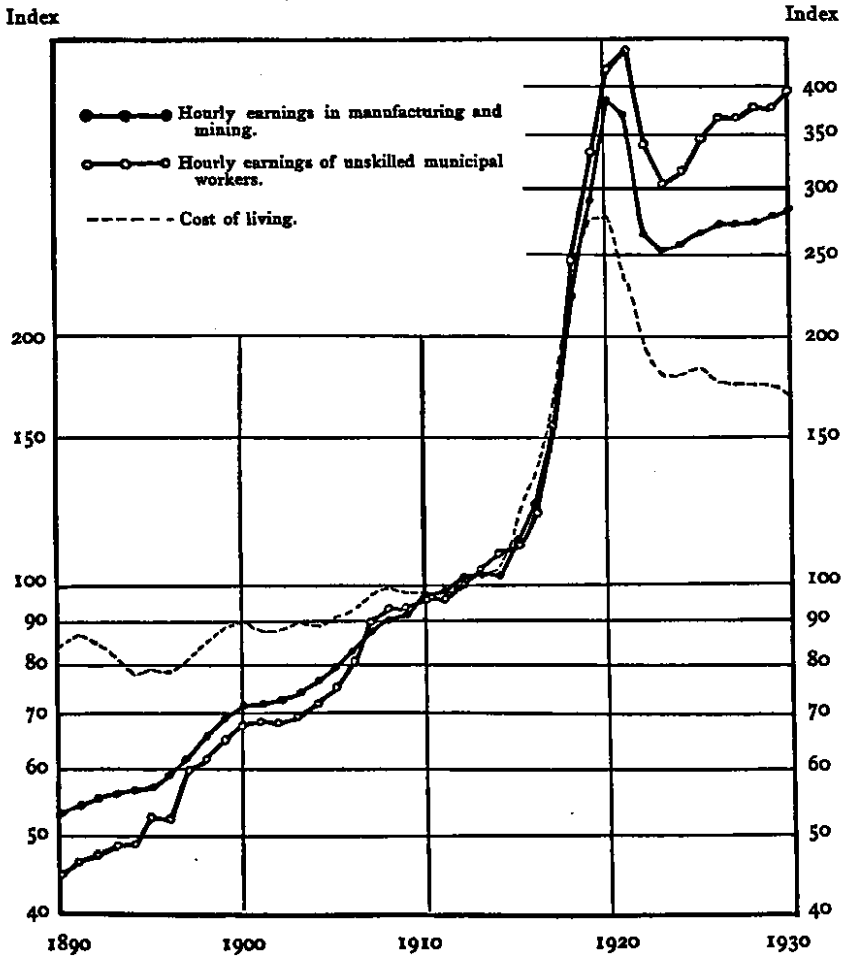
Changes have taken place in the qualifications and work of municipal workers in conjunction with the general expansion of municipal enterprise that have probably had a great effect on the increase of wages. The fact that the hourly earnings of skilled and unskilled municipal workers in Stockholm, in spite of the men selected there being from the beginning of the period full-year workers, rose by 111 % and 166 % respectively in the thirty years from 1865 to 1895, while those of industrial workers only rose by 75 %, is very likely connected with such changes in the character of municipal work. The average for in-



# THE TREND OF WAGES IN PUBLIC SERVICES 329

**Chart 51. Hourly Earnings of Workers in Manufacturing and Mining and of Unskilled Municipal Workers 1890—1930.**

(Index: 1910—1913 = 100.)



dustrial workers furthermore includes but few Stockholm establishments. In the following period, 1895—1913, the hourly earnings of industrial workers rose by 81 %, that is more rapidly than the hourly earnings of all skilled municipal workers, which rose by 74 %. The increase for unskilled municipal workers in the same period, on the

other hand, 90 %, exceeded that of the industrial workers. Although the daily working hours were much reduced during the period, the annual earnings of skilled and unskilled municipal workers rose more than their hourly earnings, by 76 % and 102 % respectively, while the annual earnings of industrial workers only rose by 69 %. This circumstance should obviously be ascribed to the constant extension of the working season in municipal work.

The comparison has shown that from 1895 to 1913 the average hourly earnings of skilled and unskilled industrial workers rose more rapidly than those of skilled municipal workers, and more slowly than the hourly earnings of the unskilled municipal workers. This does not tell us anything about the relative trend either of skilled or unskilled workers in these two branches. The wage series based on the material from the Swedish Engineering Works' Association give an opportunity of comparing skilled and unskilled workers separately.<sup>1</sup> Even though skilled and unskilled workers at the engineering works are not quite comparable with the corresponding groups of municipal workers (cf. above), these wage series nevertheless form a better basis for the comparison between municipal and industrial workers than the average for all workers in manufacturing and mining. The comparison is here restricted to Stockholm. The hourly earnings of skilled and unskilled workers rose there from 1903 to 1913 by 25 % and 47 % respectively for municipal workers, and by 21 % and 12 % respectively for workers in engineering works. As far as the unskilled workers are concerned, the rise of wages has thus been considerably faster for the municipal workers.

Since 1913, the average for municipal workers has risen more rapidly than the wages of male workers in manufacturing and mining according to the Social Board Statistics. If wages in 1913 is put = 100, we obtain the following indices for 1930:

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<sup>1</sup> Cf. Part I, p. 269 fol.

## THE TREND OF WAGES IN PUBLIC SERVICES 331

	Annual earnings	Hourly earnings
Municipal workers, skilled . . . . .	319	379
"    "    unskilled . . . . .	313	376
Workers in manufacturing and mining . . . . .	220	267

The great difference in the trend of wages seems to some extent to be due to the varying cost of living in different places. From the beginning of 1924, the Social Board Statistics give the wages of industrial workers in places with different cost of living. These are divided into 7 different groups (A—G). The cost of living in the most expensive group (G) is about 50 % higher than in the cheapest (A). If the national average is put = 1,000, each group will cover 60 units. All the towns included in the average for municipal workers come in the five most expensive groups (C—G), whereas in 1930 only 75 % of the industrial workers included in the Social Board Statistics were employed in the same groups. From 1924 to 1930, the hourly earnings of unskilled municipal workers rose by 24 %, and the average of all industrial workers by 10 %. If we restrict the comparison to the groups C—G, the difference becomes slightly less, in that the hourly earnings of the industrial workers in these five groups rose by 12 %. The distribution of industrial and municipal workers has been different in these five groups, however. While the largest number of municipal workers (64 %) come in the most expensive group (G), the cheapest group (C) includes the largest number of industrial workers. The relative change in the wages of industrial and municipal workers might therefore be connected with a relative change in the cost of living in different places. The following table, giving indices of hourly earnings in 1930 with 1924 as a base, indicates that this has to some extent been the case.

	Cost of living group					
	C	D	E	F	G	C—G
a) Workers in manufacturing and mining . . . . .	115	110	109	101	106	112
b) Unskilled municipal workers . . . . .	120	109	113	109	121	124
a) in per cent of b)	96	101	96	93	88	90

In no group except the most expensive (G), has the trend of industrial wages been as much lower as indicated by the average of all the groups C—G. In group D the industrial wages have even risen more rapidly. If it were possible to compute a separate average for unskilled industrial workers, the divergence in the trend of industrial and municipal wages might possibly be further reduced.

The above more detailed examination has unfortunately only been possible for the last seven years, but it suffices to show how uncertain a comparison is between averages comprising different occupations in different places.

#### *The State Railways.*

*The Railway Staff.* The main feature of the trend of wages at the State Railways has been a gradual levelling of the originally very unequal wages of skilled and unskilled workers. In the 'sixties, engine-drivers earned about  $3\frac{1}{2}$  times as much as the unskilled workers, but in 1910—1913 only about twice as much. If due allowance is made for the rearrangement of the statistics in 1906, the annual earnings of engine-drivers rose by 62 % from 1863—1868 to 1910—1913, those of the firemen by 85 %, of the station staff by 132 %, and of linemen by 150 %. The wages of all these groups thus rose much less than industrial wages, which in the same period rose by about 180 %. From 1895 onwards, they can also be compared with those of another category of public workers, namely the municipal workers. From 1895 to 1913, the annual earnings of railway employees can be estimated to have risen by 15 % for engine-drivers, 17 % for firemen, 64 % for linemen, and 60 % for station staff. The annual earnings of municipal workers were affected by the continuous extension of the working season, and can therefore not be compared with those of the railway men.<sup>1</sup> The hourly earnings in municipal work rose by 74 % for skilled and by 90 % for unskilled labour. At the same time the daily working hours were shortened by about

<sup>1</sup> Cf. p. 14.

16.5 %, and the increase of the daily earnings was thus only about 45 % and 59 % respectively. The trend thus seems to agree in respect of the less skilled workers, while the wages of skilled municipal workers rose considerably more than those of skilled railway workers. It should be observed that the wages of the railway workers were apparently comparatively high already in the 'sixties, when the annual earnings of the lowest paid workers — the linemen — were about 8 % above the average of the selected industrial workers, among whom skilled workers predominated.

The wages of railway workers are very insensitive to cyclical changes, and even more stable than those of municipal workers. In the first half of the 'seventies they certainly increased approximately as much as industrial wages, but there were no subsequent reductions towards the end of the decade. The rate of increase was very steady during the whole of the following period. Sudden heavy increases of wages only occurred in the latter half of the 'nineties and in 1906—1908, that is at the times when industrial wages increased the most. From 1896 to 1900 the wages of unskilled labour rose by 13 to 25 %, and from 1906 to 1908 all wages rose by about 30 %.

*Railway Construction.* In the early days of railway construction labour was chiefly obtained from neighbouring agricultural districts, and it is therefore interesting to compare the daily earnings at railway construction work with agricultural wages. For this purpose the average daily earnings at railway construction work in summer have been compared with the agricultural summer day-rates for men (according to the Agricultural Statistics) in the counties through which the various railway lines were built.

As might be expected, the pay for railway construction work was usually considerably higher than the agricultural wages. The difference varies very much from year to year, however. In the 'sixties and 'seventies it was often more than 50 %, but when the northern main line was carried up through Norrland in the 'eighties it

usually kept between 20 % and 50 %. This tendency to equalization may possibly have been due to the rise of a class of permanent railway-construction labourers.

*Elementary School Teachers Compared with Labourers.*

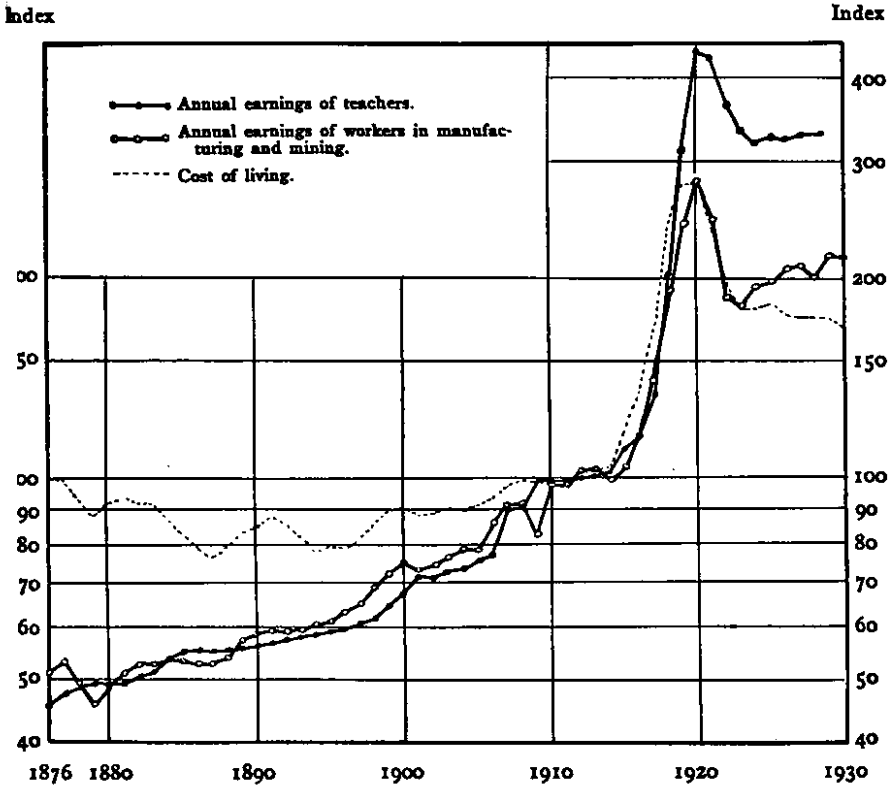
From 1876 the Official Statistics contain an annual report on the elementary schools, which gives the number of men and women teachers and the total sum of salaries paid to them. The series relating to elementary school teachers given in Table 196 is based on this information.

**Table 196. Number of Men and Women Teachers at Elementary Schools and Children's Schools, and their Earnings (Cash Salary plus Value of Benefits in Kind) 1876—1928.**

Year	Number of men and women teachers	Average earnings		Year	Number of men and women teachers	Average earnings	
		Kronor	Index (1910—13 = 100)			Kronor	Index (1910—13 = 100)
1876	9615	530	45.3	1902	17427	835	71.4
77	9894	553	47.3	03	17825	850	72.7
78	10214	569	48.6	04	18260	859	73.4
79	10494	574	49.1	05	18713	887	75.8
				06	19274	896	76.6
1880	10811	576	49.2	07	19896	1041	89.0
81	11104	580	49.6	08	20530	1052	89.9
82	11361	591	50.5	09	21018	1155	98.7
83	11734	596	51.0				
84	12024	626	53.5	1910	21519	1158	99.0
85	12314	636	54.4	11	22017	1163	99.4
86	12585	639	54.6	12	22499	1175	100.5
87	12873	644	55.1	13	23044	1183	101.1
88	13119	648	55.4	14	23495	1200	102.6
89	13287	651	55.7	15	21784	1298	111.0
				16	22337	1362	116.4
1890	13508	655	56.0	17	23014	1550	132.5
91	13773	661	56.5	18	23657	2334	199.5
92	14019	670	57.3	19	24265	3625	309.9
93	14274	677	57.9				
94	14525	683	58.4	1920	24833	5095	435.6
95	14794	691	59.1	21	25384	4996	427.1
96	15133	697	59.6	22	25784	4267	364.8
97	15480	707	60.4	23	26062	3891	332.6
98	15889	723	61.8	24	26297	3735	319.3
99	16263	759	64.9	25	26507	3804	325.2
				26	26669	3790	324.0
1900	16619	788	67.4	27	26847	3832	327.6
01	16952	831	71.0	28	27158	3847	328.9

# THE TREND OF WAGES IN PUBLIC SERVICES 335

**Chart 52. Annual Earnings of Elementary School Teachers and of Workers in Manufacturing and Mining 1876—1930.**  
(Index: 1910—1913 = 100.)



The figures refer to male and female, regular, extra, and assistant teachers of both theoretical and practical subjects in large and small elementary schools and in primary schools.

The series of teachers' salaries rose steadily up to 1920, and gave no evidence of cyclical variations except in the more rapid increase during the periods 1898—1901 and 1906—1909. These two periods coincide with industrial booms, although the rise in the teachers' salaries lagged somewhat behind the general business expansion. Up to 1913, the secular trend of the teachers' salaries agreed closely with that of industrial wages. As industrial wages

follow the business cycles considerably more closely, and as 1876 fell in a boom period, the increase from 1876 to 1913 was less for the teachers than for industrial labour. But if we take the period 1876—1883, which covers a complete cycle for industrial wages, and compare it with the period 1910—1913, we find that the teachers' salaries had risen by 105 % as compared to an even doubling of the industrial wages. The rigidity of the former exceeds that of municipal wages. The secular trend, on the other hand, agrees well with that of skilled municipal workers. From 1894, when the municipal series began, up to 1910—1913 the annual earnings of both these categories rose by about 70 %.

The trend of wages is — as generally observed — far less uniform after 1913 than before that year, as will be seen from the following table, which gives the increase in per cent of the annual earnings.

Period	Workers in manufacturing and mining	Municipal skilled workers	Elementary school teachers	Cost of living
1913—1920 . . . . .	+ 187	+ 200	+ 331	+ 169
1920—1928 . . . . .	— 28	— 3	— 24	— 37
1913—1928 . . . . .	+ 106	+ 190	+ 225	+ 69

The increase of the teachers' salaries is thus by far the greatest during the years of inflation, and exceeds considerably the growth of the cost of living. From 1920 to 1928 the teachers' salaries diminished more than the earnings of municipal workers, but less than those of industrial workers. The result is a relative increase of wages since 1913 which is more than twice as large as that of the industrial workers, and  $\frac{1}{4}$  larger than that of the municipal workers. A comparison with the cost-of-living index indicates an increase in the real income of elementary school teachers from 1913 to 1928 by no less than 92 %. The elementary school teachers thus seem to have raised their standard of living more than any group of labourers. It must, however, be remembered that in the same time their qualifications have probably grown more than those of any group of labourers with whom they have been compared.



## CHAPTER XXVII.

### LOCAL TRENDS IN WAGES.

THE ABOVE account of the trend of wages in Sweden is based on averages for the whole country. It is, however, necessary to take into account that the mobility of labour between the local sections of the labour markets was restricted, and that consequently wages could develop differently in different localities.

We have pointed out above that a comparison between the local trends of wages in manufacturing and mining is complicated by the fact that the various branches of industry are concentrated to different parts of the country. Even agriculture is to some extent locally differentiated, but in comparison to industry there is less difficulty in obtaining comparable wage series for the different parts of the country. The following account is therefore restricted to determining the general features observable in the local trends of agricultural wages, and to collate these observations, not only with certain changes in agricultural methods, but also with the progress of industrialization in various parts of the country, and with the local trends of industrial wages.

#### *Secular Trends in Local Agricultural Wage Series 1860—1913.*

The summary given in Chapter XVIII of the dispersion of the several categories of agricultural wages at the beginning and the end of the period 1865—1913, and of the divergencies in the trends of wages in this period, showed that there are very great differences in wages in different

counties.<sup>1</sup> The general features of the local trends of wages may be summarized as follows:

1. Both at the end of the 'sixties and immediately before the war wages were higher in northern Sweden than in central and southern Sweden. The boundary between the two districts characterized by high and low wages respectively appears to have run somewhere near Dalälven. The county of Kopparberg thus belonged to the northern district. To some extent wages were equalized during the period in question, in that they rose considerably more in south and central Sweden than in northern Sweden. As far as female farm servants' wages are concerned, that rise was sufficient not only to equalize the difference between the north and south districts, but also to produce a difference in the opposite direction. At the end of the period, the wages of female farm servants were thus higher in south and central Sweden than in north Sweden.

