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**BRITISH INTERNATIONAL GOLD
MOVEMENTS AND BANKING
POLICY, 1881-1913**

BY

W. EDWARDS BEACH

ASSISTANT PROFESSOR OF ECONOMICS IN WILLIAMS COLLEGE



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PRINTED AT THE HARVARD UNIVERSITY PRESS
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To

MY MOTHER AND FATHER

Gokhale Institute of Politics
and Economics, Poona 4.

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PREFACE

THE problems connected with international gold movements have received renewed attention as a result of the breakdown of the gold standard during the depression following 1929. In a world where friction is so important in the economic sphere, and where international capital is very mobile, an automatic standard is not attainable. It has not been recognized clearly enough, however, that the pre-war standard was not strictly automatic. The problems have grown quantitatively during the post-war years, but most of them were faced by the Bank of England in the pre-war era, especially after 1900. The growth of foreign balances in London, the rise of other nations as competitors of England in the export markets for manufactured goods, and the increasing friction caused by greater rigidity in the price and wage structure and the growth of high tariffs presented problems of management to the Bank of England similar to those encountered today.

Cyclical movements of gold coin from New York to the interior of the country, accompanied by imports of gold from abroad during periods of business prosperity; were encountered in the United States during the pre-war era. In depression both flows were reversed. The importance of these phenomena for problems of money and banking and international trade was pointed out by the late Professor Allyn A. Young. At his suggestion, the present study was begun to see whether the same relations between internal and external movements of gold were to be found for England.

During the period selected for study there were five clearly marked complete business cycles, and the movements of gold and currency are considered in relation to business conditions. By the beginning of the period the Bank of England had mastered the principles of action through which it endeavored to protect

its reserve and control the money market. Except for the South African conflict, the period was free from war.

I am deeply indebted to Professor Young for his advice and criticism during the preparation of this study. After his death the work was continued under the direction of Professor John H. Williams, and I wish to express my appreciation of the many helpful suggestions which he has made. I also wish to thank Professor S. E. Harris of Harvard University and Professor James W. Angell of Columbia University for their criticism of the manuscript.

W. E. B.

WILLIAMSTOWN, MASSACHUSETTS
December, 1934

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APPENDIX A

GOLD MOVEMENTS AND BUSINESS CYCLES IN THE UNITED STATES, 1896-1913

Attention has been called earlier to the high inverse correlation found between foreign movements of gold at New York and the internal flow of currency over cyclical periods, and this phenomenon will be examined briefly here. There is abundant material for the study of business and banking conditions and the movement of specie in the United States, but most of the data have been subjected to analysis in other studies, and it is necessary only to bring together the important results for study in relation to the problems considered in the case of England.

The banking system of this country was admittedly a poor one in many respects prior to the adoption of the Federal Reserve System, and its defects were most clearly apparent in times of commercial crises. Any severe strain on the reserves of the important clearing banks in New York City was likely to bring a suspension of payments and general financial panic. The most important reasons lay in the inelasticity of reserves and the lack of a central banking institution. The interlocking of reserves, through the deposit of portions of the legal reserves of banks in outlying cities and towns in the banks in reserve and primarily central reserve cities, coupled with the fact that gold was the only elastic element in the ordinary hand-to-hand circulation, brought a heavy strain upon the cash of the country. Without a central bank to curtail credit operations during the latter stages of business expansion and to advance funds to meet crisis needs, the system operated in uncontrolled freedom during the expansion phase, only to break down completely under the demands of the crisis stress.

It is true that the United States used other forms of money than gold, but they were inelastic, and could not be expanded quickly in order to meet the needs of the country for circulating media.¹ And this was an ever present need, for the autumnal drain of cash necessary to move the crops was very large. The seasonal movements of credit and cash in response largely to agricultural requirements have been studied by Professor Kemmerer for the National Monetary Commis-

¹ See W. C. Mitchell, *Business Cycles*, pp. 288-292, and p. 295. Professor Allyn A. Young has pointed out that the National Bank Notes were not "perversely inelastic," as has often been maintained, but it is apparent from his study that the fluctuations in their volume are not important quantitatively. Young, *op. cit.*, pp. 25-26. Cf. Mitchell, *op. cit.*, p. 324.

sion.¹ It was recognized that crises were most likely to occur in the fall of the year, since the banks in New York were then called upon to meet the heavy internal demand at the time when they were weak. The additional strain was sufficient to bring their downfall.

In addition to seasonal demands, there was a drain of currency into circulation during the expansion phase of the business cycle. Studies of the relationship between the amount of money in the hands of banks and in the pockets of the people have been made, which show this clearly.² Banking reserves were drained in prosperity and replenished in depression. The recognized value of the ratio of loans to deposits of the New York clearing banks as a barometer of business conditions is silent proof of knowledge of this fact. When the proportion approached close to 100 per cent it indicated that a crisis was imminent, for it meant that deposits were being withdrawn in cash, while loans were still increasing.³ In periods of crisis gold was drawn from abroad by the high interest rates in New York.

In the introductory chapter attention was called to the observation of Professor Young with respect to the flow of gold through New York as an entrepot. His conclusions were deduced from an examination of a chart and accompanying table in A. P. Andrew's studies for the National Monetary Commission.⁴ The table showed weekly net foreign movements of gold at New York, and net movements of currency between New York and the interior of the country, as reported by the *Commercial and Financial Chronicle*. This series has been extended in Table XVII to cover the full period from 1896 to 1913, and quarterly totals computed. In addition a four-quarter moving average has been calculated to remove some of the seasonal variation, as in the case of the similar English statistics.⁵ The two series have been plotted in Charts XXII and XXIII.⁶ Another series has been constructed

¹ E. W. Kemmerer, *Seasonal Variations in the Relative Demand for Money and Capital in the United States*, (United States) National Monetary Commission, 61st Congress, 2nd Session, Senate Document No. 588, esp. Chs. IV and XXVI. See also Leonard L. Watkins, *Banker's Balances*, Chicago, 1929, esp. pp. 72-73 and 217-218.

² See O. M. W. Sprague, "The Distribution of Money between the Banks and the People since 1893," *Quarterly Journal of Economics*, vol. xviii, no. 4 (August, 1904), pp. 513-528; Mitchell, *op. cit.*, pp. 295-300; and Young, *op. cit.*, pp. 23-25 and 64-67.

³ Mitchell, *op. cit.*, pp. 330-332, and 345-350; Young, *op. cit.*, pp. 29-30; and W. M. Persons, "Cyclical Fluctuations of the Ratio of Bank Loans to Deposits, 1867-1914," *Review of Economic Statistics*, vol. vi, no. 4 (October, 1924), pp. 260-283.

⁴ A. P. Andrew, *Financial Diagrams*, (United States) National Monetary Commission, 61st Congress, 2nd Session, Senate Document No. 509, Pl. 18; and *Statistics for the United States, 1867-1909*, (United States) National Monetary Commission, 61st Congress, 2nd Session, Senate Document No. 570, pp. 172-176 and 229-231.

⁵ Nearly all of the gold movements passed through New York. There was some import of Australian gold at San Francisco, but the amounts were relatively small.

⁶ A plus indicates movements to New York.

TABLE XVII

QUARTERLY NET FOREIGN MOVEMENTS OF GOLD AND INTERIOR MOVEMENTS
OF GOLD AND CURRENCY AT NEW YORK, 1896-1913 *

(In thousands of dollars)

Quarter	Foreign †	Interior †	Quarter	Foreign †	Interior †
1896 1st.....	+ 3,194	+ 46,769	1905 1st.....	-27,972	+ 54,778
2d.....	-26,921	+ 44,129	2d.....	- 3,003	+ 33,973
3rd.....	+31,542	- 23,856	3rd.....	+ 1,149	- 9,597
4th.....	+22,281	+ 5,870	4th.....	+ 7,372	- 6,816
1897 1st.....	+ 27	+ 27,990	1906 1st.....	- 1,681	+ 39,380
2d.....	-22,506	+ 43,178	2d.....	+40,963	- 49,236
3rd.....	- 2,025	- 12,605	3rd.....	+30,850	- 8,761
4th.....	+ 8,327	+ 21,625	4th.....	+18,144	- 19,336
1898 1st.....	+27,215	+ 17,353	1907 1st.....	+ 1,287	+ 21,050
2d.....	+37,074	+ 9,408	2d.....	-21,839	+ 15,312
3rd.....	+13,219	+ 3,018	3rd.....	- 5,949	+ 9,054
4th.....	+10,107	+ 17,361	4th.....	+94,241	-132,213
1899 1st.....	+ 2,023	+ 24,404	1908 1st.....	+ 7,876	+100,170
2d.....	-19,190	+ 26,724	2d.....	-43,154	+106,967
3rd.....	+ 1,178	- 6,140	3rd.....	+ 1,307	+ 32,991
4th.....	- 7,286	- 8,716	4th.....	- 4,385	+ 33,782
1900 1st.....	- 6,408	+ 34,845	1909 1st.....	-33,877	+ 82,787
2d.....	-19,636	+ 35,545	2d.....	-20,972	+ 77,343
3rd.....	-19,500	+ 1,689	3rd.....	-15,078	+ 34,202
4th.....	+ 8,440	- 19,416	4th.....	-16,284	+ 24,640
1901 1st.....	- 8,057	+ 53,836	1910 1st.....	- 3,525	+ 74,694
2d.....	-18,454	+ 27,992	2d.....	-35,429	+ 77,922
3rd.....	+ 182	- 4,659	3rd.....	+13,868	+ 43,226
4th.....	-20,196	+ 404	4th.....	+ 2,217	+ 15,605
1902 1st.....	-13,349	+ 24,350	1911 1st.....	+ 1,174	+ 79,738
2d.....	- 2,309	+ 29,794	2d.....	+ 3,620	+ 93,738
3rd.....	- 7,525	+ 412	3rd.....	+ 2,175	+ 62,245
4th.....	+ 577	- 1,610	4th.....	- 1,817	+ 67,861
1903 1st.....	- 208	+ 35,852	1912 1st.....	-13,951	+118,233
2d.....	-21,668	+ 49,840	2d.....	- 1,750	+107,526
3rd.....	- 6,927	+ 23,641	3rd.....	+ 507	+ 60,382
4th.....	+18,112	- 22,403	4th.....	+15,054	+ 39,011
1904 1st.....	+ 1,651	+ 48,252	1913 1st.....	-42,310	+132,469
2d.....	-59,706	+ 69,771	2d.....	- 8,377	+122,335
3rd.....	- 8,746	- 471	3rd.....	- 1,682	+ 97,164
4th.....	-29,372	+ 15,033	4th.....	+ 8,983	+ 83,560

* Source: Derived from weekly reports of the *Commercial and Financial Chronicle*, New York.

† + = to New York; - = from New York.