2. In the northern district, the counties of Gävleborg and Västernorrland on the coast were at the beginning of the period characterized by a markedly high wage level, while wages in the interior (the counties of Kopparberg and Jämtland) seem to have been slightly lower. This difference is particularly noticeable in the female day-rates and farm servants' wages. Towards the end of the period conditions seem to have been reversed, so that the counties of Kopparberg and Jämtland had higher wages than the coast districts. All the wage series obtained from the Agricultural Statistics indicate that wages in the county of Västerbotten were relatively low both at the end of the 'sixties and in 1910—1913.

3. In central Sweden, a very heavy increase of wages seems to have taken place in the county of Västmanland, while wages in the county of Uppsala, which were relatively high at the beginning of the period, were towards its end lower than in the adjoining counties (except the female

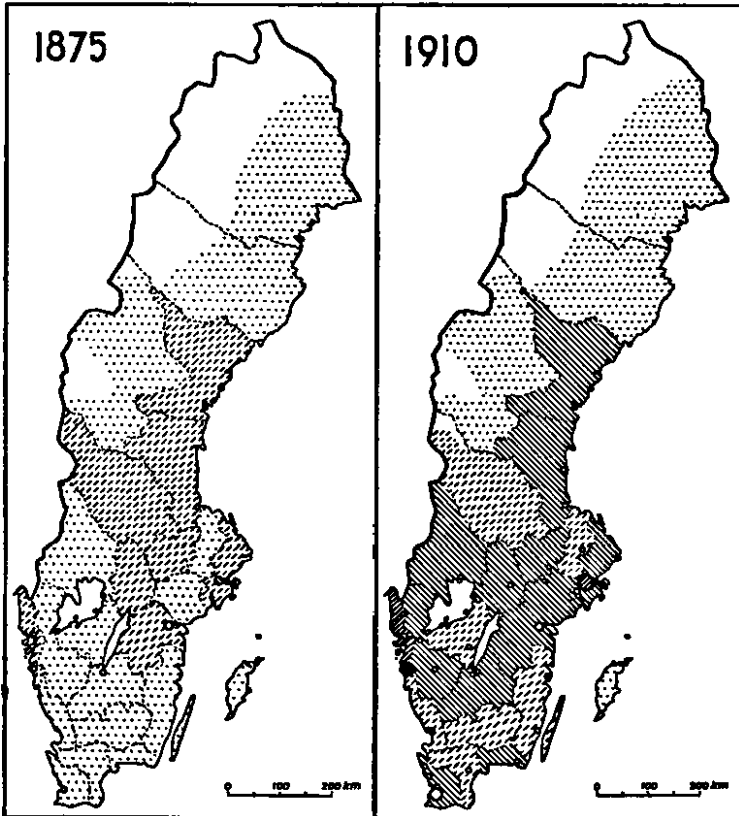
<sup>1</sup> Another subdivision of the country than into counties might be more suitable for a study of the local trends of agricultural wages, but it has been impossible to make any such rearrangement of the wage material available.









farm servants' wages, which were the highest in the whole country). Most series show that wages had also risen comparatively little in the counties of Örebro and Södermanland.

4. In south Sweden, the counties of Malmöhus and Kristianstad had high agricultural wages already at the beginning of the period. Towards the end of the period this local maximum was further accentuated by the strong increase of wages in these counties. The counties of Kalmar and Blekinge, on the other hand, seem to be characterized by a pronounced minimum for all wage categories (except female farm servants) both in 1865—1869 and in 1910—1913. This minimum at times includes the county of Kronoberg. The increase in the day-rates seems to have been the greatest in the agricultural districts proper (the counties of Malmöhus, Kristianstad, Halland, Skaraborg, and Östergötland), while the rise in farm servants' wages was largest in the counties of Kristianstad and Blekinge and, in respect of female farm servants, Kronoberg and Östergötland.

The high wage level in north Sweden (especially in the counties of Gävleborg and Västernorrland) at the beginning of the period is largely explained by the rapid expansion of the sawmill industry in the northern districts, which had been going on since the 'fifties. In the period 1865—1913, a tendency towards reduction of the difference in wages between north and south Sweden gradually became apparent as the intensification of agriculture proceeded in the southernmost counties, mainly in the agricultural districts proper of south Sweden. The utilization of labour was certainly reduced by the increased employment of labour-saving machinery in agriculture (threshers, sowing-, and harvesting-machines), but the change from fallow to pasture, and above all the extended cultivation of roots, had a share in increasing the demand for labour at certain times of the year. The increased cultivation of sugar-beets in the southernmost districts (the counties of Malmöhus, Kristianstad, Halland, Östergötland, Gotland, and Kalmar) produced a par-

Maps 9—10. Number of Workers in Manufacturing and Mining per 100 Inhabitants in Different Counties 1875 and 1910.



 < 3%	 5-7%	Places with:	 1000-5000 workers	 10 000-25 000 workers
 3-5%	 > 7%		 5000-10 000 "	 over 25 000 "

ticularly strong demand for casual labour in the summer and autumn.

What has been said above is not enough, however, to explain all the differences in the local trends. Certain of these differences were probably due to the rate of progress of industrialization in various districts, particularly in the rural districts. The strong industrialization of the country as a whole in the latter half of the 19th century began in the counties of Kopparberg, Gävleborg, and Väster-

norrland.<sup>1</sup> The manufacturing industries existing of old in the southern parts of the country: the iron industry in the counties of Örebro, Värmland, Västmanland, Uppsala, and Östergötland, the textile industry in the county of Älvsborg, the stone industry in the county of Gothenburg and Bohus, were not at the beginning of the period in any state of rapid advance, but were rather regressing here and there. While the demand for labour at the sawmills, and for lumbering work in the forests, caused a scarcity of agricultural labour in Norrland, there was as late as in the 'sixties no branch of manufacturing industry in central and southern Sweden which in its expansion seriously competed with agriculture for the available labour. Only in the above-mentioned counties with old-established industries did the number of industrial workers per 100 inhabitants in south and central Sweden in 1875 exceed 3 %. It was not until later, and chiefly after 1890, that the manufacturing industries progressed more rapidly in the southern parts of the country, while the wood industries in Norrland grew more slowly from the beginning of this century. This is probably an important reason why during the period in question agricultural wages have tended to rise more in south and central Sweden than in Norrland.

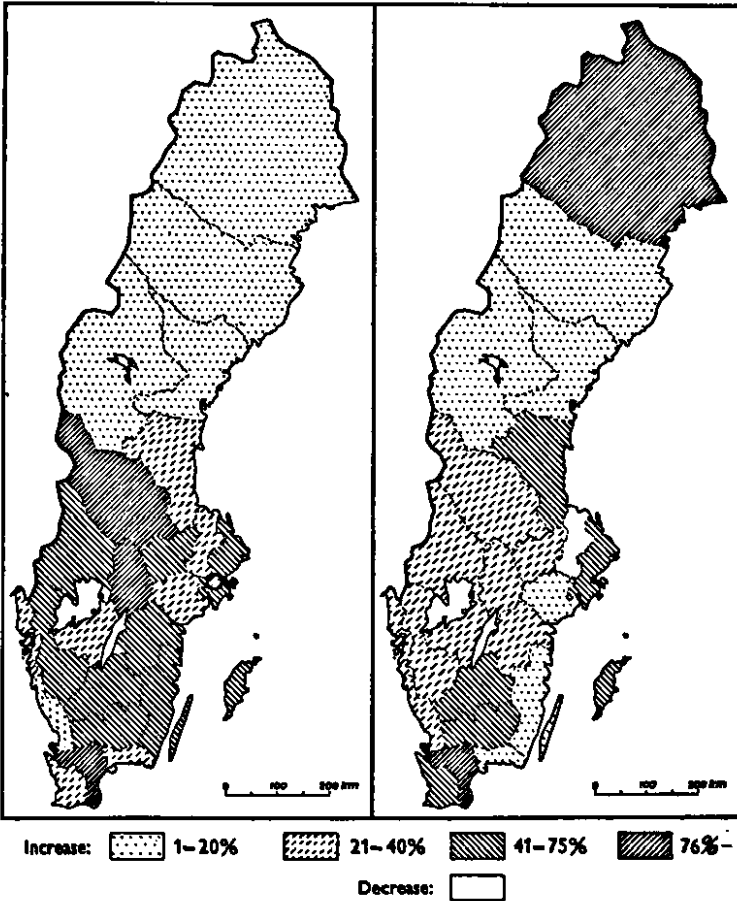
Unfortunately, our knowledge of the distribution of the industrial workers among the various counties is very incomplete for the first half of the period. Not until in 1897 do the Industrial Statistics give exact information on this point. Maps 11—12 give the increase in the number of all industrial workers in each county, as well as in the rural districts alone, from 1897 to 1910. It is of interest to correlate certain characteristic features of the trend of the numbers of industrial workers in the various counties from the end of the 'nineties up to 1910 with the trend of agricultural wages. In the counties of Malmöhus and Kristianstad, the increase in the number of industrial workers has been very strong, especially in the rural industries, of which the sugar-mills and the distilleries

<sup>1</sup> Cf. Maps 9—10.

**Maps 11—12. Increase and Decrease in the Number of  
Workers in Manufacturing and Mining 1897—1910.**

All workers.

Workers in the rural districts.



are the most important. Apart from the increased demand for seasonal labour for the cultivation of roots, the industrial development in these counties has thus contributed to raise the agricultural wages. If, on the other hand, we regard the counties of Kalmar and Blekinge, we find that in these districts the industrial workers have increased much less, particularly in the rural districts. That is probably one of the chief reasons why agricultural wages there have in-

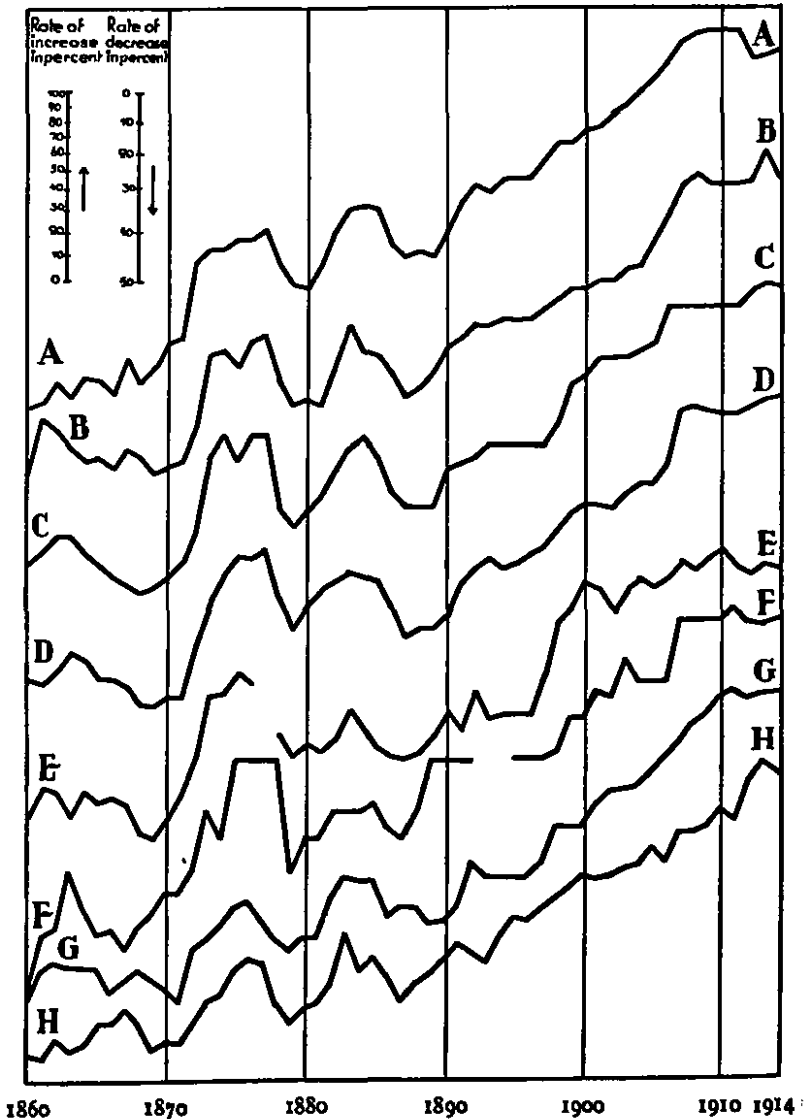
creased comparatively little, especially in the county of Kalmar. Both the towns and the rural districts of the county of Stockholm have experienced a considerable industrial progress, which at least partly explains the relatively large increase of wages in this county. The proximity of the capital and the demand for mostly unskilled labour created especially by the building activities in Stockholm have of course also contributed. The county of Uppsala, again, is marked by relatively slow industrial development or, as far as the rural industries are concerned (in this county chiefly the iron industry), even by retrogression. The agricultural wages were, as pointed out above, considerably lower at the end of the period in the county of Uppsala than in the adjoining districts (except the annual cash wages of female servants, the trend of which in this as in many other instances has been directly opposite to that of other wage categories). In the county of Södermanland too, industrial progress has been comparatively slow, and agricultural wages have risen at a fairly slow rate. In some instances the industrial development and the relative changes in agricultural wages are not correlated. In the county of Örebro, for instance, the industrial expansion has been very strong, chiefly owing to the growth of the urban industries, whilst agricultural wages in this county, which were high at the beginning of the period, have risen comparatively little, and were rather lower at the end than in the adjoining counties. This may possibly be explained by the peculiar industrial development in this county. While the old-established and entirely rural iron industry has been almost stagnant, boot and shoe factories, originally based on domestic industry, have instead grown up, mostly in the town of Örebro. One of the conditions for this was probably a plentiful supply of comparatively cheap labour.

*Short-term Variations in Local Agricultural Wage Series  
1860—1913.*

In Chart 53 the variations of male day-rates in the different counties according to the *Markegång* rates are

**Chart 53. The Trend of Day-rates of Male Agricultural Workers in Different Counties according to the *Markegång* Rates 1860—1914.**

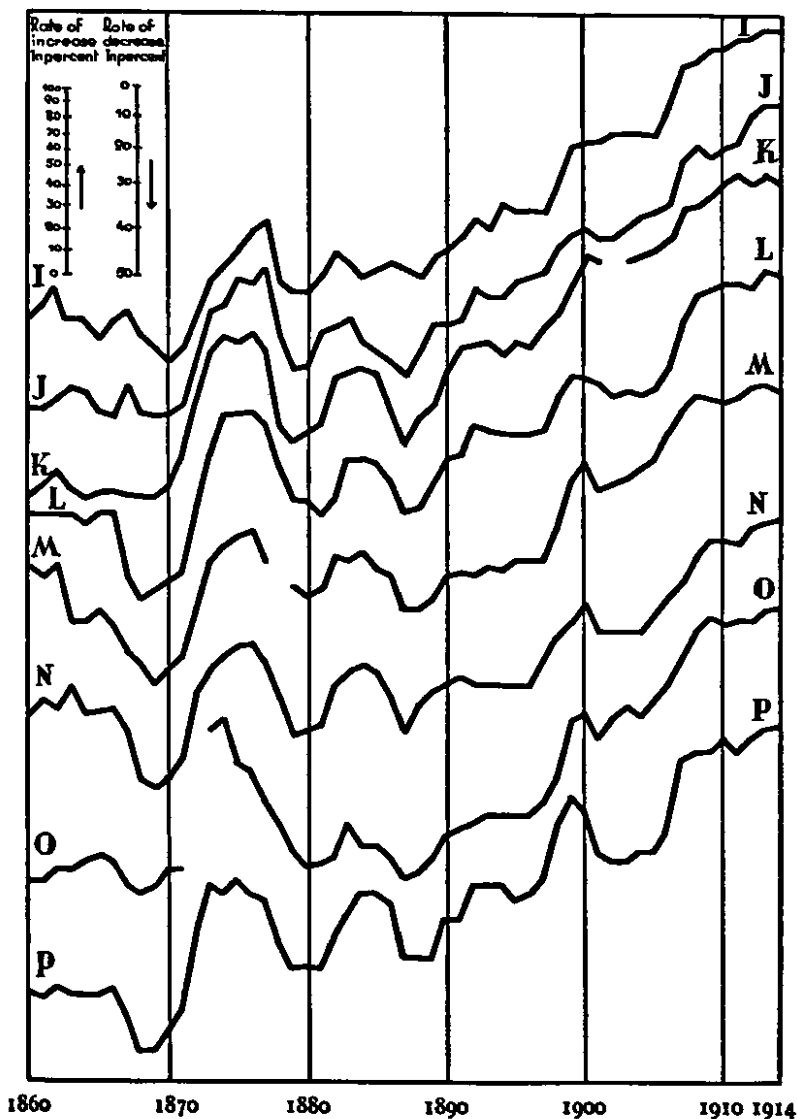
A = Malmöhus. B = Kristianstad. C = Kronoberg. D = Jönköping. E = Kalmar. F = Gotland. G = Halland. H = Gothenburg and Bohus.





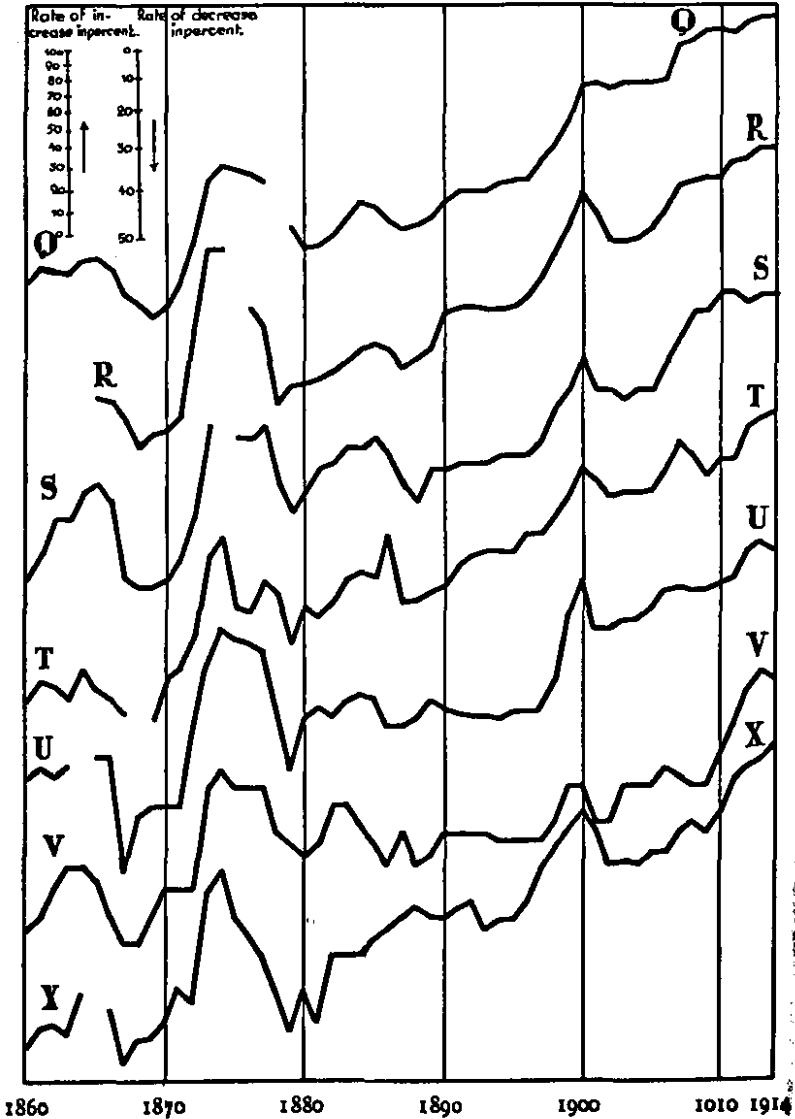
**Chart 53. (Cont.) The Trend of Day-rates of Male Agricultural Workers in Different Counties according to the *Markgång* Rates 1860—1914.**

I = Älvsborg. J = Skaraborg. K = Östergötland. L = Södermanland.  
M = Stockholm. N = Uppsala. O = Örebro. P = Västmanland.