CHART XXII

QUARTERLY NET FOREIGN MOVEMENTS OF GOLD AND INTERIOR MOVEMENTS OF GOLD AND CURRENCY
AT NEW YORK, 1896-1913

[88]

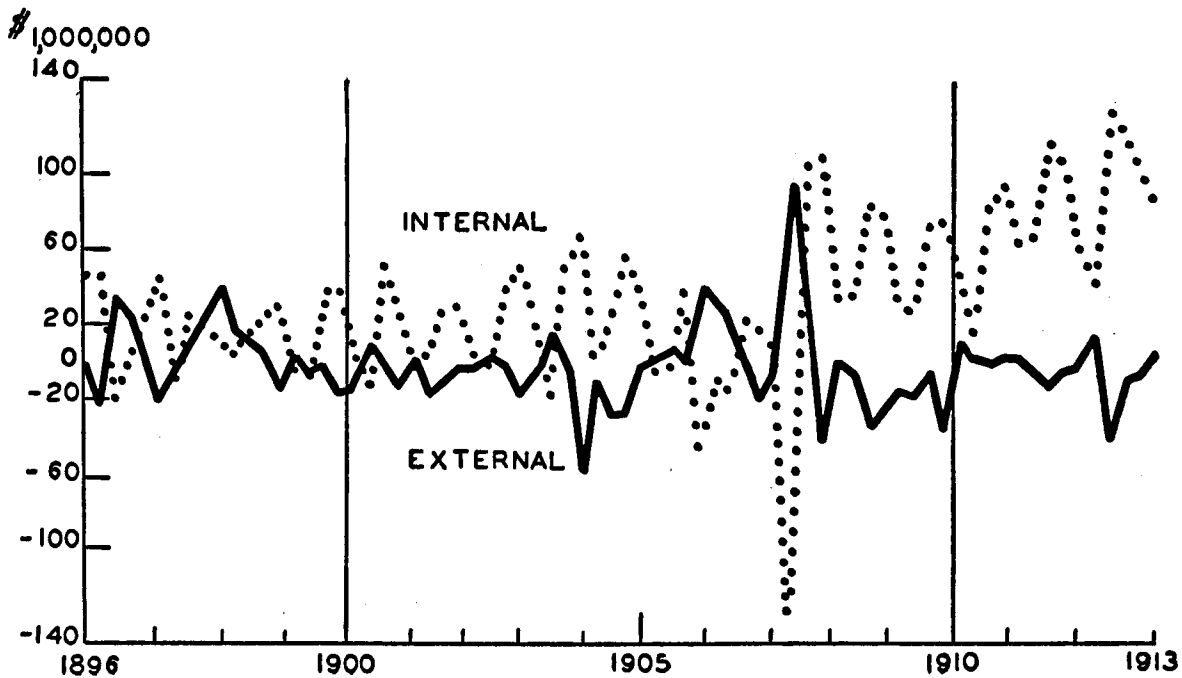


CHART XXIII

FOUR-QUARTER MOVING AVERAGES OF NET FOREIGN MOVEMENTS OF GOLD AND INTERIOR MOVEMENTS OF GOLD AND CURRENCY AT NEW YORK, 1896-1913

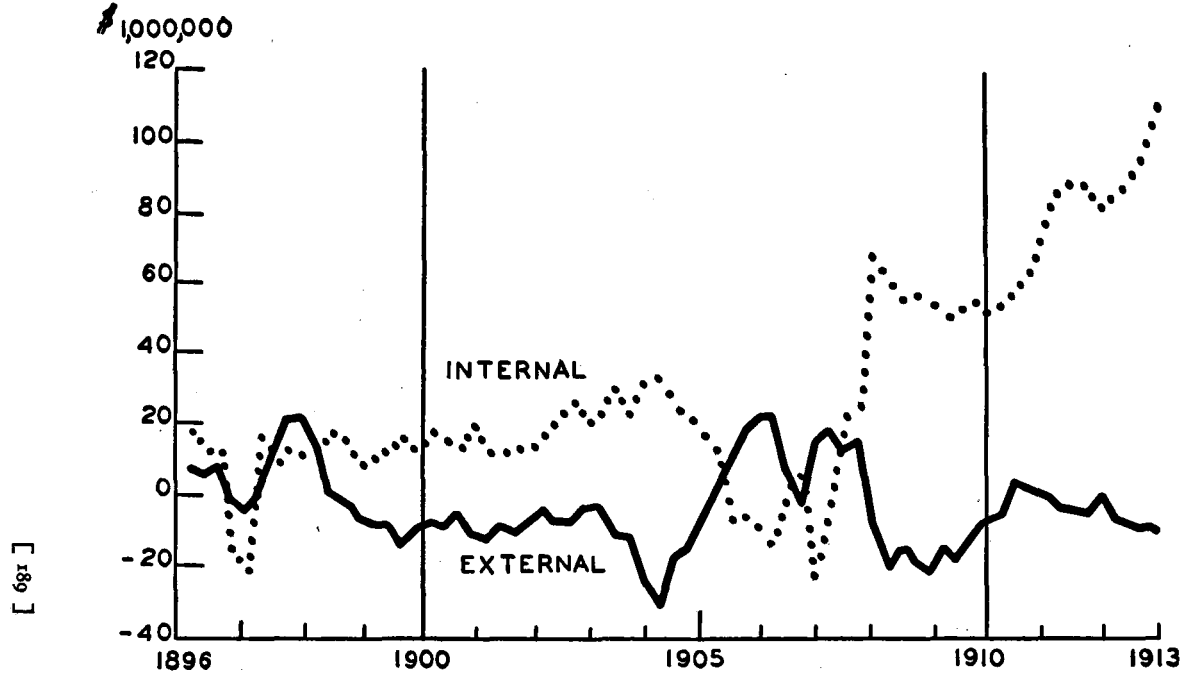


TABLE XVIII

FOUR-QUARTER MOVING AVERAGES OF NET FOREIGN MOVEMENTS OF GOLD
AND INTERIOR MOVEMENTS OF GOLD AND CURRENCY AT
NEW YORK, 1896-1913 *

(In thousands of dollars)

Centered at	Foreign †	Interior †	Centered at	Foreign †	Interior †
1896 July 1..	+ 7,524	+ 18,228	1905 Jan. 1..	-17,273	+ 25,828
Oct. 1..	+ 6,732	+ 13,533	April 1..	-14,799	+ 23,547
1897 Jan. 1..	+ 7,836	+ 13,296	July 1..	- 5,614	+ 18,084
April 1..	- 556	- 16,108	Oct. 1..	+ 959	+ 14,235
July 1..	- 4,044	- 20,047	1906 Jan. 1..	+11,951	- 6,567
Oct. 1..	+ 2,753	+ 17,388	April 1..	+19,376	- 6,358
1898 Jan. 1..	+17,648	+ 8,945	July 1..	+22,069	- 9,488
April 1..	+21,459	+ 12,851	Oct. 1..	+22,811	- 14,071
July 1..	+21,904	+ 11,785	1907 Jan. 1..	+ 7,110	+ 2,066
Oct. 1..	+15,606	+ 13,548	April 1..	- 2,089	+ 6,520
1899 Jan. 1..	+ 1,539	+ 17,877	July 1..	+16,938	- 21,699
April 1..	- 1,470	+ 15,587	Oct. 1..	+18,582	- 1,919
July 1..	- 5,819	+ 9,068	1908 Jan. 1..	+13,254	+ 20,995
Oct. 1..	- 7,927	+ 11,678	April 1..	+15,068	+ 26,979
1900 Jan. 1..	- 8,038	+ 13,884	July 1..	- 9,589	+ 68,478
April 1..	-13,207	+ 15,841	Oct. 1..	-20,027	+ 64,132
July 1..	- 9,276	+ 13,166	1909 Jan. 1..	-14,482	+ 56,726
Oct. 1..	- 7,188	+ 17,914	April 1..	-18,578	+ 57,026
1901 Jan. 1..	- 9,393	+ 16,025	July 1..	-21,553	+ 54,743
April 1..	- 4,472	+ 14,025	Oct. 1..	-13,965	+ 52,720
July 1..	-11,631	+ 19,393	1910 Jan. 1..	-17,579	+ 52,864
Oct. 1..	-12,954	+ 12,022	April 1..	-10,342	+ 55,121
1902 Jan. 1..	- 8,918	+ 12,472	July 1..	- 5,717	+ 52,862
April 1..	-10,845	+ 13,740	Oct. 1..	- 4,543	+ 54,123
July 1..	- 5,651	+ 13,236	1911 Jan. 1..	+ 5,220	+ 58,071
Oct. 1..	- 2,366	+ 16,112	April 1..	+ 2,266	+ 62,828
1903 Jan. 1..	- 7,206	+ 21,124	July 1..	+ 1,288	+ 75,889
April 1..	- 7,057	+ 26,931	Oct. 1..	- 2,493	+ 85,513
July 1..	- 2,673	+ 21,732	1912 Jan. 1..	- 3,836	+ 88,966
Oct. 1..	- 2,208	+ 24,833	April 1..	- 4,253	+ 88,501
1904 Jan. 1..	-11,718	+ 29,815	July 1..	- 35	+ 81,288
April 1..	-12,172	+ 23,787	Oct. 1..	- 7,125	+ 84,847
July 1..	-24,043	+ 33,171	1913 Jan. 1..	- 8,782	+ 88,549
Oct. 1..	-31,449	+ 34,778	April 1..	- 9,329	+ 93,745
			July 1..	-10,847	+108,882

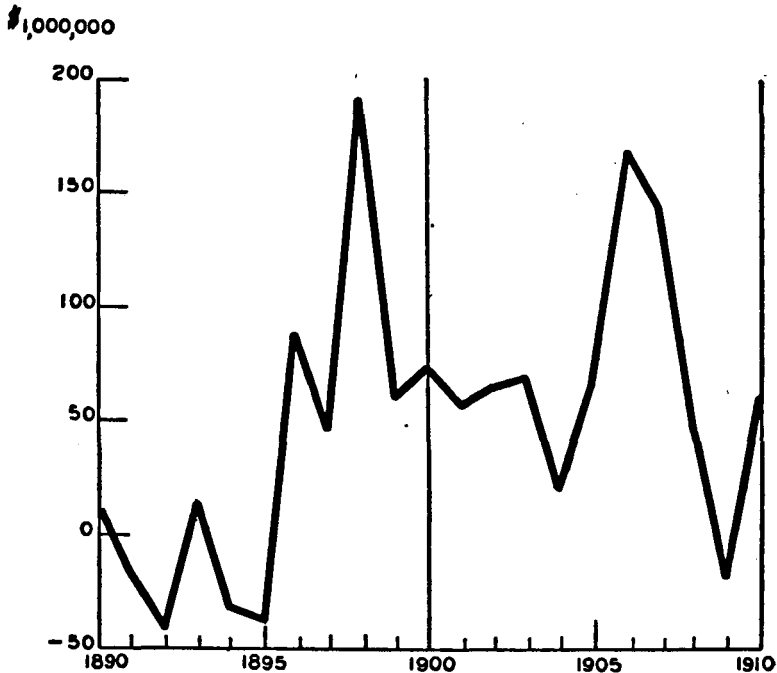
* SOURCE: Table XVII.