**Chart 53. (Cont.) The Trend of Day-rates of Male Agricultural Workers in Different Counties according to the *Markegång* Rates 1860—1914.**

Q = Värmland. R = Kopparberg. S = Gävleborg. T = Jämtland.  
U = Västernorrland. V = Västerbotten. X = Norrbotten.



shown.<sup>1</sup> The local divergencies in the short-term variations of wages have caused changes in the relations between the local wage levels. In order to illustrate these changes, the average day-rates in each county in the years which, according to the variations in the national average, may be characterized as years of depression or boom, have been marked on Maps 13—22.<sup>2</sup> The differences in the wage levels of the several counties have in these charts been marked by lines, each of which corresponds to a wage difference of 10 öre. These lines are indicated schematically in isolinear terms and serve only to facilitate the reading of the maps. The following are the principal facts ascertained from those charts and maps regarding the short-term variations in the day-rates in different counties.

The increase of wages in the first half of the 'seventies was the largest — both absolutely and relatively — in north and central Sweden, where it amounted to about 70 %. In south-eastern Sweden the day-rates rose a little more than 60 %, in the southernmost counties about 50 %, while the counties of Halland, and Gothenburg and Bohus show a rise of only about 45 and 35 % respectively. Owing to the slight increase of the wages in western Sweden, wages there were lower during the boom of 1873—1877 than anywhere else in the country. The result of this dispersion in the rate of increase during the boom was that in central Sweden, and above all in the counties of Västmanland and Uppsala, which adjoin the Norrland forest-industry district and also possess a considerable iron industry, wages became relatively high. The depression towards the end of the 'seventies brought in its train a general reduction of day-rates all over the country by 20 or 30 %. In western Sweden alone, in the counties where wages

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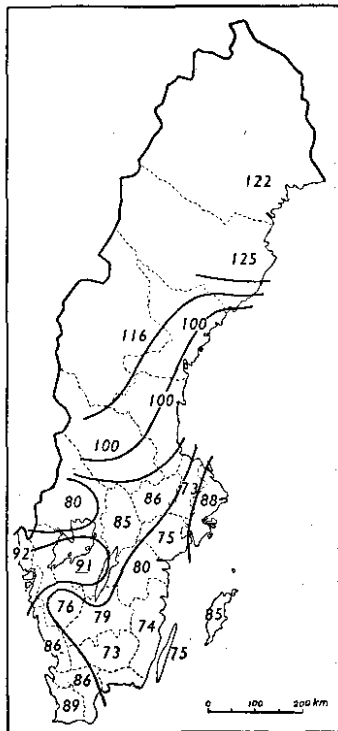
<sup>1</sup> The series from the different counties are drawn to a semi-logarithmic scale. The scales indicated on the charts may be used to measure the rate of increase or decrease in a given series between any two dates. The arrows indicate the direction in which the various scales are to be read.

<sup>2</sup> The periods for which averages have been computed have been selected in such a way that the years characterized by very great changes in the absolute wages have as far as possible not been included.

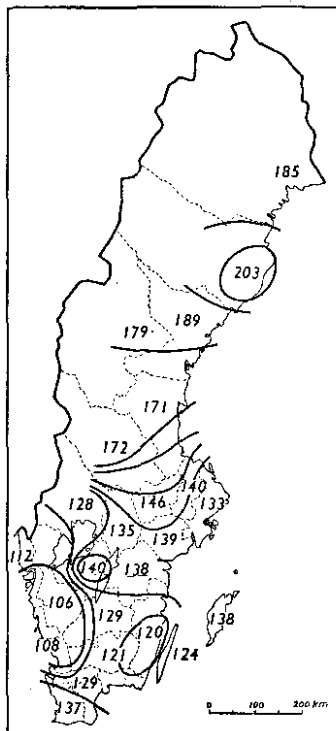
had previously been relatively low, as well as in the counties of Malmöhus and Stockholm, wages fell somewhat less. The two last named counties were therefore marked by slightly higher wages in the period 1879—1881 than the rest of south and central Sweden. The boom of the 'eighties, again, raised the day-rates all round, though not up to the level of the middle of the preceding decade. The increase was largest in the counties of Västmanland and Uppsala, and the gap between wages in Norrland and in these adjoining counties of central Sweden was consequently reduced. Judging by the *Markegång* rates, the increase of the day-rates in south and central Sweden was extremely unequal. It is a remarkable fact that the counties of Halland, and Gothenburg and Bohus seem to have shared in the general increase of wages to a far greater extent than in the preceding boom, whilst in the counties of Älvsborg, Kalmar, and Örebro the increase was comparatively insignificant. The last mentioned counties were therefore marked by pronounced minima from 1882 to 1885. The following period of depression only caused a slight and fairly evenly distributed retrogression in wages. It is interesting to note that the largest reductions occurred in the counties of Västmanland, Uppsala, and Stockholm, and that thereby the characteristic line of demarcation between wages in Norrland, including the county of Kopparberg, and wages in central and south Sweden became more marked. During the boom about 1890 the day-rates in the county of Västmanland were brought up to the level of those in Norrland. During the subsequent industrial depression agricultural wages continued to rise everywhere in the country, although at a somewhat decreased rate. Towards the end of the 'nineties there was an industrial expansion of considerably greater extent than the two immediately preceding ones. In Norrland and in the counties of Kopparberg and Västmanland the increase in the day-rates took on almost the same proportions as in the 'seventies. The county of Stockholm also shows a strong increase of wages, while the other counties in south and central Sweden were

**Maps 13-15. The Level of Agricultural Wages in Different Counties during Depressions and Booms 1867-1881.**

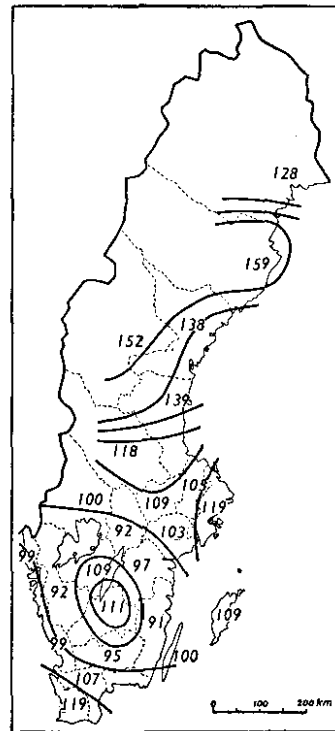
24-350310. *Wages in Sweden.*



Depression: 1867-1871.

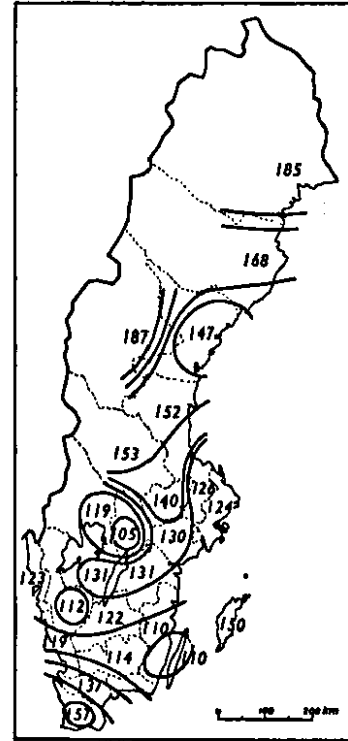
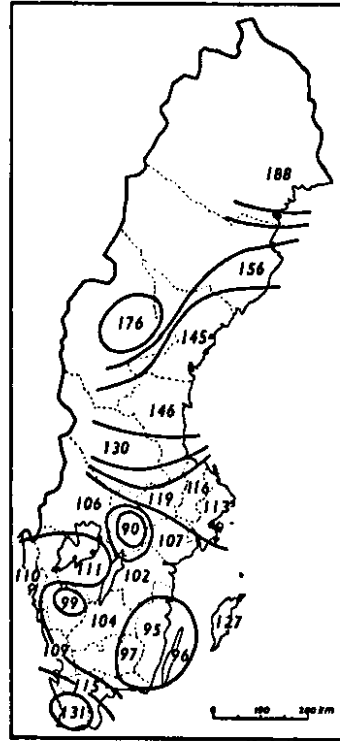
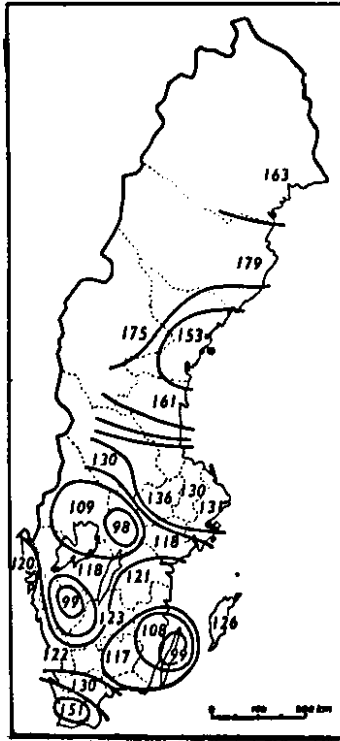


Boom: 1873-1877.

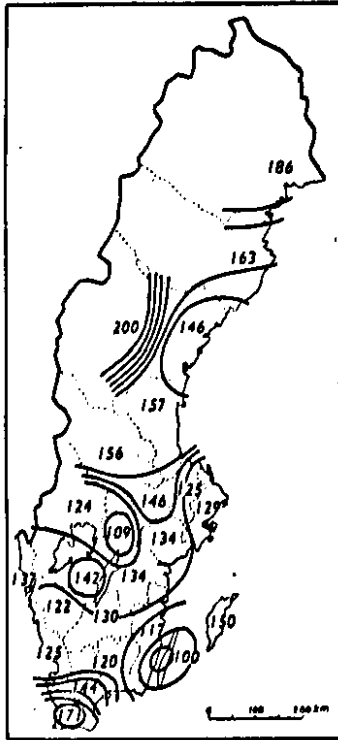


Depression: 1879-1881.

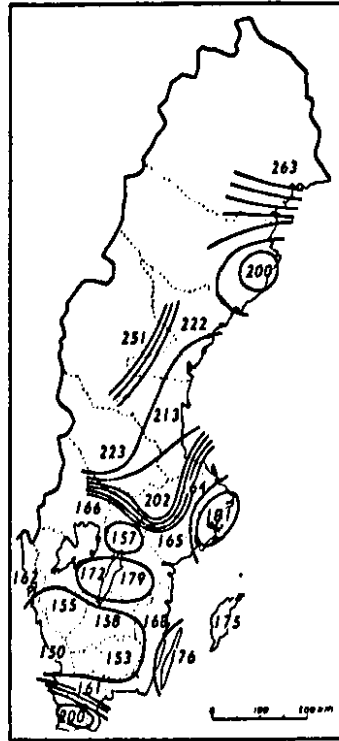
Maps 16—18. The Level of Agricultural Wages in Different Counties during Depressions and Booms: 1882—1893.



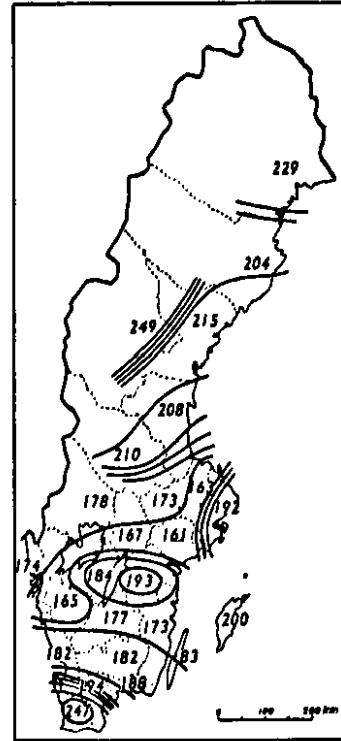
**Maps 19—21. The Level of Agricultural Wages in Different Counties during Depressions and Booms: 1894—1905.**



**Depression: 1894—1896.**

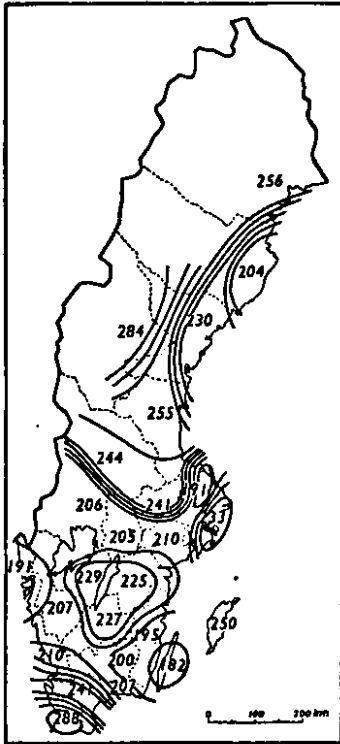


**Boom: 1899—1900.**



**Depression: 1903—1905.**

**Map 22. The Level of Agricultural Wages in Different Counties during Depressions and Booms: 1907—1908.**



Boom: 1907—1908.

years 1907—1909. In most counties the absolute wage level continued to rise, though at a decreased rate.

apparently not affected to the same extent. The period of business contraction after 1900 is characterized by great divergencies in the local trend of wages. Whilst wages in south Sweden continued to rise, although more slowly than during the previous advance, the day-rates in Norrland and in the counties of Kopparberg and Västmanland diminished. The boundary line between wages in the north and in the south again retreated to Dalälven. During the next upward movement the rise of wages in Norrland and in the counties of Kopparberg and Västmanland was again relatively strong, and in 1907—1908 the distribution of the wage levels was almost exactly the same as by the end of the 'nineties. In some counties a fall in the wage level followed, the peaks occurring in one or other of the

### *The Trend of Agricultural and Industrial Wages in Selected Regions*

A comparison of the local trends of industrial and agricultural wages is of immediate interest. Such a division into local districts is also necessary for a comparison of the standard of living of industrial and agricultural workers. The local costs of living have probably developed



differently in different places. As the two labour categories have been differently distributed, the national averages of nominal wages do not give reliable information on the relative trend of the standard of living in the various occupations. As, further, the typical variations may easily disappear in averages including all industries, the comparison of national averages has been supplemented by a comparison between the wages in certain manufacturing industries and agricultural wages in the same region. The comparison has been restricted to a few manufacturing industries of concentrated localization and of predominant importance among the industries in the respective regions. The mining, sawmill, and textile industries are the most suitable from this point of view.

*Wages of Agricultural Workers and of Miners in the Bergslagen Counties.* Apart from the ore fields in Lapland, the mining industry is strongly concentrated to the so called *Bergslagen* (cf. Part I). In the averages for industrial workers, the mines in the different counties enter with the following weights, which have been applied in the computation of the corresponding averages for agricultural workers.

County of:	1860—1881	1881—1913
Uppsala . . . . .	2	2
Örebro . . . . .	3	2
Västmanland . . . . .	2	2
Kopparberg . . . . .	2	5

The mining and the iron and steel industries hold a prominent position in the industrial labour market in all these counties. They are mainly located in the rural districts, and the connection between wages in them and in agriculture is therefore probably intimate. The dominating importance in the labour market of the mining and the iron and steel industries in the counties of Kopparberg and Örebro appears from the figures given in the Industrial Statistics. In the latter county, however, the boot and shoe industry came to the fore towards the end of the period. In the county of Västmanland, engineering

**Table 197. Index of Annual Earnings of Miners, and of Daily and Annual Wages in Agriculture in the Counties of Uppsala, Örebro, Västmanland, and Kopparberg 1865—1913 (1910—1913 = 100).**

Year	Annual earnings of miners	Day-rates in agriculture according to the <i>Markgång</i> returns.	Annual cash wages of male farm servants according to the Agricultural Statistics
1865	39.7	44.0	42.3
66	40.4	44.0	41.6
67	40.2	40.6	37.6
68	41.4	36.3	34.3
69	41.6	36.8	33.9
1870	42.3	38.5	34.6
71	43.1	40.6	39.0
72	48.8	55.1	55.1
73	60.8	66.2	62.5
74	63.6	67.1	65.1
75	62.4	60.3	61.1
76	59.3	60.7	57.8
77	58.5	56.4	54.1
78	54.6	47.9	44.3
79	51.1	44.9	40.3
1880	53.7	44.4	42.3
81	54.2	44.9	38.3
82	56.6	47.8	42.0
83	57.6	50.6	43.8
84	58.9	52.2	45.7
85	57.4	52.2	46.3
86	53.6	50.2	42.3
87	51.0	45.3	43.5
88	48.2	47.0	44.4
89	53.0	48.6	45.1
1890	57.1	54.3	50.0
91	57.2	55.1	50.3
92	59.0	56.3	50.0
93	58.8	56.3	50.3
94	59.1	56.3	56.8
95	58.9	56.3	55.5
96	59.4	57.5	56.8
97	64.0	61.5	62.0
98	67.2	69.2	66.7
99	71.9	76.9	75.9
1900	75.2	81.8	76.8
01	76.2	74.1	75.6
02	76.6	71.3	70.7
03	74.0	71.7	72.5
04	77.8	72.1	72.8
05	79.1	74.9	74.7
06	82.0	80.2	80.5
07	87.4	89.9	92.0
08	93.4	93.9	95.7
09	75.5	96.4	95.4
1910	96.8	96.8	96.3
11	99.7	98.0	97.5
12	99.7	100.8	101.8
13	103.8	104.5	104.3

works were equally prominent. In the county of Uppsala, on the other hand, there were fewer miners than workers in sawmills. The number of miners did not increase appreciably from 1896 to 1913, which does not preclude a certain influx of agricultural labour to the mining industry.