† + = to New York; - = from New York.

from data appearing in Professor Mitchell's *Business Cycles* (1913). This series, which is shown in Table XIX and Chart XXIV, makes allowance for gold used in industry, and for the production of new metal, but the figures are based on annual data, and do not indicate the timing of movements as well as the quarterly series. The division of

CHART XXIV

CHANGES IN MONETARY GOLD STOCK IN THE UNITED STATES, 1890-1910



the total monetary stock among the Treasury, the banks, and the public is shown in Table XX and Chart XXV.

Foreign movements of gold were somewhat less important for the United States, because of the large domestic production. Domestic demands were supplied primarily from the newly mined supplies, and ordinarily some was exported as well. Only occasionally was it necessary to secure gold from abroad in large amounts. There was an important seasonal flow of specie, but there was also a definite cyclical

variation in the movement of gold at New York. From 1896 to 1898 there was a very heavy net import into the country, due primarily to the large agricultural exports in these years.¹ No important foreign flows aside from the usual export of newly mined gold occurred there-

TABLE XIX
MONETARY GOLD STOCK AND MOVEMENTS OF MONEY INTO AND OUT OF
CIRCULATION IN THE UNITED STATES, 1890-1911 *

(Millions of dollars)

Year	Actual Amounts	Increase or Decrease	Chief Sources of Gain or Loss			Net
			U. S. Production	Net Foreign Flow	Industrial Consumption	
1890.....	648	+ 15	33	- 4	15	+ 14
1891.....	626	- 22	33	- 34	15	- 16
1892.....	582	- 44	33	- 59	15	- 41
1893.....	591	+ 9	36	- 7	13	+ 16
1894.....	539	- 52	40	- 81	10	- 51
1895.....	503	- 36	47	- 71	12	- 36
1896.....	589	+ 86	53	+ 46	11	+ 88
1897.....	638	+ 49	57	..	11	+ 46
1898.....	832	+194	64	+142	11	+193
1899.....	897	+ 65	71	+ 6	13	+ 60
1900.....	989	+ 92	79	+ 13	17	+ 73
1901.....	1,050	+ 61	79	- 3	19	+ 56
1902.....	1,121	+ 71	80	+ 8	20	+ 65
1903.....	1,192	+ 71	74	+ 21	23	+ 71
1904.....	1,217	+ 25	80	- 36	24	+ 21
1905.....	1,288	+ 71	88	+ 3	23	+ 63
1906.....	1,458	+170	94	+109	28	+170
1907.....	1,605	+147	90	+ 88	33	+144
1908.....	1,654	+ 49	95	- 31	34	+ 49
1909.....	1,638	- 16	100	- 89	15	- 19
1910.....	1,709	+ 71	96	..	30	+ 62
1911.....	1,797	+ 88	..	..	34	..

* SOURCE: W. C. Mitchell, *Business Cycles, Memoirs of the University of California*, vol. 3, Berkeley, California, 1913, pp. 283-285.

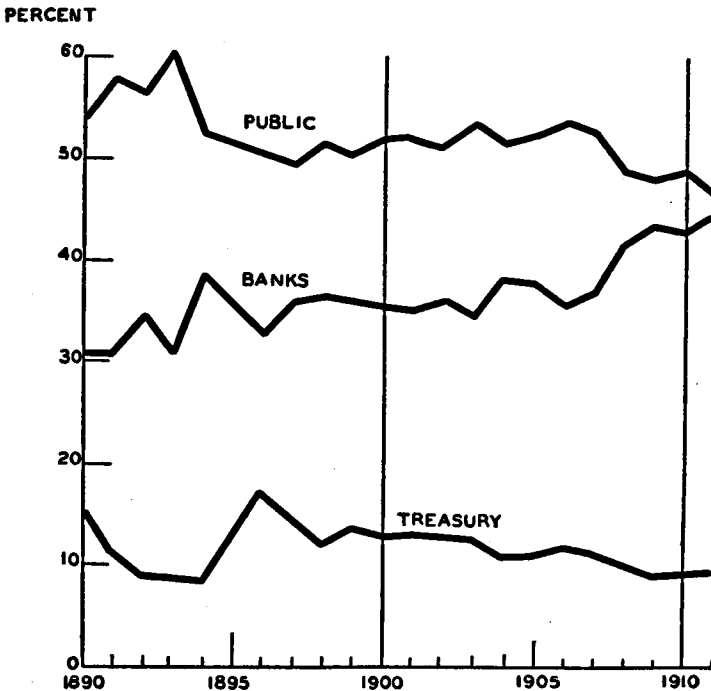
after until the expansion period preceding the crisis of 1907. In 1904 there was an unusually large efflux, but the crises of 1901 and 1903 seem to have affected gold flows very slightly on the whole. Undoubt-

¹ See A. P. Andrew, "The Influence of the Crops upon Business in America," *Quarterly Journal of Economics*, vol. xx, no. 3 (May, 1906), p. 347, and C. J. Bullock, J. H. Williams, and R. S. Tucker, "The Balance of Trade of the United States," *Review of Economic Statistics*, July, 1919, reprinted in F. W. Taussig, *Selected Readings in International Trade and Tariff Problems*, Boston, 1921, p. 189.

edly, the large imports of the late nineties enabled the country to pass through these crises without drawing upon foreign countries to any great extent.¹ In 1906 and 1907 the import of gold was very large,

CHART XXV

PROPORTIONS OF MONETARY STOCKS HELD BY THE TREASURY, BANKS,
AND PUBLIC, 1890-1911



while in 1908 the movement was reversed, and the specie secured during the crisis was returned to Europe.

Internal movements show a normal flow of currency into New York during depression periods, and a drain into circulation in prosperity.²

¹ See O. M. W. Sprague, *History of Crises under the National Banking System*, (United States) National Monetary Commission, 61st Congress, 2nd Session, Senate Document No. 538, pp. 217-218.

² The heavy movements into New York from 1908 to 1912 may be explained in part by a shift from inter-bank deposits to direct lending by country banks in the New York market. See Watkins, *op. cit.*, pp. 74-76.

When allowance is made for the utilization of domestically produced metal, the drain preceding the crisis of 1903 becomes evident; and in the years immediately preceding the crisis of 1907 it is marked. It is clear from an examination of the chart showing the division of the

TABLE XX

DISTRIBUTION OF THE MONETARY STOCK OF THE UNITED STATES AMONG
THE PUBLIC, THE BANKS, AND THE FEDERAL TREASURY ON
OR ABOUT JULY 1, 1890 TO 1911*

Year	Actual Amounts in Millions of Dollars					Proportions of the Total Stock Held by the		
	Total Stock	In the Treasury as Assets	Outside of the Treasury	Held by Banks	Held by the Public	Treasury	Banks	Public
1890..	1,629	256	1,373	492	881	15.7 %	31.0 %	54.1 %
1891..	1,623	180	1,443	504	931	11.1	31.0	57.9
1892..	1,689	151	1,538	585	953	9.0	34.6	56.4
1893..	1,673	142	1,531	517	1,014	8.5	30.9	60.6
1894..	1,726	144	1,582	680	902	8.3	39.4	52.3
1895..	1,726	217	1,509	620	889	12.6	35.9	51.5
1896..	1,793	204	1,414	556	858	17.2	32.6	50.2
1897..	1,805	266	1,539	649	890	14.7	36.0	49.3
1898..	1,959	236	1,723	713	1,010	12.0	36.4	51.6
1899..	2,076	286	1,790	748	1,042	13.8	36.0	50.2
1900..	2,223	285	1,938	787	1,151	12.8	35.4	51.8
1901..	2,362	308	2,054	828	1,226	13.0	35.1	51.9
1902..	2,439	314	2,125	875	1,250	12.9	35.9	51.2
1903..	2,560	317	2,243	881	1,362	12.4	34.4	53.2
1904..	2,674	284	2,390	1,016	1,374	10.6	38.0	51.4
1905..	2,754	295	2,459	1,024	1,435	10.7	37.2	52.1
1906..	2,937	333	2,604	1,043	1,561	11.3	35.5	53.2
1907..	2,115	343	2,772	1,139	1,633	11.0	36.6	52.4
1908..	3,378	341	3,037	1,394	1,643	10.1	41.3	48.6
1909 †	3,406	309	3,097	1,466	1,631	9.1	43.0	47.9
1910..	3,420	317	3,103	1,445	1,658	9.3	42.2	48.5
1911..	3,556	342	3,214	1,573	1,641	9.6	44.2	46.1

* SOURCE: W. C. Mitchell, *Business Cycles, Memoirs of the University of California*, vol. 3, Berkeley, California, 1913, p. 296.

† Figures for April 30, instead of July 1st.

monetary stock that the proportion held by the public increased during both of these periods.

The movements of gold into and out of the Treasury also affected the amount of currency available for use by the public. It was pointed out by Andrew that the operations of the Treasury tended to lock up more gold in periods of prosperity, since taxes, especially customs duties,

were then more prolific; and the opposite was true in depression.¹ Under Secretary Gage the deposits by the Treasury in banks was greatly increased, and the idle balances of the Treasury reduced.² But with Secretary Shaw a more decided policy came into effect. He aided the banks by transfers of gold to them from the Treasury during 1903, thus adding to the gold available for reserves.³ During 1906 he aided the import of gold by permitting certain banks to anticipate arrivals by withdrawing cash immediately from the Treasury.⁴ In effect this raised the gold import point by removing the interest cost. During the crisis of 1907 the Treasury supplied the New York banks with much of the cash sent to the interior.⁵ Thus the evils indicated by Andrew were mitigated to a certain extent. But the Treasury operations introduced uncertainty as to the course which would be followed by the Secretary, and discouraged prudent preparation by bankers.⁶

In the panic period of 1907 the cash in circulation was supplemented by temporary media of various kinds.⁷ The demands of the United States during prosperity and crisis on other countries for gold were consequently less than would otherwise have been the case. On the other hand, much of the cash removed from the banks was not utilized, but was hoarded by people.

During periods of prosperity the cash reserves of New York banks tended to fall, and they were replenished during depressions.⁸ Thus these banks took up some of the slack in flows of gold from abroad to the interior circulation and bank reserves of the United States. Money rates, on the other hand, rose during expansion, and fell off in the succeeding depression.⁹ The rise of money rates was certainly the proximate cause of the foreign influx of gold in 1906. Evidence to this effect is afforded by the large issue of finance bills drawn on London in that year.¹⁰ In 1907 the major cause was the payment for agricultural exports.¹¹

The studies of Professors Young and Mitchell reveal important dif-

¹ A. P. Andrew, "The Treasury and the Banks under Secretary Shaw," *Quarterly Journal of Economics*, vol. XXI, no. 4 (August, 1907), pp. 522-523.

² *Ibid.*, pp. 528-529.

³ *Ibid.*, p. 540.

⁴ *Ibid.*, pp. 543-547.