The fact that miners are usually not highly skilled, and that therefore there is nothing to prevent migration from agriculture to mining is in favour of a close connection between the trends of wages in mining and in agriculture. It would require a closer investigation to ascertain how the transfer of labour from agriculture to mining was effected in *Bergslagen*. Since hardly any workers in that district are paid on the *statave*-system, day-labourers and servants boarded by their masters are the only categories of agricultural workers from which miners could be recruited. A typical form of migration was that male servants changed over to mining or some manufacturing industry when they married.<sup>1</sup>

In the following table index numbers of wages in the *Bergslagen* counties according to Table 197 are compared with the corresponding national averages.

	Selected counties	Whole country	Selected counties in per cent of whole country
<i>1910—1913 (1865—1866 = 100):</i>			
Annual earnings of miners . . . . .	249.4	—	} 89.8
Annual earnings in manufacturing and mining . . . . .	—	277.8	
Day-rates in agriculture . . . . .	227.3	253.1	89.8
Annual cash wages of male farm ser- vants . . . . .	238.1	268.4	88.7

The table shows that the total increase of miners' wages during the period from 1865—1866 to 1910—1913 in the *Bergslagen* counties was slightly larger than that of agri-

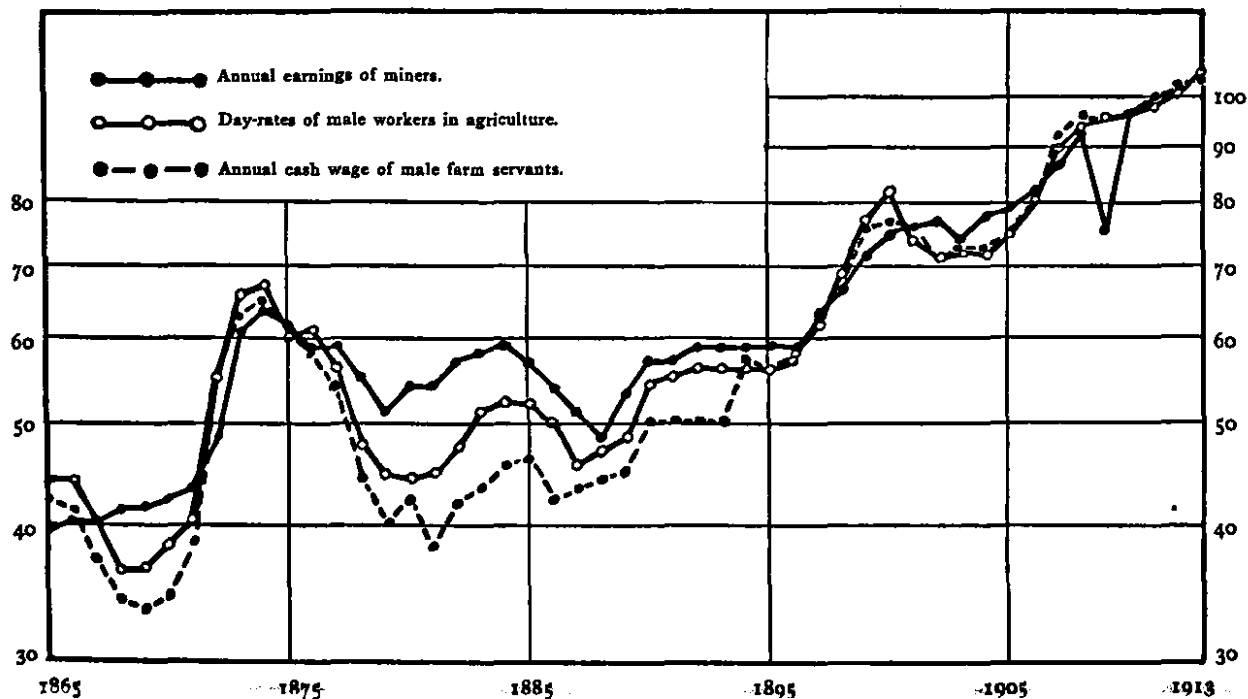
<sup>1</sup> *Lantarbetarnas arbets- och löneförhållanden inom olika bygder och typiska lantegendomar* (Conditions of Labour and Wages of Agricultural Workers in Different Districts and on Typical Farms) in *Sveriges officiella statistik*, Stockholm 1915.

**Chart 54. Annual Earnings of Miners, and Daily and Annual Wages in Agriculture in the Counties of Uppsala, Örebro, Västmanland, and Kopparberg 1865-1913.**

(Index: 1910-1913 = 100.)

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cultural wages. On the other hand, the deviations of the different local averages from the corresponding national averages was almost of the same magnitude (cf. the last column of the table).

As in the case of the national averages, the trend of agricultural wages in relation to that of industrial wages in the selected counties was lower only in the first half of the period. It ceased to be so, however, already in the beginning of the 'eighties. The close agreement between the cyclical variations can be seen in Chart 54.

*Wages of Agricultural and Sawmill Workers in the Sawmill Districts.* The sawmill industry is strongly concentrated to the three Norrland counties of Gävleborg, Väster-norrland, and Västerbotten, which in the averages for this industry are represented by establishments to which the weights 2, 7, and 1 respectively have been given. In all these counties the sawmill industry was predominant throughout the period. The wage series for sawmill workers goes back to 1884. At that time the sawmill industry was still expanding, but about 1900 the number of workers ceased to increase, and in the last ten years before 1913 it diminished in all the three counties. Simultaneously, the wood-pulp industry began to absorb a large number of workers.

Practically the whole sawmill industry was situated in rural districts, and was in intimate contact with the surrounding rural labour market. It was thus a common thing for day-labourers to work alternately in agriculture and in the sawmills or forestry. All the work being pronouncedly seasonal, it was possible for the men to go from one to the other. Seasonal labour was employed at the sawmills chiefly for loading and other out-door work. Our wage series only refer to full-year workers, but the trend of the seasonal workers' wages was probably similar. In these counties, as in *Bergslagen*, it was usual for male farm servants to change over to some industrial occupation when they married.

For purposes of comparison, an average for male farm

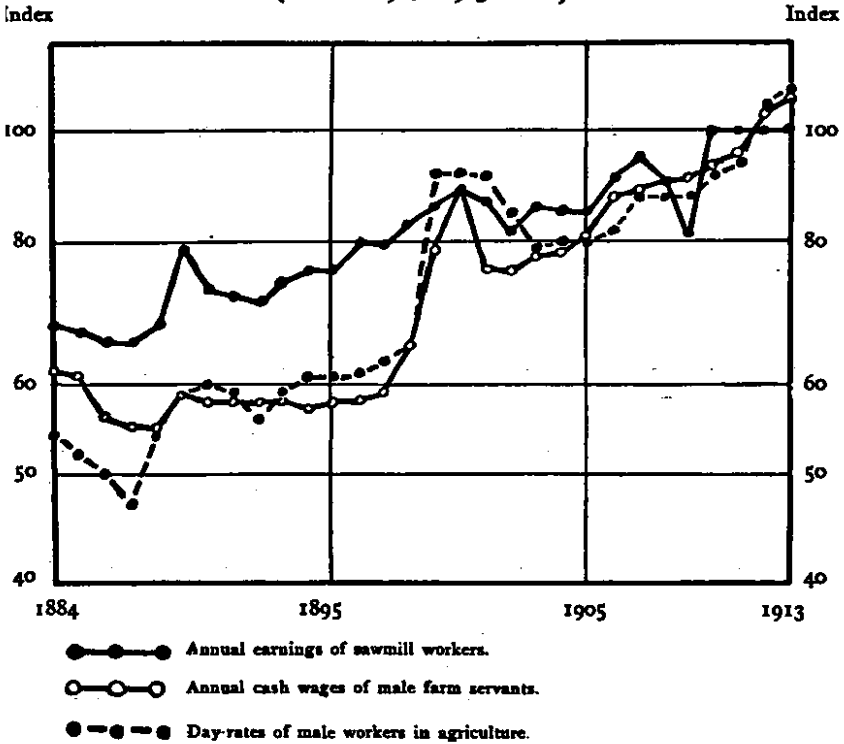
Table 198. Index of Annual Earnings of Sawmill Workers, and of Day-rates and Annual Wages in Agriculture in the Counties of Gävleborg, Västernorrland, and Västerbotten 1884—1913 (1910—1913 = 100).

Year	Annual earnings of sawmill workers	Day-rates in agriculture according to the <i>Markegång</i> returns	Annual cash wages of male farm servants according to the Agricultural Statistics
1884 . . . . .	67.6	61.9	54.0
85 . . . . .	66.6	60.7	52.4
86 . . . . .	65.5	56.1	49.6
87 . . . . .	65.5	55.3	46.8
88 . . . . .	68.4	54.9	54.0
89 . . . . .	79.3	59.2	59.4
1890 . . . . .	72.9	58.4	59.6
91 . . . . .	71.7	58.0	59.3
92 . . . . .	71.3	58.0	55.5
93 . . . . .	73.8	57.6	59.3
94 . . . . .	76.0	57.3	61.0
95 . . . . .	75.8	58.4	61.3
96 . . . . .	79.8	58.4	61.6
97 . . . . .	79.7	58.8	62.7
98 . . . . .	82.9	65.4	65.4
99 . . . . .	86.2	79.3	91.5
1900 . . . . .	89.2	89.4	91.7
01 . . . . .	86.9	76.2	90.7
02 . . . . .	82.0	75.8	84.9
03 . . . . .	85.6	77.8	79.4
04 . . . . .	84.9	78.5	79.8
05 . . . . .	84.5	80.9	80.4
06 . . . . .	91.4	87.8	81.6
07 . . . . .	95.0	89.4	88.1
08 . . . . .	89.9	90.5	88.2
09 . . . . .	81.2	90.5	88.2
1910 . . . . .	99.5	93.6	91.5
11 . . . . .	99.7	95.9	93.9
12 . . . . .	100.4	103.7	105.1
13 . . . . .	100.4	106.8	109.4

servants and day-labourers in the three selected counties has been calculated, using the same weights as in the average of sawmill workers (Table 198). Up to the end of the 'nineties the trend of agricultural day-rates was somewhat lower than that of the earnings in the sawmill industry. The trend of wages in the sawmill districts from the middle of the 'nineties up to the war, as compared

**Chart 55. Annual Earnings of Sawmill Workers, and Day-rates and Annual Wages in Agriculture in the Counties of Gävleborg, Västernorrland, and Västerbotten 1884—1913.**

(Index: 1910—1913 = 100.)



with that of the national averages, is shown by the following index numbers.

	Selected counties	Whole country	Selected counties in per cent of whole country
<i>1910—1913 (1890—1894 = 100):</i>			
Annual earnings av sawmill workers	136.7	—	} 80.7
Annual earnings in manufacturing and mining	—	169.3	
Day-rates in agriculture	172.8	179.9	96.1
Annual cash wages of male farm servants	169.8	184.2	92.2

In the sawmill district too, as in the country as a whole, we note that wages rose faster in this period in agriculture than in industry. All wages in the sawmill district rose more slowly than the corresponding national averages, but the relative trend of the sawmill workers' wages was lower than that of agricultural wages. This can be explained by the sawmill industry having been stationary since the beginning of the century, while other industries in the same districts, principally the wood-pulp industry, attracted more labour. The agreement of the cyclical variations is striking (cf. Chart 55). The boom of 1900 caused much stronger fluctuations in agricultural wages, however. From 1897 to 1900 the agricultural day-rates rose by 52 %, male farm servants' wages by 46 %, and the annual earnings of sawmill workers by only 12 %.

*Women's Wages in Agriculture and in the Textile Industries.*

The textile industries employ the largest number of women of all manufacturing industries. According to the Industrial Statistics for 1913, nearly one half of the female workers in the manufacturing and mining industries belonged to this group. A comparison between female wages in agriculture and in the textile industries should therefore give a good illustration of the relative trend of industrial and agricultural female wages. As distinct from the food products industries — the second of the industrial groups where women are more extensively employed — the textile industries are suitable for such a comparison as they are fairly strongly concentrated to certain counties where presumably they had a strong influence on the local market for female labour. On the other hand, the selected textile mills are largely situated in towns, and the connection with the rural labour-market might consequently not be so close.

An average of female agricultural wages has been computed for the counties where the textile mills included in our inquiry are situated. The following weights, which agree with those used for the women textile workers'



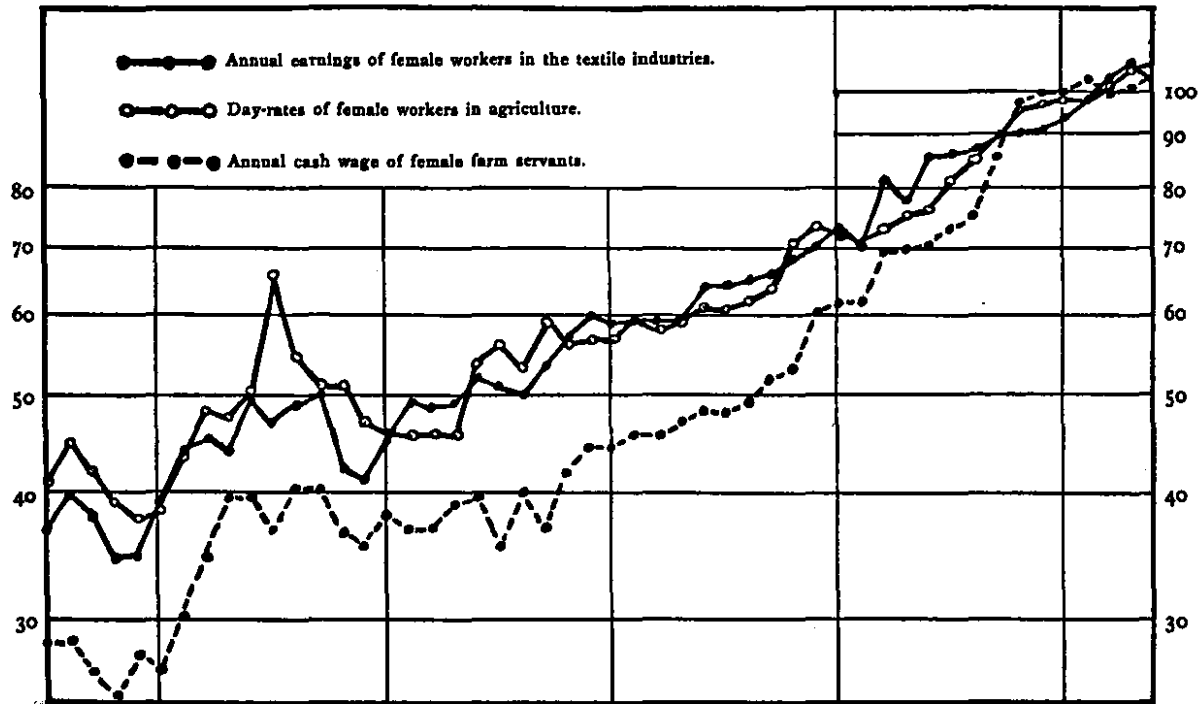
Table 199. Index of Annual and Daily Wages of Female Workers in the Textile Industries, and in Agriculture in the Counties of Östergötland, Gothenburg and Bohus, Älvsborg, and Gävleborg 1865—1914 (1910—1913 = 100).

Year	Annual earnings of female workers in the textile industries	Day-rates of female workers in agriculture according to the Agricultural Statistics	Annual earnings of female farm servants according to the Agricultural Statistics
1865 . . . . .	36.8	40.6	28.4
66 . . . . .	39.7	44.8	28.4
67 . . . . .	37.7	42.0	26.6
68 . . . . .	34.5	39.2	24.9
69 . . . . .	34.8	37.8	27.8
1870 . . . . .	39.1	38.5	26.6
71 . . . . .	43.6	43.4	30.2
72 . . . . .	44.9	48.3	34.9
73 . . . . .	44.0	47.6	39.6
74 . . . . .	49.5	50.3	39.6
75 . . . . .	46.7	65.7	36.7
76 . . . . .	48.9	54.5	40.2
77 . . . . .	50.0	51.0	40.2
78 . . . . .	42.3	51.0	36.7
79 . . . . .	41.0	46.9	35.5
1880 . . . . .	45.1	45.5	37.9
81 . . . . .	49.2	45.5	37.3
82 . . . . .	48.5	45.5	37.3
83 . . . . .	49.0	45.5	39.1
84 . . . . .	52.0	53.8	39.6
85 . . . . .	51.3	55.9	35.5
86 . . . . .	50.0	53.1	40.2
87 . . . . .	53.4	59.4	37.3
88 . . . . .	57.0	55.9	42.0
89 . . . . .	59.6	56.6	44.4
1890 . . . . .	58.5	56.6	44.4
91 . . . . .	59.2	59.4	45.6
92 . . . . .	57.8	59.4	45.6
93 . . . . .	58.8	59.4	47.4
94 . . . . .	61.4	64.3	48.0
95 . . . . .	61.4	64.3	48.0
96 . . . . .	61.9	65.0	49.2
97 . . . . .	63.7	65.7	51.6
98 . . . . .	70.4	68.5	53.4
99 . . . . .	72.7	69.9	60.6
1900 . . . . .	72.2	72.7	62.4
01 . . . . .	70.9	69.9	62.4
02 . . . . .	73.2	81.1	69.0
03 . . . . .	75.0	77.6	69.6
04 . . . . .	76.1	85.3	70.2
05 . . . . .	80.9	86.0	72.6
06 . . . . .	85.0	87.4	75.0
07 . . . . .	89.9	89.5	86.4
08 . . . . .	90.0	95.1	96.6
09 . . . . .	90.5	95.8	99.0
1910 . . . . .	93.6	97.2	99.0
11 . . . . .	97.4	96.5	101.9
12 . . . . .	102.5	100.7	99.0
13 . . . . .	106.2	105.6	100.1

**Chart 56. Annual and Daily Wages of Female Workers in the Textile Industries and in Agriculture in the Counties of Östergötland, Gothenburg and Bohus, Älvsborg, and Gävleborg 1865—1914. (Index: 1910—1913 = 100.)**

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averages, have been allotted to the wages of the several counties.

County of:	1865—1890	1890—1914
Östergötland . . . . .	—	1
Gothenburg and Bohus . . . . .	6	13
Älvsborg, northern part . . . . .	—	1
"    southern " . . . . .	3	3
Gävleborg . . . . .	4	6

The average for 1890 is the same by both weighting systems. For comparison with the industrial average, an index with 1910—1913 as its base has been computed (Table 199).

The agreement in the trend of the annual earnings of textile female workers to that of the day-rates of agricultural female workers is very distinct. In this case too, the trend of agricultural wages is lower up to the 'nineties, and higher during the remainder of the period. Both series rose more rapidly during the second half of the period. From 1865 to 1890, the wages of mill-girls rose by 59 %, and of female day-labourers by 39 %, while the corresponding figures for the period from 1890 to 1914 were 71 % and 88 %. The total increase from 1865—1866 to 1910—1913 was 161 % and 134 % respectively. The short-run variations were irregular, particularly in the agricultural series.