⁵ See Sprague, *op. cit.*, p. 264, and Mitchell, *op. cit.*, p. 519.

⁶ Andrew, *op. cit.*, pp. 560-562.

⁷ See Mitchell, *op. cit.*, p. 518.

⁸ See *ibid.*, pp. 332 and 347-351; A. H. Hansen, *Cycles of Prosperity and Depression in the United States, Great Britain and Germany, University of Wisconsin Studies in the Social Sciences and History*, No. 5, Madison, Wisconsin, 1921, p. 32; and Young, *op. cit.*, pp. 24-25.

⁹ Hansen, *op. cit.*, p. 32, and Young, *op. cit.*, p. 24.

¹⁰ See above, p. 143.

¹¹ See above, p. 145.

ferences in the cyclical movements of bank deposits in New York and in the country outside.¹ In periods of depression New York bank deposits and loans tended to increase, while in prosperity they declined. Banks outside of New York showed the opposite characteristics. The causes for this difference were the movement of idle cash in "other" banks to New York in depression and the withdrawal in expansion periods, and the shifting of bank deposits to and from "other" banks to New York.² There was also a marked cyclical variation in the volume of investments made by both the New York banks and those outside of New York.³ In periods of depression the holding of securities increased, since surplus funds were large. But banks disposed of them ". . . when the demand for loans and discounts increased."⁴

The treatment of American data has been very brief, but several points stand out clearly. There was a tendency for currency to move into circulation during prosperity, and to reflow into the banks in depression. It is noticeable that the reflux occurred very quickly after the outbreak of the crisis, both in 1903-1904 and 1907-1908. Associated with this internal movement was a foreign flow of gold into the United States immediately before and during the crisis period, and a reflow from the country after the crises abated. Due to the presence of hoarded gold in the Treasury, and the large annual output from mines of the country, foreign flows were of less significance than in the case of England. Unless cyclical fluctuations of business were great, the repercussions upon international gold flows were not easily seen.

¹ See Young, *op. cit.*, pp. 28-29, and Mitchell, *op. cit.*, pp. 324-370.

² Young, *op. cit.*, p. 28. Mitchell remarks on the reasons for the sending of local bank funds to New York: "Perhaps the desire of the country banks to maintain their relatively high rates of interest upon local loans is a more potent factor than the unwillingness of their customers to borrow." *Op. cit.*, p. 362. See also Watkins, *op. cit.*, Chs. VIII and X, esp. pp. 322-345.

³ Young, *op. cit.*, pp. 30-32.

⁴ *Ibid.*, p. 30.

APPENDIX B

STATISTICAL APPENDIX

TABLE XXI

DEPOSIT AND CURRENT ACCOUNTS AND "CASH" RESERVES, NATIONAL
PROVINCIAL BANK OF ENGLAND, LIMITED, AND LONDON AND
WESTMINSTER BANK, LIMITED, MONTHLY, 1891-1913 *

(In thousands of pounds)

Approximate Date	Deposit and Current Accounts †		Cash on Hand and at Bank of England †	
	National Provincial Bank of England, Limited	London and Westminster Bank, Limited	National Provincial Bank of England, Limited	London and Westminster Bank, Limited
Aug. 31, 1891.....	42,476	25,872	5,191	4,547
Sept. 30.....	42,026	24,634	4,601	3,821
Oct. 31.....	41,267	23,894	4,460	3,695
Nov. 30.....	40,481	...	4,419	4,335
Dec. 31.....	40,822	26,064	3,950	4,408
Jan. 31, 1892.....	40,727	24,475	5,182	3,999
Feb. 28.....	40,079	23,781	4,855	3,819
Mar. 31.....	39,987	22,976	5,027	3,679
Apr. 30.....	40,602	23,293	5,138	3,974
May 31.....	40,629	23,785	4,858	3,853
June 30.....	42,119	25,521	5,435	4,412
July 31.....	41,245	...	4,839	..
Aug. 31.....	41,766	25,165	5,319	4,571
Sept. 30.....	41,990	24,804	4,819	4,373
Oct. 31.....	42,341	24,325	5,194	3,987
Nov. 30.....	41,753	23,601	4,615	3,819
Dec. 31.....	41,805	24,676	4,907	3,953
Jan. 31, 1893.....	41,661	24,750	5,262	4,149
Feb. 28.....	41,461	24,292	4,966	3,960
Mar. 31.....	41,173	22,723	4,792	3,634
Apr. 30.....	41,407	...	5,254	..
May 31.....	41,959	21,022	5,636	3,723
June 30.....	42,570	22,397	5,205	3,863
July 31.....	42,596	23,791	4,929	4,875
Aug. 31.....	41,838	21,632	5,230	3,842
Sept. 30.....	41,615	21,867	5,035	3,685
Oct. 31.....	41,967	24,555	5,207	4,771
Nov. 30.....	41,889	25,089	5,054	4,107
Dec. 31.....	41,827	26,487	5,080	4,417

* Source: *Economist*.

† The figures for the London and Westminster Bank, Limited, are carried only to 1909.