The annual earnings of female farm servants rose at the same rate as those of textile workers up to 1890, and considerably more rapidly afterwards. From 1890 to 1914 the rise was 131 %, compared with 71 % for the mill-workers. The rise was especially strong during the boom of 1905—1907. Farm servants' wages then rose by 19 %, while wages in the textile industry rose by 11 %.

To explain these differences would require a closer investigation of the female labour market. One would then primarily have to ascertain from what categories in agriculture the mill-girls were recruited, and above all the part played by domestic industry.

*Local Trends in Agricultural Wages 1911—1928.*

*The Trends in Different Parts of the Country.* The more complete agricultural wage material available in the period 1911—1928 makes it possible to study the local trends in wages more in detail than earlier. Even if divergencies appear between the trends of wages in small adjoining districts, the trends were to a certain degree uniform in some larger parts of the country. The most important of these local differences in the trends of agricultural wages appear from averages for five large parts of the country: North, West, East, and South Sweden, and Småland with the Islands.<sup>1</sup> The following comparison between wages in these parts of the country has been restricted to two categories of agricultural labour which are fairly uniformly represented all over the country, namely cash wages of male farm servants boarded by the farmer, and casual male day-labourers finding for themselves (summer day-rates). In weighting the data from the different communes, the same method has been used as in the computation of the county and national averages (cf. p. 151).

In the years immediately before the war the wages in various parts of the country bore a fairly constant relation to one another; they were relatively high in North Sweden and — as far as the wages of male servants were concerned — also in South Sweden. The first three years of the war brought about a relative increase of wages in North Sweden owing to the influence of forestry work, which in these years offered very profitable work, first in the logging operations and subsequently also in the cutting of firewood. In South Sweden, on the other hand, wages lagged behind, and from 1917 to 1919 they were the lowest in the country. The relative increase of wages

<sup>1</sup> The counties of Stockholm, Uppsala, Västmanland, Södermanland, and Östergötland form *East Sweden*, those of Jönköping, Kronoberg, Kalmar, and Gotland *Småland with the Islands*, the counties of Blekinge, Kristianstad, and Malmöhus *South Sweden*, and the counties of Halland, Gothenburg and Bohus, Älvsborg, Skaraborg, Värmland and Örebro *West Sweden*, while those of Kopparberg, Gävleborg, Västernorrland, Jämtland, Västerbotten, and Norrbotten form *North Sweden*.

**Table 200. Summer Day-rates (in *kronor*) for Casual Male Labourers finding for themselves in Different Parts of the Country.**

Year	East Sweden	Småland with the Islands	South Sweden	West Sweden	North Sweden
1911 . . . . .	2.82	2.62	2.61	2.60	3.13
1916 . . . . .	3.65	3.40	3.15	3.42	4.70
1920 . . . . .	9.86	8.84	8.88	8.96	11.27
1922 . . . . .	4.95	4.72	4.86	5.02	6.08
1923 . . . . .	4.56	4.51	4.47	4.72	5.96
1924 . . . . .	4.66	4.61	4.55	4.72	5.93
1925 . . . . .	4.63	4.54	4.59	4.60	5.83
1926 . . . . .	4.70	4.56	4.54	4.54	5.82
1927 . . . . .	4.70	4.53	4.55	4.50	5.79
1928 . . . . .	4.69	4.53	4.57	4.51	5.82

**Table 201. Annual Cash Wages (in *kronor*) of Male Farm Servants boarded by their Masters in Different Parts of the Country.**

Year	East Sweden	Småland with the Islands	South Sweden	West Sweden	North Sweden
1911 . . . . .	295	303	335	298	332
1916 . . . . .	369	375	388	376	463
1920 . . . . .	1088	1046	1100	1023	1108
1922 . . . . .	576	581	627	598	724
1923 . . . . .	540	542	566	555	691
1924 . . . . .	550	544	587	551	686
1925 . . . . .	557	547	589	539	658
1926 . . . . .	557	547	580	529	646
1927 . . . . .	557	547	583	531	641
1928 . . . . .	556	547	586	530	639

in South Sweden during the following year, which brought them up approximately to the level of those in the other parts except North Sweden, is probably connected with the fact that collective agreements were then becoming more widely adopted, especially in South and East Sweden, and that the rates fixed by them were fairly uniform for the different parts of the country. The wage-gap between Norrland and the other districts, which had diminished slightly from 1919 to 1921, again increased in

the following years, and was at the end of the period larger than before the war. In this respect the trend has thus been the opposite to what it was before the war, when a tendency to equalization of wages in North and South Sweden could be observed (cf. p. 338). In North Sweden in 1911, the wages of male farm servants, and the summer day-rates for casual male day-labourers finding for themselves, were thus only 7 and 12 % respectively above the corresponding national averages. For the period 1927—1928 the differences had increased to 14 and 23 % respectively.

Industrial development has apparently not had as much influence as earlier in producing differences in the local wage trends. A comparison, similar to that made above for the period 1896—1913, of the increase in different counties from 1913 to 1928 of on the one hand the number of industrial workers and on the other the summer day-rates and cash wages of male farm servants, shows no distinct correlation.

*The Local Dispersion of Wages.* When interpreting the averages for the larger geographical units it must be remembered that the dispersion of wages in the smaller local units has been quite considerable. A map on which the wage levels in different communes are marked in different colours makes a mosaic in which it seems almost impossible to trace any system whatever. The same applies to the trend of wages in different communes.

In the archives of the Social Board are kept the primary tables of its wage statistics, which give the data received from the different communes during the period 1911—1928 (cf. p. 149).<sup>1</sup> They offer an opportunity for a detailed study of local wages. It is of special interest to ascertain how far the dispersion of agricultural wages has changed since pre-war days, and especially if it has been influenced by the introduction of collective agreements. It has been asserted that even if the collective agreements do not formally include all agricultural labourers in the

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<sup>1</sup> By kind permission of the Social Board, this material has been placed at our disposal.

**Table 202. Summer Day-rates of Male Workers in Different Communes in the Counties of Stockholm, Uppsala, Södermanland, and Västmanland 1911—1913 and 1926—1928.**

Öre	County of			
	Stockholm	Uppsala	Södermanland	Västmanland
<i>1911—1913</i>				
—229 . . . . .	1	6	—	1
230—239 . . . . .	1	2	—	—
240—249 . . . . .	—	1	1	—
250—259 . . . . .	13	7	11	2
260—269 . . . . .	5	2	7	2
270—279 . . . . .	7	10	3	4
280—289 . . . . .	6	3	13	7
290—299 . . . . .	5	2	4	5
300—309 . . . . .	24	21	23	22
310—319 . . . . .	6	2	4	3
320—329 . . . . .	3	1	1	1
330—339 . . . . .	—	1	1	3
340—349 . . . . .	—	—	1	—
350—359 . . . . .	6	—	3	1
360— . . . . .	2	—	1	—
<i>1926—1928</i>				
—384 . . . . .	1	—	1	1
385—399 . . . . .	—	—	—	—
400—414 . . . . .	9	7	8	11
415—429 . . . . .	3	2	2	2
430—444 . . . . .	2	3	2	3
445—459 . . . . .	21	18	28	7
460—474 . . . . .	6	8	8	5
475—489 . . . . .	6	7	7	5
490—504 . . . . .	22	6	12	14
505—519 . . . . .	1	1	3	2
520—534 . . . . .	2	1	1	—
535—549 . . . . .	—	—	—	—
550—564 . . . . .	3	1	1	1
565—579 . . . . .	—	2	—	—
580— . . . . .	3	2	—	—

counties where they are introduced, they have nevertheless in practice exerted a normalizing influence on wages. Less dispersion of wages might therefore be expected in recent years, in comparison to, for instance, the time before the war, when there were no collective agreements. In order to ascertain how far this is so, extracts have been made from the commune returns from four counties, namely those of Stockholm, Uppsala, Södermanland, and Västmanland, in which collective agreements were introduced at an

early date. The comparison has been limited to summer day-rates for casual male labourers finding for themselves. Communes have been selected from which returns have been rendered for 1911—1913 as well as for 1926—1928. In order to eliminate to some extent chance differences, averages have been computed for the various communes for each of these three-year periods. The following table gives these averages divided into various wage-classes, the interval having been increased from 10 öre in 1911—1913 to 15 öre in 1926—1928, which approximately corresponds to the average increase of wages in these counties between the two periods. The material comprises 79 communes in the county of Stockholm, 73 in the county of Södermanland, 51 in the county of Västmanland, and 58 in the county of Uppsala.

Table 202 and Chart 57 demonstrate the existing wide dispersion in the same county of wages in different communes, a dispersion which probably can only be partly explained by deficiencies in the wage material. If we disregard the county of Västmanland for a while, the dispersion has clearly to some extent diminished since the pre-war period. This can also be seen in the following table, where median and quartile values are given:

County of	Lower quartile	Median	Upper quartile	Deviation from the median in per cent		
				lower quartile	upper quartile	
Stockholm . . .	{ 1911—13	2.67	3.00	3.08	— 11	+ 3
	{ 1926—28	4.50	4.70	5.00	— 4	+ 6
Uppsala . . .	{ 1911—13	2.50	2.83	3.00	— 12	+ 6
	{ 1926—28	4.50	4.54	4.83	— 1	+ 6
Södermanland . .	{ 1911—13	2.67	2.92	3.00	— 9	+ 3
	{ 1926—28	4.50	4.50	4.83	± 0	+ 7
Västmanland . . .	{ 1911—13	2.83	3.00	3.00	— 6	± 0
	{ 1926—28	4.17	4.67	5.00	— 11	+ 7

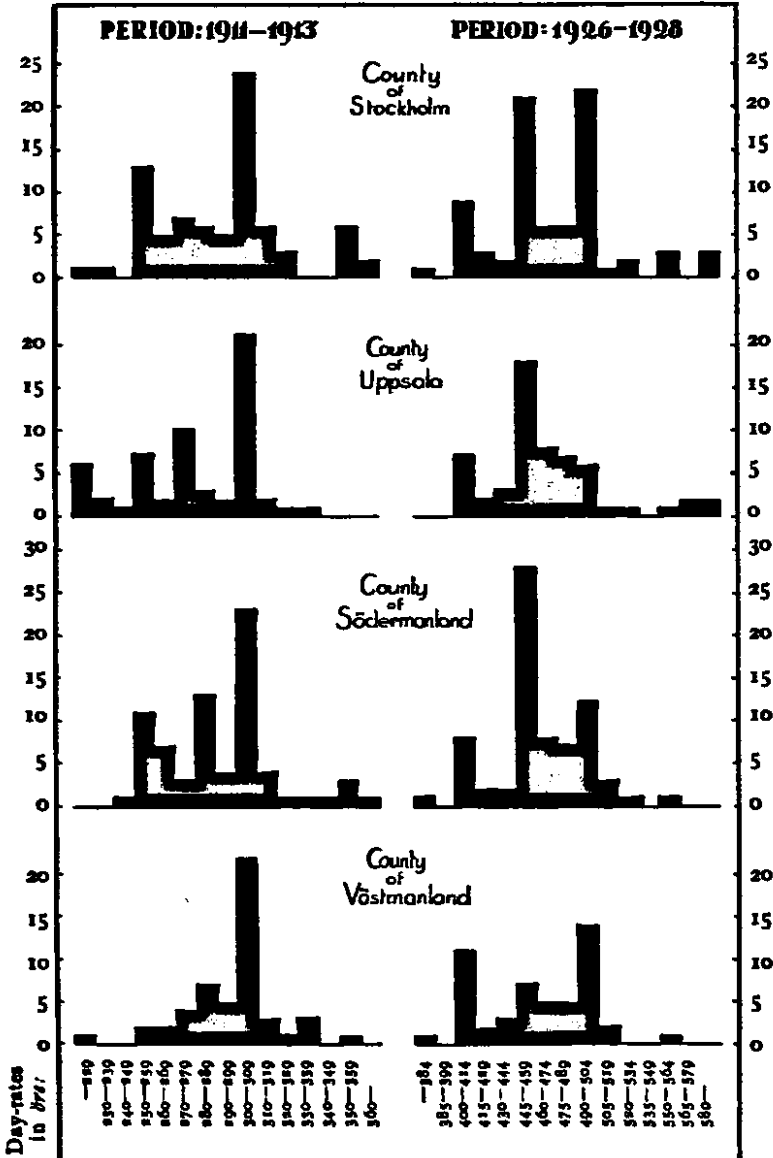
The last two columns indicate that from 1911—1913 to 1926—1928 the distance between the quartiles in relation to the median value diminished from 14 % to 10 % in the county of Stockholm, from 12 % to 7 % in the county of



**Chart 57. Frequency Distributions of Day-rates of Male Agricultural Workers in Different Communes in the Counties of Stockholm, Uppsala, Södermanland, and Västmanland in the Periods 1911—1913 and 1926—1928.**

Number of  
communes

Number of  
communes



Södermanland, and from 18 % to 7 % in the county of Uppsala. It was thus reduced by almost half. It is, however, typical for these three counties that the reduced dispersion can be primarily referred to communes where wages were relatively low, while the dispersion towards the higher values still remained large or even increased (county of Södermanland). Whereas in 1911—1913 the distance to the lower quartile was greater than to the upper quartile (this also applies to the county of Västmanland), the distribution had in 1926—1928 changed so that the distance to the upper quartile was the largest. This change is probably connected with the introduction of collective agreements. The collectively agreed wages had apparently become the minimum in most communes. The upward variation of wages was, on the other hand, not limited. The statistical distribution of the local wages has thus become skew. The part played by the collective agreements becomes still more distinct if we compare the distribution of wages with the wages fixed by the collective agreements in the respective counties for the years 1926—1928.<sup>1</sup> In the counties of Stockholm, Uppsala, and Södermanland the agreed hourly rate was 45 öre. The net working time per day for agricultural labourers proper was at the same time about 10 hours. Wages lower than the agreed rate were only returned from 15 out of 79 communes in the county of Stockholm, 12 out of 58 in the county of Uppsala, and from 13 out of 73 in Södermanland, while the numbers returning higher wages were 43, 28, and 32 respectively.

In some respects the trend was different in the county of Västmanland. The distance between the quartiles on either side of the median here increased from 6 to 18 %. In 1926—1928 the agreed hourly wages were 48 öre, i.e. higher than in the three other counties, forming a transition to the higher wages in the *Bergslag* of Kopparberg county, where they were fixed at 50 öre in the collective

<sup>1</sup> *Arbetsartillgång, arbetstid och arbetslön inom Sveriges jordbruk* (Labour Supply, Working Hours, and Wages of Agricultural Labour in Sweden), in *Sveriges officiella statistik*.

**Table 203. Summer Day-rates of Male Workers in Different Communes in the Counties of Stockholm, Uppsala, and Södermanland 1911—1913 and 1926—1928.**

Ö r e	Agricultural communes			Mixed communes	Industrial communes
	Large farm communes	Medium-sized farm communes	Remaining agricultural communes		
<i>1911—1913</i>					
—229	1	—	1	2	2
230—239	1	—	—	2	—
240—249	1	—	1	—	—
250—259	4	7	10	—	6
260—269	4	1	3	2	3
270—279	6	1	2	4	5
280—289	2	4	6	2	4
290—299	3	1	2	—	3
300—309	12	6	19	17	10
310—319	1	1	3	—	4
320—329	1	2	—	—	1
330—339	1	—	—	1	—
340—349	1	—	—	—	—
350—359	3	—	1	1	3
360—369	—	—	—	2	1
<i>1926—1928</i>					
—384	—	—	1	1	—
385—399	—	—	—	—	—
400—414	6	4	8	1	1
415—429	—	—	4	—	2
430—444	2	2	1	—	—
445—459	17	7	12	14	11
460—474	4	2	5	4	6
475—489	6	1	7	4	2
490—504	6	2	7	7	13
505—519	—	1	1	—	1
520—534	—	1	2	—	1
535—549	—	—	—	—	—
550—564	—	1	—	—	3
565—579	—	2	—	—	—
580—	—	—	—	2	2

agreement. It has evidently not been possible to maintain the in comparison to the adjoining counties relatively high wages fixed by the collective agreement for the county of Västmanland as a general minimum standard to the same extent as in the other three counties. No less than 29 communes out of 51 report lower wages than those fixed in the agreement.

It is of special interest to see whether the reduced dispersion of wages and the normalizing influence of collective agreements have developed differently in communes of different economic structure. In order to ascertain this, the communes have first been divided into groups according to their degree of industrialization. For that purpose the division utilized for the investigation of internal migration at the Institute has been followed, which distinguishes three groups called agricultural, mixed, and industrial communes.<sup>1</sup> Among the agricultural communes we have further differentiated between communes where large farms predominate (communes where more than 50 % of the cultivated area belongs to farms with more than 50 hectares of cultivated area), communes where the medium-sized farms are in majority (communes where more than 60 % of the cultivated area belongs to farms with more than 10—50 hectares of cultivated area), and the remaining agricultural communes. In each of these groups the dispersion of wages has been investigated. In order to obtain more comprehensive material, the corresponding groups in the counties of Stockholm, Uppsala, and Södermanland have been brought together where in 1926—1928 the same wages were paid according to the collective agreements.

	Lower quartile	Median	Upper quartile	Deviation from the median, in per cent		
				lower quartile	upper quartile	
<i>Agricultural communes</i>						
Large farm communes . . . . .	{ 1911—13 1926—28	2.67 4.50	2.92 4.50	3.00 4.75	— 9 ± 0	+ 3 + 6
Medium-sized farm communes . . . . .	{ 1911—13 1926—28	2.50 4.42	2.83 4.50	3.00 5.00	— 12 — 2	+ 6 + 11
Remaining agricultural communes . . . . .	{ 1911—13 1926—28	2.63 4.25	2.92 4.50	3.00 4.83	— 10 — 6	+ 3 + 7
<i>Mixed communes</i> . . . . .	{ 1911—13 1926—28	2.75 4.50	3.00 4.60	3.00 5.00	— 8 — 2	± 0 + 9
<i>Industrial communes</i> . . . . .	{ 1911—13 1926—28	2.67 4.50	2.92 4.79	3.00 5.00	— 9 — 6	+ 3 + 4

<sup>1</sup> See *Myrdal*, *Industrialization and Population*, Economic Essays in Honour of Gustav Cassel, London 1933.

The result is given in Table 203, where the same class intervals have been used as in Table 202. The dispersion to different wage-classes is most expediently characterized by giving the median and the quartiles (p. 372).

In 1911—1913 the median values of the different groups of communes only differed by a couple of per cent. In 1926—1928, on the other hand, the median value of industrial communes was considerably higher than of the agricultural communes. This must be chiefly ascribed to the high wages paid in the neighbourhood of the capital, in the county of Stockholm. If we disregard that district, we thus notice that there are no significant differences in the counties dealt with here between communes of different degrees of industrialization, whether in respect of wages or of the average trend during the period. In respect of the distribution of wages, it is possible throughout to see that the relative distance from the median to the lower quartile was considerably less in 1926—1928 than in 1911—1913. This reduction has been most pronounced in large farm communes. In this group, the distance to the upper quartile has grown comparatively little, and the dispersion of the wages in the various communes has diminished more than in any other group of communes (cf. also Table 203). In agricultural communes where medium-sized farms dominate, on the other hand, the dispersion upwards has increased, and the total dispersion has consequently diminished less. In the group "Remaining agricultural communes", finally, the distance to the lower quartile has remained comparatively large, and the total dispersion constant. In all the agricultural communes the median value lies at the wages fixed by the collective agreement, and the downward dispersion of wages thus indicates the downward divergence from the wages of the agreement. The number of communes, where the day-rate is lower than the agreement rate, varies from about one in five in the group of large farm communes to about two in seven in the group "Remaining agricultural communes". Only two "mixed" and three "industrial" communes, on the other hand, show lower wages than

the collective agreements in 1926—1928. Adjacency to manufacturing industry thus seems to have led to a more general application of the wages of the collective agreements in agriculture. The median values of the two last named groups are moreover higher than the agreement rate, which consequently — especially in industrial communes — has not restricted the dispersion of the wages towards lower values in the same way as it has done in the agricultural communes. A further characteristic of the industrial communes is the large number of communes with extremely high relative level of wages (cf. Table 203). These are chiefly situated in the county of Stockholm, and more especially in the neighbourhood of the capital.

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**APPENDIX TO CHAPTER XVIII.**

Table 204. Day-rates (in öre) of Male Agricultural Workers, according to the *Markegång* Returns, 1865—1914.

Year	County of												
	Malmöhus	Kristianstad	Bläkinge	Kronoberg	Jönköping	Kalmar, excl. Öland	Kalmar, incl. Öland	Gotland	Halland	Gothenburg and Bohus	Älvsborg	Skaraborg	Östergötland
1860	74	83	—	78	85	75	75	66	81	85	82	90	77
61	75	100	—	81	84	78	88	79	89	84	86	90	80
62	81	96	—	86	88	75	88	81	92	90	92	93	84
63	77	90	—	86	94	75	75	100	90	86	82	97	79
64	83	86	—	81	91	89	88	88	90	88	82	96	76
65	82	87	—	77	85	83	75	79	90	95	76	89	78
66	78	84	—	74	85	81	78	80	82	95	81	88	78
67	88	90	—	72	83	78	78	75	86	100	84	98	77
68	81	87	—	70	77	69	71	81	89	95	77	89	77
69	86	82	—	71	77	74	63	85	86	86	73	88	76
1870	94	84	—	84	80	73	75	92	83	89	70	88	79
71	96	86	—	78	80	74	88	92	79	88	74	91	89
72	127	98	—	88	97	86	100	100	96	95	82	107	109
73	133	127	—	115	114	120	113	125	100	103	94	129	131
74	133	129	—	125	125	110	125	113	104	105	100	131	139
75	138	121	—	115	134	129	125	150	112	115	106	146	136
76	138	133	—	125	133	119	125	150	115	120	113	143	140
77	142	136	—	125	137	—	130	150	107	118	117	151	131
78	125	115	—	95	115	90	113	150	100	101	94	118	99
79	117	106	—	89	102	88	100	100	96	95	90	104	94
1880	116	108	—	95	112	95	100	113	100	100	90	105	97
81	125	106	—	100	118	90	100	113	100	103	96	119	100
82	142	123	—	109	121	100	100	125	116	110	104	121	119
83	154	141	—	119	126	114	108	125	125	132	100	126	122
84	156	129	—	124	124	112	100	125	123	116	95	114	123
85	153	127	—	116	122	105	88	129	123	121	98	111	120
86	135	118	—	101	111	100	88	118	108	113	100	107	105
87	128	109	—	96	99	85	100	113	112	103	98	102	93
88	131	113	—	96	102	94	95	125	112	110	95	112	103
89	129	119	—	96	103	100	100	150	105	115	102	123	108
1890	142	130	—	110	107	106	113	150	106	120	105	122	122
91	157	135	—	112	120	108	100	150	112	128	110	124	133
92	167	141	—	115	127	113	125	150	131	123	118	140	134
93	163	141	—	120	132	113	100	—	126	119	113	136	136
94	171	144	—	120	127	117	100	—	125	132	125	136	130
95	171	144	—	120	130	117	100	150	125	140	121	143	137
96	171	144	—	120	134	117	100	150	125	138	121	146	134
97	183	150	—	120	138	115	138	150	131	145	120	148	144
98	196	155	—	130	147	145	163	154	150	150	134	162	151
99	196	161	—	150	156	158	163	175	150	158	154	170	169
1900	204	161	—	155	160	167	188	175	150	165	156	173	188
01	208	167	—	165	160	170	175	194	161	162	157	167	184
02	217	167	—	165	158	155	163	188	170	163	160	167	—
03	224	173	—	165	167	170	175	217	171	168	160	175	184
04	235	175	—	170	173	160	200	200	173	170	160	181	188
05	246	194	—	175	173	175	175	200	182	180	159	183	191
06	261	213	—	200	185	185	175	200	191	171	177	189	200
07	283	238	200	200	225	194	188	250	202	191	204	221	223
08	292	244	213	200	229	195	175	250	218	191	209	236	226
09	296	238	213	200	225	190	200	250	225	196	218	225	233
1910	296	238	213	200	221	200	200	250	239	208	218	232	247
11	296	238	213	200	221	200	175	263	247	200	226	239	253



Table 204. (Cont.). Day-rates (in öre) of Male Agricultural Workers, according to the *Markegång* Returns, 1865—1914.

Year	County of											
	Söder- måland	Stockholm	Upsala	Örebro	Västman- land	Värmland	Koppar- berg	Gästrik- borg	Jämtland	Väster- norrland	Väster- botten	Norr- botten
1860	100	127	112	85	99	86	—	100	113	117	119	113
61	100	123	119	85	97	91	—	110	123	121	125	122
62	100	129	115	89	101	—	—	125	120	117	138	124
63	100	104	125	89	98	89	—	125	115	122	150	119
64	96	104	112	92	98	93	—	138	128	—	150	138
65	100	108	113	94	98	94	113	142	119	125	142	—
66	100	103	113	92	100	90	111	133	116	125	125	130
67	79	93	105	84	91	82	104	100	108	83	113	107
68	73	89	88	81	80	80	94	97	—	101	113	117
69	75	82	86	83	80	76	98	97	106	105	125	118
1870	78	87	89	89	85	79	99	100	123	106	138	125
71	80	91	96	89	93	85	104	108	128	106	138	141
72	100	110	122	—	125	100	141	125	146	138	138	135
73	125	129	133	148	149	124	193	175	192	175	200	201
74	143	137	140	154	144	132	193	—	209	200	213	219
75	143	142	145	132	151	130	—	167	160	194	200	185
76	144	145	146	127	144	128	157	167	158	190	200	172
77	138	129	135	115	140	125	145	175	175	185	200	160
78	118	—	118	105	119	—	109	142	168	150	169	141
79	105	117	103	95	109	104	117	128	140	119	—	120
1880	105	114	105	90	110	97	118	139	160	146	156	140
81	100	117	108	91	109	98	120	150	155	150	163	125
82	106	132	125	93	123	101	123	153	163	146	188	160
83	123	130	132	106	133	108	127	162	177	153	188	160
84	123	136	134	97	144	115	133	162	181	157	175	160
85	121	126	130	97	144	113	136	167	179	155	163	170
86	113	123	118	93	138	107	133	158	209	140	150	174
87	100	108	105	86	113	104	125	142	163	140	170	182
88	103	108	117	88	113	106	129	133	164	144	150	191
89	113	113	123	93	113	108	133	150	169	154	155	184
1890	123	123	125	101	131	116	151	150	172	149	168	182
91	124	124	129	104	131	120	154	153	186	147	168	190
92	138	123	125	106	149	120	154	153	193	146	168	194
93	135	127	125	109	149	120	153	153	196	145	168	175
94	134	126	125	109	150	123	153	157	196	143	163	182
95	134	130	125	109	142	125	155	157	194	147	163	182
96	134	130	125	109	146	125	161	157	209	147	163	194
97	136	130	138	115	153	134	171	165	209	147	163	219
98	152	147	150	126	187	142	190	187	222	163	175	239
99	165	175	159	155	207	156	209	200	238	207	200	254
1900	164	186	169	158	197	175	235	225	263	237	200	272
01	160	169	153	144	168	177	217	200	252	199	175	251
02	153	172	153	156	163	173	198	200	237	198	175	222
03	156	176	153	162	163	177	198	192	241	204	200	224
04	154	181	153	157	169	177	200	200	241	204	200	222
05	158	187	163	167	169	177	208	200	244	213	200	232
06	171	208	173	178	181	179	222	225	261	229	213	232
07	200	226	182	195	238	204	242	242	290	231	—	251
08	221	239	200	215	244	207	246	267	278	229	200	260
09	229	235	213	227	244	216	250	267	258	229	200	250
1910	231	231	213	220	256	216	250	283	271	233	225	269
11	231	234	210	224	244	214	262	283	271	238	250	301
12	227	244	224	222	257	221	267	272	202	264	286	320

Table 205. Day-rates (in öre) of Male Agricultural Workers, according to the Agricultural Statistics, 1865—1914.

## A. Summer-rates.

Year	C o u n t y o f												
	Malmöhus	Kristianstad	Blekinge	Kronoberg	Jönköping	Kalmar, north part	Kalmar, south part	Gotland	Halland	Bohus	Gothenburg and Bohus	Alvsborg, north part	Alvsborg, south part
1865	117	109	—	92	109	113	109	100	113	103	88	96	125
66	117	109	79	100	113	105	—	100	113	95	—	71	125
67	—	109	79	84	100	105	96	100	113	95	—	84	125
68	109	109	83	100	92	84	88	100	113	100	—	71	125
69	113	109	88	92	—	84	100	100	113	100	105	71	125
1870	113	109	88	105	88	100	100	100	—	100	105	88	125
71	125	175	93	109	125	125	104	100	125	100	138	88	125
72	148	250	115	138	125	125	134	138	146	200	175	125	125
73	150	250	145	175	175	150	180	150	146	150	175	125	125
74	150	175	145	175	125	150	175	175	163	175	175	138	125
75	—	175	145	175	188	150	175	175	163	209	175	138	125
76	—	175	145	188	213	163	175	175	163	150	175	138	125
77	—	175	145	175	175	125	150	175	159	150	138	125	125
78	139	175	145	150	125	125	150	138	138	113	150	125	150
79	143	175	115	150	125	100	125	138	138	138	113	150	150
1880	145	175	113	150	125	125	128	138	138	113	138	125	138
81	169	175	113	150	125	138	130	—	159	113	150	125	138
82	150	175	113	150	163	138	133	—	163	113	150	125	138
83	163	175	113	150	163	125	134	175	163	113	150	125	138
84	175	175	113	150	175	113	150	175	150	113	150	125	138
85	157	150	125	150	150	113	150	163	150	138	150	150	133
86	162	169	125	125	125	125	132	150	138	138	150	140	138
87	150	150	125	125	125	113	130	150	138	125	135	150	113
88	150	175	125	125	150	138	139	150	125	125	137	150	135
89	150	167	125	125	150	163	141	175	125	125	139	125	143
1890	170	188	140	160	150	163	152	200	175	125	144	150	157
91	175	163	150	160	175	175	150	200	175	125	144	150	157
92	175	183	150	163	175	175	165	225	150	125	145	175	160
93	175	196	150	165	160	188	157	225	150	125	143	175	162
94	185	191	175	171	150	143	155	225	175	150	147	150	160
95	185	195	150	166	170	144	149	225	175	150	150	175	160
96	185	203	150	165	163	146	159	225	175	150	150	175	163
97	200	203	150	176	200	159	170	225	175	150	165	175	165
98	212	250	150	185	175	168	190	250	175	175	157	188	178
99	213	250	175	204	138	175	190	250	175	200	185	188	200
1900	210	233	175	200	200	194	180	200	175	200	170	175	187
01	210	233	175	208	180	181	175	200	175	200	192	175	200
02	211	224	175	217	180	187	175	225	200	200	178	175	200
03	217	224	175	221	200	185	185	188	200	200	185	185	200
04	220	245	200	235	200	210	185	200	200	200	190	190	230
05	228	225	175	258	250	213	200	200	225	200	200	195	240
06	245	253	200	271	250	210	300	228	225	200	225	210	260
07	258	269	220	265	250	233	225	246	225	250	235	225	235
08	261	271	220	263	300	234	225	265	225	250	235	225	240
09	256	272	220	258	300	230	225	265	250	250	235	238	280
1910	256	273	220	263	250	230	233	265	250	250	235	225	285
11	256	272	235	271	300	230	245	273	250	250	244	228	290
12	259	265	236	256	256	250	247	276	250	256	243	228	270
13	267	272	241	263	283	252	246	278	261	254	258	270	263

Table 205. (Cont.). Day-rates (in öre) of Male Agricultural Workers, according to the Agricultural Statistics, 1865-1914.

## A. Summer-rates.

Year	C o u n t y o f												
	Öster- götaland	Söder- manland	Stockholm	Uppsala	Örebro	Väst- manland	Värmland	Koppar- berg	Gävleborg	Jämtland	Väster- norrland	Väster- botten	Norr- botten
1865	120	125	150	150	150	134	113	150	150	167	188	125	150
66	125	125	150	150	150	135	138	125	175	144	150	125	150
67	121	125	138	125	125	115	113	138	138	129	150	125	125
68	100	113	125	125	113	100	113	125	150	138	150	125	138
69	100	113	117	125	113	113	109	113	150	150	150	125	150
1870	100	100	109	125	113	113	—	150	175	—	150	150	163
71	113	125	163	125	125	150	138	150	200	—	188	150	188
72	175	150	163	163	138	175	138	225	213	208	225	213	213
73	175	188	163	225	175	188	213	275	238	244	325	213	300
74	175	188	188	225	188	200	213	238	300	263	325	213	350
75	175	163	188	225	175	225	213	225	300	259	275	213	238
76	175	163	200	225	153	225	—	200	250	213	300	213	238
77	175	125	188	163	138	163	—	163	200	225	275	200	200
78	140	163	—	150	128	138	138	125	200	175	225	250	200
79	125	163	150	150	125	125	125	125	163	175	188	200	200
1880	125	150	138	150	125	125	100	138	175	200	200	200	200
81	145	163	—	150	138	113	88	150	175	213	200	190	200
82	145	138	163	150	128	138	125	138	175	188	200	200	188
83	175	163	—	150	150	150	153	150	175	175	200	200	200
84	175	163	—	150	175	150	125	163	250	175	200	200	200
85	150	150	150	150	150	163	125	162	150	200	200	200	150
86	140	150	150	150	141	150	125	150	200	200	200	200	225
87	135	150	150	138	141	150	100	138	175	200	200	200	250
88	140	150	150	131	142	150	100	138	175	200	200	213	275
89	150	150	150	150	151	150	140	150	180	250	200	225	300
1890	165	150	175	150	155	175	150	175	175	250	200	230	250
91	170	150	175	150	167	175	150	175	185	250	200	250	250
92	171	150	170	158	175	175	150	175	185	250	200	250	250
93	162	175	175	153	175	175	150	180	185	250	200	250	250
94	171	175	175	150	175	175	175	185	188	250	225	220	250
95	168	170	180	150	174	175	175	184	188	225	225	220	250
96	175	150	200	150	177	175	175	186	193	225	225	225	275
97	180	175	180	150	178	200	200	209	209	225	225	250	300
98	190	225	225	184	203	200	225	227	220	250	250	250	300
99	206	200	200	200	219	225	225	254	270	275	300	300	300
1900	211	200	250	200	220	225	225	276	285	275	300	300	325
01	241	200	225	190	209	203	225	249	265	275	300	300	300
02	210	200	210	187	214	192	225	229	250	275	300	287	300
03	210	200	215	185	212	205	250	225	245	275	250	280	300
04	219	205	220	195	216	206	250	237	250	300	250	270	300
05	228	217	225	200	219	205	250	237	255	300	250	255	300
06	240	235	250	200	237	230	250	259	276	300	275	290	300
07	251	241	270	250	254	259	250	285	298	300	300	290	325
08	256	255	270	250	255	259	250	286	289	300	300	300	325
09	261	243	270	275	255	270	270	288	297	300	300	295	325
1910	265	279	250	250	258	264	270	285	296	300	300	303	325
11	266	273	260	260	266	272	270	293	294	300	300	316	325
12	269	267	268	255	255	264	265	304	293	330	307	317	364
13	274	271	282	262	262	278	267	317	311	360	335	346	388

Table 205. (Cont.). Day-rates (in *öre*) of Male Agricultural Workers, according to the Agricultural Statistics, 1865—1914.  
B. Winter-rates.

Year	C o u n t y o f												
	Malmöhus	Kristianstad	Blekinge	Kronoberg	Jönköping	north part Kalmar,	south part Kalmar,	Gotland	Halland	Bohus burg and Bohus	Gothenburg north part Alvborg,	south part Alvborg,	Skaraborg
1865	67	75	—	75	75	—	75	69	75	67	88	71	75
66	67	75	63	75	88	82	63	69	75	67	—	67	75
67	—	75	54	63	67	82	63	69	75	67	—	67	75
68	75	75	62	69	63	58	50	69	75	79	—	63	75
69	75	75	54	70	—	58	55	69	75	63	59	59	75
1870	75	75	74	88	63	88	63	69	—	63	46	71	75
71	—	117	74	75	75	88	75	69	100	67	75	71	75
72	—	175	75	96	88	100	94	75	113	84	92	88	75
73	113	175	75	125	88	84	117	113	113	100	88	88	75
74	—	150	75	125	88	100	117	88	113	71	88	88	75
75	—	150	75	125	138	100	125	100	113	150	88	100	75
76	—	150	75	125	142	113	119	88	117	96	88	100	75
77	—	150	75	138	113	88	96	88	113	84	75	100	75
78	77	150	75	113	100	93	92	88	104	84	75	88	100
79	90	150	80	100	88	75	80	88	104	84	75	88	100
1880	85	150	88	103	106	71	83	88	104	75	75	88	88
81	88	150	88	103	100	75	88	—	108	75	75	88	88
82	88	150	88	104	125	88	85	88	—	75	75	88	88
83	100	150	88	104	125	90	84	113	117	75	75	88	94
84	100	150	88	104	100	90	88	113	117	75	75	88	88
85	104	100	87	88	100	75	90	88	112	92	75	100	83
86	107	114	87	80	88	75	80	88	105	92	100	80	75
87	100	100	87	83	100	75	80	75	105	100	90	100	88
88	100	113	87	100	100	88	90	75	108	100	98	100	88
89	100	100	87	100	100	100	83	88	113	100	96	80	93
1890	125	113	100	110	100	100	93	125	125	100	100	125	96
91	125	88	100	110	150	125	100	125	138	100	100	125	94
92	135	112	100	112	150	150	102	150	100	100	100	125	97
93	135	124	100	114	100	150	100	150	100	100	100	125	98
94	135	123	100	116	100	99	100	150	125	125	100	100	100
95	135	125	100	115	100	96	100	150	125	125	100	100	100
96	135	125	100	115	100	102	107	150	125	125	100	125	103
97	135	125	75	121	150	110	125	175	125	125	110	125	104
98	145	150	125	136	113	133	125	188	125	125	112	125	100
99	147	148	125	148	100	126	135	187	125	150	134	125	125
1900	134	150	125	146	175	139	127	138	125	150	125	125	113
01	140	150	125	145	125	136	133	138	125	150	138	125	119
02	144	117	125	150	125	135	133	150	125	150	130	125	119
03	157	117	125	158	150	136	140	138	125	150	135	130	120
04	164	166	125	166	150	140	140	130	125	150	150	133	162
05	163	181	125	184	150	137	150	140	175	150	140	137	168
06	172	181	150	178	200	145	200	166	175	150	152	150	175
07	184	197	165	185	200	163	150	180	175	200	157	160	135
08	192	198	165	183	225	168	150	192	175	175	158	160	138
09	191	196	165	175	225	167	150	193	175	175	166	175	150
1910	191	195	165	179	200	168	163	195	175	175	167	169	150
11	195	195	175	188	200	160	170	193	175	175	172	170	170
12	202	202	178	178	192	194	175	201	175	179	174	169	160
13	206	205	177	197	212	188	179	200	188	191	189	202	173

Table 205. (Cont.). Day-rates (in öre) of Male Agricultural Workers, according to the Agricultural Statistics, 1865-1914.  
B. Winter-rates.

Year	C o u n t y o f												
	Öster- gotland	Söder- manland	Stockholm	Uppsala	Örebro	Väst- manland	Värmland	Koppar- berg	Gävleborg	Jämtland	Väster- norrland	Väster- botten	Norr- botten
1865	69	94	100	100	75	75	75	88	113	106	138	88	88
66	62	94	109	100	75	75	88	88	100	106	100	88	75
67	69	75	109	75	84	78	88	88	100	91	75	75	69
68	54	58	75	75	64	63	63	97	113	91	75	75	81
69	56	63	75	75	82	63	70	88	113	—	88	75	88
1870	56	63	80	75	88	63	—	100	95	—	88	75	88
71	75	95	75	75	92	88	88	100	100	—	113	75	113
72	121	113	75	113	100	125	93	163	100	160	138	138	125
73	121	138	88	150	125	113	138	200	125	194	225	146	175
74	121	138	100	150	113	113	138	125	263	256	213	131	175
75	121	113	115	150	113	125	—	138	263	159	175	175	175
76	121	138	113	150	100	163	—	125	188	175	200	213	175
77	121	100	113	125	100	113	—	125	138	225	163	135	125
78	88	100	—	113	81	88	103	88	138	150	130	125	125
79	75	88	100	113	88	84	88	88	113	144	119	119	125
1880	75	88	88	113	88	84	63	88	113	150	125	125	125
81	88	113	—	113	93	84	50	100	113	150	130	119	125
82	113	100	100	113	93	84	90	100	113	150	125	138	125
83	125	113	—	113	100	88	100	125	113	138	163	138	125
84	120	100	—	113	113	88	88	125	138	132	150	125	125
85	90	95	100	100	80	113	88	123	100	150	100	137	100
86	85	100	125	90	87	100	88	113	100	150	100	125	125
87	75	100	125	90	91	100	60	113	120	150	100	125	150
88	88	100	100	85	89	88	60	113	132	125	125	138	150
89	92	100	100	80	90	88	75	125	135	150	150	125	200
1890	95	100	125	100	97	100	88	150	132	150	125	145	200
91	105	100	100	100	98	100	88	150	143	150	150	140	200
92	107	100	100	105	100	100	100	163	140	150	150	140	200
93	104	100	110	105	99	100	100	125	143	150	125	140	200
94	106	100	110	135	103	100	100	143	151	150	150	140	200
95	105	100	115	135	100	100	100	135	151	150	125	140	200
96	115	90	125	135	103	100	100	149	154	150	150	140	200
97	112	100	120	135	105	100	120	170	165	150	150	140	200
98	122	150	150	135	125	125	150	172	175	175	175	175	225
99	132	125	150	125	131	150	150	209	210	200	250	200	225
1900	142	125	150	150	137	150	150	224	230	225	225	200	225
01	139	125	150	125	137	136	150	208	215	225	200	200	200
02	139	125	140	122	132	131	150	186	200	225	200	200	200
03	142	135	140	120	137	135	150	194	200	200	200	200	200
04	143	129	150	120	132	135	150	193	210	200	200	190	200
05	151	135	150	120	137	139	150	198	215	200	200	190	200
06	150	150	165	125	148	160	150	213	234	250	225	207	200
07	168	166	185	175	157	182	175	224	238	250	250	215	225
08	173	169	175	150	159	180	175	243	241	250	250	221	225
09	177	168	175	175	162	180	190	238	229	225	250	223	225
1910	190	190	175	170	168	180	190	256	234	225	250	234	225
11	182	185	185	150	168	188	190	250	246	200	250	245	225
12	185	173	192	180	170	190	195	263	244	269	250	244	259
13	196	185	197	185	179	199	211	276	254	304	265	301	272
14	198	188	197	186	180	201	200	270	244	216	258	281	277

Table 206. Day-rates (in öre) of Female Agricultural Workers, according to the *Markegång* Returns, 1865—1914.

Year	C o u n t y o f					
	Kalmar	Gothen- burg and Bohus	Uppsala	Koppar- berg	Jämt- land	Norr- botten
1860 . . .	23	52	58	—	79	76
61 . . .	23	55	60	—	81	78
62 . . .	25	57	58	—	78	84
63 . . .	25	57	58	—	78	84
64 . . .	25	56	56	—	81	84
65 . . .	25	57	61	—	77	—
66 . . .	25	56	54	—	77	87
67 . . .	25	60	57	—	72	71
68 . . .	18	52	51	—	—	76
69 . . .	25	52	54	—	69	79
1870 . . .	20	56	63	—	74	86
71 . . .	29	54	59	—	80	89
72 . . .	31	54	68	—	93	94
73 . . .	35	65	80	—	112	110
74 . . .	41	66	85	—	136	125
75 . . .	42	68	90	—	103	101
76 . . .	33	78	87	—	94	106
77 . . .	52	72	80	—	105	104
78 . . .	39	76	71	—	104	91
79 . . .	35	68	69	—	95	80
1880 . . .	37	71	67	—	105	92
81 . . .	37	70	68	—	103	83
82 . . .	37	75	69	—	112	106
83 . . .	43	80	74	—	122	109
84 . . .	37	77	77	—	116	102
85 . . .	37	81	76	—	115	105
86 . . .	35	79	74	—	108	114
87 . . .	37	74	69	—	106	119
88 . . .	35	78	75	—	106	124
89 . . .	35	82	78	—	106	122
1890 . . .	35	81	82	—	106	118
91 . . .	33	87	75	—	106	118
92 . . .	51	84	77	96	109	118
93 . . .	45	83	77	—	108	118
94 . . .	42	91	83	94	110	118
95 . . .	37	91	82	92	110	118
96 . . .	39	87	87	95	113	122
97 . . .	54	91	98	101	110	140
98 . . .	63	95	82	107	122	144
99 . . .	68	115	98	107	135	151
1900 . . .	75	120	99	124	160	157
01 . . .	80	117	98	124	160	157
02 . . .	75	117	89	115	144	141
03 . . .	75	122	89	115	148	143
04 . . .	90	122	105	114	148	147
05 . . .	78	125	102	118	151	150
06 . . .	88	130	111	124	184	150
07 . . .	88	135	119	137	213	163
08 . . .	100	150	126	138	187	166
09 . . .	100	150	124	144	166	163
1910 . . .	113	147	132	140	170	169
11 . . .	100	147	125	146	170	197
12 . . .	118	161	131	152	180	191

Table 207. Day-rates (in öre) of Female Agricultural Workers, according to the Agricultural Statistics, 1865-1914.

## A. Summer-rates.

Year	C o u n t y o f												
	Malmbus	Kristianstad	Blekinge	Kronoberg	Jönköping	Kalmar, north part	Kalmar, south part	Gotland	Halland	Bohus	Gothenburg and Bohus	Älvsborg, north part	Älvsborg, south part
1865	63	54	—	46	54	57	69	56	57	59	55	75	75
66	63	54	—	50	57	59	69	56	57	60	55	54	75
67	—	54	44	47	50	59	60	56	57	60	—	54	63
68	75	54	35	50	50	59	50	56	57	54	—	46	63
69	75	54	38	53	—	52	58	56	57	54	59	42	63
1870	75	54	38	54	50	63	63	56	—	58	59	59	63
71	75	63	38	50	63	75	63	56	63	60	75	59	63
72	85	88	56	61	69	88	69	56	79	88	75	63	63
73	84	88	61	96	71	59	88	75	79	69	79	75	63
74	84	84	61	96	63	59	88	75	79	69	79	75	63
75	84	84	61	96	75	63	88	75	79	100	79	75	63
76	84	84	61	96	88	63	88	75	84	75	79	75	63
77	84	84	61	96	88	45	71	75	79	80	67	75	63
78	75	84	61	80	63	45	63	75	75	80	75	75	75
79	78	84	68	80	63	38	65	75	80	80	75	68	75
1880	80	84	68	80	63	43	70	75	84	75	75	63	88
81	88	84	68	80	65	54	68	—	96	75	75	63	84
82	83	84	68	84	88	63	73	—	96	75	75	67	88
83	92	84	68	84	80	58	78	113	96	75	75	67	83
84	104	84	68	84	88	56	113	113	84	75	75	84	70
85	96	100	75	75	100	45	80	70	84	76	100	100	65
86	98	101	75	70	78	55	75	70	84	76	100	85	67
87	100	100	75	70	60	45	70	70	84	85	90	100	80
88	100	100	75	75	75	55	75	70	84	85	87	80	96
89	100	100	75	75	75	68	83	100	88	85	91	75	89
1890	100	113	75	85	75	68	86	100	113	85	99	80	96
91	100	88	80	85	113	68	75	100	113	85	98	80	95
92	100	96	80	85	113	70	84	100	100	85	91	90	99
93	100	116	80	87	100	70	84	100	100	85	93	90	99
94	110	124	100	88	80	70	80	100	125	100	97	100	99
95	110	125	100	88	90	69	78	100	125	100	100	100	99
96	110	142	100	86	88	65	83	100	125	100	100	100	111
97	115	142	100	90	100	76	92	100	100	100	100	100	103
98	125	165	100	97	88	81	100	113	100	100	108	100	107
99	125	163	100	106	85	84	105	113	100	100	118	100	122
1900	122	149	100	104	100	90	100	113	100	100	125	125	117
01	128	149	100	118	115	92	95	113	100	100	132	125	118
02	130	133	100	124	110	95	95	125	125	125	132	125	123
03	134	133	100	125	125	95	99	125	125	125	130	125	120
04	140	156	125	141	125	100	99	125	125	150	138	125	137
05	139	153	100	154	125	100	125	125	150	150	140	125	137
06	150	160	100	146	125	100	175	137	150	150	145	125	135
07	165	162	100	145	150	120	125	142	150	150	152	142	140
08	167	170	125	154	175	121	125	150	150	150	154	150	140
09	168	173	125	154	175	120	125	153	150	150	154	150	180
1910	168	177	125	146	150	126	145	157	150	150	154	144	180
11	172	173	125	154	175	127	157	163	150	150	154	150	200
12	173	179	139	138	148	120	156	169	150	157	163	153	154
13	178	178	144	155	178	149	159	172	173	166	175	172	175

Table 207. (Cont.). Day-rates (in öre) of Female Agricultural Workers, according to the Agricultural Statistics, 1865—1914.

A. Summer-rates.

Year	C o u n t y o f												
	Öster- götland	Söder- manland	Stockholm	Uppsala	Drebro	Väst- manland	Värmland	Koppar- berg	Gävleborg	Jämtland	Väster- norrland	Väster- boten	Norr- boten
1865	67	65	75	75	69	63	60	75	75	86	138	69	81
66	65	65	75	75	69	66	58	75	113	77	113	69	69
67	65	50	75	54	63	58	56	75	88	75	75	54	63
68	61	63	63	54	54	50	53	63	94	71	75	54	75
69	61	56	58	63	63	50	52	75	100	—	75	54	88
1870	61	57	54	63	63	50	—	75	90	—	75	54	88
71	61	63	67	54	68	63	58	82	120	—	113	54	88
72	83	75	88	75	75	63	68	100	120	106	138	75	100
73	83	75	75	75	70	113	125	120	144	150	150	75	138
74	83	75	88	88	75	75	113	120	133	163	75	163	163
75	83	75	75	88	88	105	113	106	120	107	113	125	138
76	83	63	75	88	113	105	113	113	120	117	138	125	138
77	83	63	70	84	75	100	113	107	95	125	138	125	113
78	56	73	—	75	70	88	85	70	95	88	100	88	113
79	80	75	70	75	75	75	88	70	83	100	88	94	163
1880	80	75	70	75	75	55	75	83	106	100	94	113	113
81	92	75	—	63	75	63	63	84	83	106	100	88	113
82	75	58	75	63	73	63	70	84	83	106	100	125	113
83	81	75	—	63	63	63	88	88	83	94	100	125	113
84	83	80	—	63	88	63	63	100	106	85	100	125	113
85	80	78	70	63	80	88	63	91	100	125	125	120	75
86	75	88	75	63	80	100	63	90	100	125	113	120	150
87	75	70	70	65	79	100	50	75	100	125	125	120	175
88	80	75	70	75	78	88	50	88	100	125	125	125	175
89	83	75	100	78	67	90	85	80	108	125	113	125	175
1890	90	75	100	82	80	88	95	100	100	125	125	125	175
91	95	75	75	80	93	88	100	100	108	150	125	125	175
92	95	75	75	82	98	88	100	100	108	150	125	125	175
93	95	85	75	80	98	100	100	110	108	150	125	125	175
94	107	85	75	100	101	100	100	106	122	150	125	130	175
95	98	80	80	85	101	100	100	104	122	125	125	130	175
96	99	75	80	85	107	100	100	105	120	125	125	130	175
97	104	90	80	90	107	100	115	112	123	125	125	130	175
98	111	125	110	93	117	100	125	119	125	150	150	150	200
99	118	100	100	100	126	100	125	137	140	175	150	175	200
1900	123	100	120	100	123	100	125	140	145	150	150	170	200
01	121	100	115	100	122	114	125	135	135	175	150	170	200
02	124	100	100	97	124	110	150	127	135	175	150	162	200
03	127	100	110	100	121	114	150	128	135	175	150	163	200
04	130	104	115	125	122	117	150	128	135	150	150	160	200
05	135	109	110	125	124	117	150	132	135	150	150	150	200
06	144	122	125	125	140	134	150	138	144	175	175	167	200
07	151	133	130	130	147	148	150	155	147	150	200	168	225
08	152	134	135	135	150	150	150	155	149	150	200	168	225
09	155	134	140	150	152	157	160	161	153	150	200	163	225
1910	167	151	145	150	158	158	160	157	164	150	170	172	225
11	160	146	150	140	161	165	160	161	158	150	200	174	225
12	162	150	149	153	156	159	162	164	207	190	183	225	225
13	170	140	150	157	168	167	170	182	180	210	188	100	217



**Table 297. (Cont.). Day-rates (in öre) of Female Agricultural Workers, according to the Agricultural Statistics, 1865-1914.**  
B. Winter-rates.

Year	C o u n t y o f												
	Malmbus	Kristianstad	Blekinge	Kronoberg	Jönköping	Kalmar, north part	Kalmar, south part	Gotland	Halland	Bohus	Gothenburg and Bohus	Älvsborg, north part	Älvsborg, south part
1865	45	38	—	42	38	—	38	38	—	47	42	54	46
66	45	38	34	38	43	34	38	38	—	47	—	38	46
67	—	38	33	33	29	34	38	38	—	47	—	38	46
68	42	38	34	44	35	34	38	38	—	44	—	38	46
69	50	38	34	40	—	34	31	38	—	34	35	31	46
1870	50	38	29	38	38	44	31	38	—	39	40	42	46
71	—	42	35	38	50	44	46	38	—	48	44	42	46
72	—	63	48	42	57	63	38	38	—	42	52	44	46
73	67	63	50	63	44	42	46	54	—	50	52	44	46
74	—	63	50	63	44	38	59	54	—	38	52	52	46
75	—	63	50	63	50	46	60	50	—	100	52	59	46
76	—	63	50	67	63	52	60	46	—	58	52	59	46
77	—	63	50	67	56	33	50	46	—	55	46	59	46
78	52	63	50	59	58	33	59	46	—	55	52	59	53
79	57	63	56	59	45	33	45	46	—	55	52	59	53
1880	53	63	55	60	56	38	46	46	—	55	52	59	67
81	71	63	55	60	56	38	—	—	—	55	52	59	54
82	60	63	55	63	88	40	46	46	—	55	52	59	56
83	60	63	55	63	63	38	46	59	—	55	52	59	54
84	63	63	55	63	63	38	58	59	—	55	52	63	54
85	67	75	50	50	50	33	50	45	—	65	50	75	40
86	67	80	50	50	50	37	46	50	—	65	60	55	50
87	67	75	50	50	50	33	45	50	—	75	60	80	63
88	67	75	50	50	50	44	45	50	—	75	63	63	63
89	70	60	50	50	50	50	53	55	—	75	65	60	58
1890	75	63	50	67	50	50	53	60	—	75	71	75	62
91	75	58	50	65	88	50	67	83	—	75	63	75	62
92	75	74	60	63	88	60	59	67	—	75	67	75	63
93	75	74	60	64	75	55	55	67	—	75	67	75	64
94	85	72	60	66	75	51	50	67	—	75	71	75	64
95	85	80	60	66	66	52	50	67	—	75	74	75	64
96	85	83	60	66	63	47	57	67	—	75	75	75	66
97	85	83	50	69	75	55	64	75	—	75	80	75	67
98	90	100	75	74	63	61	67	88	—	75	78	75	67
99	91	98	75	78	50	63	75	88	—	75	88	75	72
1900	93	97	75	80	80	67	71	88	—	75	95	100	72
01	94	97	75	87	85	66	70	75	—	75	97	100	75
02	96	90	75	87	80	70	70	88	—	100	100	100	75
03	100	90	75	94	100	68	73	88	—	100	100	100	78
04	108	114	75	105	100	67	73	85	—	100	105	100	84
05	105	104	75	113	75	70	80	100	—	100	105	100	85
06	115	114	80	96	100	75	125	97	—	100	114	100	100
07	126	120	85	110	100	87	100	104	—	100	120	110	90
08	129	126	100	108	125	88	100	110	—	125	120	110	92
09	130	127	100	108	125	92	100	112	—	125	120	110	100
1910	130	125	100	113	100	96	100	117	—	125	120	110	90
11	132	128	100	108	100	96	114	118	—	125	125	112	120
12	138	141	106	100	106	94	111	120	—	128	122	116	108
13	140	136	109	116	132	106	117	121	—	126	127	132	120

Table 207. (Cont.). Day-rates (in öre) of Female Agricultural Workers, according to the Agricultural Statistics, 1865—1914.  
B. Winter-rates.

Year	C o u n t y o f												
	Oster- göland	Söder- manland	Stockholm	Uppsala	Örebro	Väst- manland	Värmland	Koppar- berg	Gävleborg	Jämtland	Väster- norrland	Väster- botten	Norr- botten
1865	50	52	42	42	42	50	43	56	44	52	63	38	50
66	38	53	50	42	42	48	38	56	69	50	63	38	50
67	38	50	38	38	50	43	38	54	69	47	56	38	56
68	37	40	43	38	38	29	38	54	67	46	56	38	50
69	36	52	43	38	55	29	38	54	63	—	56	38	63
1870	36	32	43	38	55	29	—	54	50	—	56	38	57
71	36	53	43	38	59	44	46	63	44	—	69	38	50
72	67	57	54	44	54	42	50	80	52	79	75	56	56
73	67	50	54	63	54	55	75	88	88	102	113	69	75
74	67	54	59	63	54	58	75	88	88	94	113	69	75
75	67	38	47	63	65	75	—	88	88	78	75	69	88
76	67	50	47	63	54	75	—	80	88	88	88	69	88
77	67	50	45	63	58	63	—	82	75	100	75	60	75
78	43	50	—	56	50	63	60	50	75	73	60	53	75
79	48	55	—	56	50	49	44	55	50	75	50	60	75
1880	48	55	38	56	50	49	31	55	50	75	48	63	75
81	63	54	—	50	53	44	31	68	50	81	75	58	75
82	50	42	45	49	53	44	42	63	50	63	75	63	63
83	50	50	—	49	45	44	50	60	50	63	75	78	63
84	63	45	—	49	50	44	49	63	88	65	75	75	63
85	50	50	—	50	43	58	48	65	75	100	50	75	50
86	50	50	—	50	43	51	50	65	75	100	50	75	75
87	50	50	—	50	45	49	50	63	75	75	50	75	100
88	50	50	—	50	45	48	50	33	55	70	60	75	100
89	54	50	—	45	53	58	55	60	78	75	75	75	125
1890	60	50	—	50	55	63	58	90	70	75	75	80	125
91	60	50	—	50	61	63	70	75	92	75	80	80	125
92	62	50	—	50	55	63	75	75	90	75	80	80	125
93	64	50	—	50	64	63	75	80	92	75	75	80	125
94	63	50	—	50	65	63	75	82	92	75	75	80	125
95	65	60	—	50	60	63	75	80	92	75	75	80	125
96	66	50	—	50	66	63	75	84	95	75	75	80	125
97	69	60	—	60	75	68	75	80	99	75	75	80	125
98	75	100	—	70	75	76	75	100	94	125	75	80	150
99	60	75	—	87	70	82	75	100	106	125	100	75	100
1900	81	75	—	90	75	85	75	100	108	125	100	100	150
01	83	75	—	90	60	81	82	100	112	100	100	100	150
02	84	75	—	80	65	86	78	100	103	115	100	100	150
03	85	75	—	80	65	65	80	100	102	110	100	111	150
04	90	69	—	80	75	83	86	100	100	110	100	110	150
05	90	62	—	80	75	88	85	100	103	115	100	110	150
06	100	87	—	75	100	95	100	100	115	125	125	118	150
07	109	96	—	95	105	99	110	125	118	119	125	120	150
08	107	95	—	100	90	100	109	125	120	119	125	125	150
09	108	100	—	100	105	110	125	126	128	113	150	120	150
1910	115	114	—	105	108	107	114	125	123	133	113	130	127
11	115	105	—	105	100	110	122	125	130	135	161	126	125
12	114	109	—	104	109	110	119	117	138	135	161	137	136
13	125	108	—	114	118	117	126	146	145	168	148	144	144

Table 208. *Stat and Cash Wage per*

	Milk		Rye kg	Wheat kg	Bar- ley kg	Oats kg	Peas kg	Dredge kg
	Un- skim- med l	Skim- med l						
<b>1860</b>								
<i>County of Malmöhus</i>								
Börringe kloster . . . . .	484	471	468	—	415	—	—	91
Viderup . . . . .	484	—	351	—	415	—	—	91
Övedskloster . . . . .	471	484	351	—	341	—	49	—
Karsholm . . . . .	484	471	468	—	415	—	—	—
Trolleholm . . . . .	955	—	234	—	208	—	—	—
<i>Kristianstad</i>								
Maltesholm . . . . .	—	—	468	—	415	—	—	—
<i>Halland</i>								
Lindhult . . . . .	716	—	468	—	312	—	—	—
<i>Västmanland</i>								
Seglingsberg . . . . .	—	—	585	—	208	—	32	—
Fullerö . . . . .	—	—	527	48	156	—	16	—
Hedensberg . . . . .	—	—	—	—	—	—	—	—
<i>Värmland</i>								
Borgviks bruk . . . . .	—	—	351	—	—	465	48	—
<b>1870</b>								
<i>County of Malmöhus</i>								
Börringe kloster . . . . .	484	471	520	—	462	—	—	91
Viderup . . . . .	484	471	464	—	412	—	—	91
Övedskloster . . . . .	471	484	520	—	313	—	129	—
Karsholm . . . . .	484	471	520	—	462	—	—	—
Trolleholm . . . . .	955	—	327	—	547	—	—	—
Barsebäck . . . . .	478	—	464	—	412	—	—	—
Löberöd . . . . .	478	—	464	—	412	—	—	—
<i>Kristianstad</i>								
Maltesholm . . . . .	—	—	483	—	412	—	—	—
<i>Halland</i>								
Lindhult . . . . .	955	—	464	—	315	—	—	—
<i>Östergötland</i>								
Vahlstad . . . . .	1095	—	527	48	104	155	—	—
<i>Södermanland</i>								
Sävstaholm . . . . .	478	—	475	32	201	—	33	—
<i>Västmanland</i>								
Seglingsberg . . . . .	—	—	585	64	208	—	16	—
Fullerö . . . . .	—	—	464	60	198	—	16	—
Hedensberg . . . . .	—	—	—	—	—	—	—	—
<i>Värmland</i>								
Borgviks bruk . . . . .	—	—	351	—	—	464	64	—
Longs fideikomm. . . . .	—	—	291	—	26	387	16	—

Year of *Statere* on Selected Estates.

Pota- toes kg	Malt kg	Her- rings kg	Salt l	Remarks	Value of the <i>stat</i> kronor	Cash annual wages kronor	Total annual earnings kronor
<b>Housing and fire wood included for all</b>							
—	75	—	—	1 pair of top-boots	176.82	50.00	226.82
330	75	—	—		164.85	50.00	214.85
330	—	—	16	16 l. of hops	149.33	54.00	203.33
31	—	—	—		153.00	50.00	203.00
47	223	—	—	Potato patch, 1 pair of top-boots	217.43	48.50	265.93
—	—	—	—		106.11	87.50	193.61
105	23	—	—	Potato patch	147.98	65.00	212.98
—	75	90	16	Fish, hops	137.69	133.00	270.69
—	—	—	20	Potato patch, 2 pairs of shoes, keep of cow	143.34	46.00	189.34
—	—	—	—	In lieu of <i>stat</i> , 180: — <i>kronor</i>	—	100.00	280.00
549	19	26	21		138.96	80.00	218.96
110	75	—	—	Potato patch	203.93	65.00	268.93
436	71	—	—	Wool	204.04	60.00	264.04
327	75	—	—		201.43	60.00	261.43
110	75	—	—		189.22	65.00	254.22
26	—	—	—	Potato patch, 1 pair of top-boots, keep of 1 sheep	184.47	75.00	259.47
436	71	—	—	Peat	178.41	82.00	260.41
436	75	—	—	Peat	179.05	85.00	264.05
—	—	—	—		98.93	100.00	198.93
209	23	—	—	Potato patch	169.30	108.00	277.30
110	—	—	—	Potato patch	177.47	175.00	352.47
223	—	20	—	25 kgms. of swedes, 15 heads of white cabbage, wool, dinner- money, earnest money on hiring	137.97	65.00	202.97
—	75	77	42	Fish, pork, hops	145.32	150.00	295.32
—	—	51	26	Potato patch, 2 pairs of top-boots, keep of 1 cow and 2 sheeps	166.13	70.00	236.13
—	—	—	—	In lieu of <i>stat</i> , 140: — <i>kronor</i>	—	90.00	230.00
549	37	25	49		147.03	80.00	227.03
—	9	45	21		96.03	108.48	204.51

Table 208. (Cont.). *Stat and Cash Wage*

	Milk		Rye kg	Wheat kg	Bar- ley kg	Oats kg	Peas kg	Dredge kg
	Un- skim- med l	Skim- med l						
<b>1880</b>								
<i>County of Malmöhus</i>								
Böringe kloster . . . . .	955	—	409	—	511	—	—	91
Viderup . . . . .	955	314	576	—	412	—	—	86
Övedskloster . . . . .	955	707	594	—	264	—	129	—
Karsholm . . . . .	484	707	520	—	461	—	—	—
Trolleholm . . . . .	955	—	468	—	415	—	—	—
Barsebäck . . . . .	478	478	464	—	412	—	—	—
Löberöd . . . . .	478	478	464	—	412	—	—	—
• • Östergötland								
Vahlstad . . . . .	1095	—	527	48	104	155	—	—
• • Södermanland								
Sävstaholm . . . . .	716	955	602	80	201	—	62	—
• • Västmanland								
Seglingsberg . . . . .	955	—	643	30	208	—	31	—
Fullerö . . . . .	—	—	550	60	240	—	70	90
Hedensberg . . . . .	—	—	—	—	—	—	—	—
• • Värmland								
Borgviks bruk . . . . .	—	—	351	—	—	464	64	—
Longs fideikomm. . . . .	—	—	391	—	—	443	20	—
<b>1890</b>								
<i>County of Malmöhus</i>								
Böringe kloster . . . . .	956	—	568	—	441	—	—	—
Viderup . . . . .	955	—	568	—	378	—	—	55
Övedskloster . . . . .	955	707	568	—	504	—	—	—
Karsholm . . . . .	955	471	426	—	378	—	—	—
Trolleholm . . . . .	955	—	586	—	419	—	—	—
Barsebäck . . . . .	365	730	600	—	360	—	—	—
Löberöd . . . . .	730	730	500	—	500	—	—	—
• • Halland								
Lindhult . . . . .	238	1433	464	—	315	—	—	—
• • Östergötland								
Vahlstad . . . . .	1095	—	600	150	200	—	—	200
• • Södermanland								
Sävstaholm . . . . .	716	955	603	81	201	—	62	—
• • Västmanland								
Fullerö . . . . .	478	239	550	60	240	—	70	90
Hedensberg . . . . .	478	1063	—	—	—	—	—	—
• • Värmland								
Borgviks bruk . . . . .	956	—	355	—	—	470	62	—
Longs fideikomm. . . . .	—	—	295	—	—	310	16	—
Bäck . . . . .	955	955	446	—	—	383	33	—

per Year of *Statare* on Selected Estates.

Pota- toes	Malt	Her- rings	Salt	Remarks	Value of the <i>stat</i>	Cash annual wages	Total annual earnings
kg	kg	kg	l		<i>kronor</i>	<i>kronor</i>	<i>kronor</i>
				<b>Housing and fire wood included for all</b>			
110	—	—	—	Potato patch, 1 pair of top-boots	257.76	100.00	357.76
558	—	—	—	Wool	206.06	115.00	411.06
419	—	—	—		297.42	110.00	407.42
314	—	—	—		237.58	95.00	332.58
52	—	—	—	5 kgms. of butter, potato patch, keep of cow	246.40	130.00	376.40
436	71	—	—	Wool, peat	239.12	102.00	341.12
436	71	—	—	Hops, peat	236.79	100.00	336.79
110	—	—	—	Potato patch	231.40	175.00	406.40
453	—	—	—	47 kgms. of swedes, 15 heads of white cabbage, dinner-money, earnest money on hiring	275.50	120.00	395.50
—	75	77	31	Fish, pork, hops	282.94	185.70	468.64
—	—	—	—	Keep and grazing for 1 cow	233.13	110.00	343.13
—	—	—	—	In lieu of <i>stat</i> 170: — <i>kronor</i>	—	110.00	280.00
549	37	25	49		161.80	111.00	271.80
—	23	45	26		127.36	155.00	282.36
110	—	—	—	Potato patch	235.59	125.00	360.59
400	—	—	—	Wool	244.99	115.00	359.99
533	—	—	—		281.41	125.00	406.41
533	—	—	—		238.61	125.00	363.61
52	—	—	—	5 kgms. of butter, potato patch, keep of 1 sheep	239.69	130.00	369.69
440	72	—	—	Peat	222.41	102.00	324.41
500	120	—	—	Peat	276.09	100.00	376.09
220	19	—	—	25 kgms. of pork, rice, potato patch	226.64	148.00	374.64
—	—	—	—		244.72	175.00	419.72
349	—	—	—	47 kgms. of swedes, 15 heads of white cabbage, dinner-money, earnest money on hiring	222.28	120.00	342.28
—	—	—	—	Keep and grazing for 1 cow	206.40	135.00	341.40
—	—	—	—	Potato patch, keep of 1 sheep	78.19	135.00	213.19
549	36	25	50		216.57	140.00	356.57
439	18	38	21	Coffee, sugar	110.06	100.00	210.06
879	—	38	26		250.22	135.00	385.22

Table 208. (Cont.). *Stat* and Cash Wage

	Milk		Rye kg	Wheat kg	Bar- ley kg	Oats kg	Peas kg	Dredge kg
	Un- skim- med l	Skim- med l						
<b>1900</b>								
<i>County of Malmöhus</i>								
Börringe kloster . . . . .	749	316	470	100	700	—	25	100
Viderup . . . . .	730	730	600	—	600	—	—	55
Övedskloster . . . . .	1095	—	700	—	700	—	—	—
Trolleholm . . . . .	1434	—	800	—	500	—	—	—
Barsebäck . . . . .	730	1095	650	—	600	—	—	—
• • <i>Kristianstad</i>								
Sinclairsholm . . . . .	730	1095	800	—	—	200	—	—
• • <i>Halland</i>								
Lindhult . . . . .	239	1433	720	—	—	—	—	360
• • <i>Östergötland</i>								
Vahlstad . . . . .	1095	—	600	150	200	—	—	200
• • <i>Västmanland</i>								
Fullerö . . . . .	—	—	550	60	240	—	70	90
Hedensberg . . . . .	709	1063	700	200	100	250	50	—
• • <i>Värmland</i>								
Borgviks bruk . . . . .	956	—	355	—	—	470	62	—
Longs fideikomm. . . . .	478	950	650	—	—	433	16	—
Bäck . . . . .	730	730	462	—	—	423	23	—
<b>1910</b>								
<i>County of Malmöhus</i>								
Börringe kloster . . . . .	1095	—	675	—	630	—	25	100
Viderup . . . . .	730	1095	675	—	650	—	—	—
Övedskloster . . . . .	1095	—	700	—	700	—	—	—
Trolleholm . . . . .	1460	—	800	—	500	—	—	—
Barsebäck . . . . .	1095	—	675	—	650	—	—	—
• • <i>Halland</i>								
Lindhult . . . . .	730	1910	840	—	—	—	—	360
• • <i>Östergötland</i>								
Vahlstad . . . . .	1095	—	600	150	200	—	—	200
• • <i>Stockholm</i>								
Berg . . . . .	1095	—	—	200	—	—	78	275
• • <i>Västmanland</i>								
Fullerö . . . . .	1095	1095	600	150	240	—	70	90
Hedensberg . . . . .	709	1063	700	200	100	250	50	—
• • <i>Värmland</i>								
Bäck . . . . .	730	730	462	—	—	423	31	—

APPENDIX

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per Year of *Statare* on Selected Estates.

Pota- toes kg	Malt kg	Her- rings kg	Salt l	Remarks	Value of the <i>stat</i> <i>kronor</i>	Cash annual wages <i>kronor</i>	Total annual earnings <i>kronor</i>
				<b>Housing and fire wood included for all</b>			
107	—	—	—	Potato patch	292.53	180.00	472.53
567	—	—	—		313.82	135.00	448.82
667	—	—	—		354.43	135.00	489.43
105	—	—	—	Potato patch, keep of 1 sheep	337.74	170.00	507.74
567	—	—	—	Peat	326.34	135.00	461.34
467	—	—	—	100 kgms. of maize	280.33	195.00	475.33
220	25	—	—	27 kgms. of pork, potato patch	248.16	188.00	436.16
—	—	—	—	Potato patch	250.70	175.00	425.70
—	—	—	—	Potato patch, keep of 1 cow	206.65	130.00	336.65
—	—	—	—	Potato patch	264.63	173.00	437.63
549	36	25	50	Keep of cow, potato patch	241.55	140.00	381.55
—	—	—	21		217.04	220.00	437.04
837	—	25	26		254.64	135.00	389.64
107	—	—	—	Potato patch	310.23	285.00	595.23
567	—	—	—		319.24	260.00	579.24
667	—	—	—		334.72	200.00	534.72
117	—	—	—	Keep of 1 sheep, potato patch	333.64	285.00	618.64
667	—	—	—	Peat	325.20	260.00	585.20
220	—	—	—	Potato patch	307.54	283.00	590.54
—	—	—	—		249.93	175.00	424.93
—	—	35	20	600 kgms. of rye-flour, 1 firkin of small herrings ( <i>strömming</i> )	304.84	310.00	614.84
—	—	—	—		284.87	285.00	569.87
—	—	—	—	Potato patch, keep of 1 sheep	269.57	265.00	534.57
837	—	25	26		272.77	210.00	482.77



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