TABLE XXI (Continued)

Approximate Date	Deposit and Current Accounts		Cash on Hand and at Bank of England	
	National Provincial Bank of England, Limited	London and Westminster Bank, Limited	National Provincial Bank of England, Limited	London and Westminster Bank, Limited
Jan. 31, 1894.....	41,578	22,897	4,944	3,809
Feb. 28.....	41,627	22,404	5,256	3,717
Mar. 31.....	40,940	21,864	4,902	3,727
Apr. 30.....	40,964	22,282	4,799	3,724
May 31.....	41,077	....	5,036	..
June 30.....	42,288	23,993	4,837	3,899
July 31.....	42,266	....	4,974	..
Aug. 31.....	42,415	....	5,342	..
Sept. 30.....	42,288	25,096	5,080	4,177
Oct. 31.....	42,398	24,359	4,678	4,296
Nov. 30.....	42,544	23,929	5,358	3,867
Dec. 31.....	42,743	25,722	5,466	4,334
Jan. 31, 1895.....	42,820	25,137	5,059	4,445
Feb. 28.....	42,414	23,648	4,883	4,214
Mar. 31.....	42,238	23,212	4,865	4,201
Apr. 30.....	42,981	23,946	4,961	4,674
May 31.....	42,980	24,767	5,400	4,482
June 30.....	44,124	25,514	4,421	4,067
July 31.....	44,483	26,115	4,720	4,447
Aug. 31.....	44,661	....	5,175	..
Sept. 30.....	44,923	....	5,243	..
Oct. 31.....	45,326	27,122	5,035	4,532
Nov. 30.....	44,769	....	5,223	..
Dec. 31.....	45,642	28,227	5,770	5,002
Jan. 31, 1896.....	45,890	27,180	5,488	4,206
Feb. 28.....	45,184	....	4,937	..
Mar. 31.....	44,985	....	5,136	..
Apr. 30.....	45,703	26,598	4,716	4,601
May 31.....	45,064	26,168	4,737	4,016
June 30.....	46,595	27,828	5,075	3,866
July 31.....	46,111	28,003	4,753	4,460
Aug. 31.....	46,216	26,833	5,340	4,036
Sept. 30.....	46,806	26,434	5,418	4,234
Oct. 31.....	46,508	25,088	5,165	3,919
Nov. 30.....	45,967	24,326	4,840	3,919
Dec. 31.....	46,855	25,002	5,749	3,818
Jan. 31, 1897.....	46,879	24,928	4,736	3,908
Feb. 28.....	46,774	23,996	4,880	3,624
Mar. 31.....	46,886	23,937	4,970	3,682
Apr. 30.....	47,246	25,305	5,563	4,363
May 31.....	47,387	....	5,035	..
June 30.....	48,313	26,074	5,254	4,119
July 31.....	47,959	26,506	5,187	4,388
Aug. 31.....	47,478	26,466	5,441	4,354

TABLE XXI (Continued)

Approximate Date	Deposit and Current Accounts		Cash on Hand and at Bank of England	
	National Provincial Bank of England, Limited	London and Westminster Bank, Limited	National Provincial Bank of England, Limited	London and Westminster Bank, Limited
Sept. 30.....	47,259	26,208	5,306	4,261
Oct. 31.....	47,099	.....	5,304	..
Nov. 30.....	46,761	24,195	5,301	4,179
Dec. 31.....	48,811	24,661	6,459	4,119
Jan. 31, 1898.....	48,920	24,555	5,502	3,625
Feb. 28.....	47,450	24,631	5,379	3,616
Mar. 31.....	47,342	23,991	5,630	4,214
Apr. 30.....	46,611	24,403	5,433	3,981
May 31.....	46,469	24,270	5,355	3,807
June 30.....	47,984	26,004	5,812	4,463
July 31.....	48,170	25,688	5,425	4,179
Aug. 31.....	47,742	26,694	5,464	4,438
Sept. 30.....	47,478	25,822	5,337	3,992
Oct. 31.....	47,372	25,378	5,312	3,818
Nov. 30.....	47,847	25,201	5,846	3,765
Dec. 31.....	49,286	27,578	6,106	4,872
Jan. 31, 1899.....	49,714	27,009	6,033	4,381
Feb. 28.....	49,150	28,527	5,555	4,179
Mar. 31.....	49,446	.....	5,584	..
Apr. 30.....	49,485	.....	5,959	..
May 31.....	50,538	.....	5,951	..
June 30.....	51,293	27,886	6,010	4,820
July 31.....	51,095	25,734	5,946	4,027
Aug. 31.....	50,781	25,967	6,384	4,173
Sept. 30.....	50,043	25,754	6,626	4,454
Oct. 31.....	50,490	26,326	6,456	4,209
Nov. 30.....	49,583	25,702	6,377	4,081
Dec. 31.....	49,964	25,812	6,349	4,474
Jan. 31, 1900.....	49,789	25,563	6,600	3,917
Feb. 28.....	49,429	25,026	6,602	3,962
Mar. 31.....	48,984	24,893	6,457	4,090
Apr. 30.....	48,769	24,941	6,559	3,827
May 31.....	.....	24,820	..	3,831
June 30.....	50,499	26,860	6,724	4,353
July 31.....	49,954	25,411	6,494	4,164
Aug. 31.....	49,714	25,026	6,922	3,747
Sept. 30.....	49,852	24,654	6,840	3,997
Oct. 31.....	50,186	25,358	7,097	3,966
Nov. 30.....	50,172	24,759	6,855	4,090
Dec. 31.....	51,084	26,278	7,308	4,203
Jan. 31, 1901.....	51,167	25,506	7,271	4,146
Feb. 28.....	49,943	25,148	7,021	3,946
Mar. 31.....	49,469	25,070	6,987	3,774
Apr. 30.....	49,006	25,320	7,021	4,290

TABLE XXI (Continued)

Approximate Date	Deposit and Current Accounts		Cash on Hand and at Bank of England	
	National Provincial Bank of England, Limited	London and Westminster Bank, Limited	National Provincial Bank of England, Limited	London and Westminster Bank, Limited
May 31.....	48,754	24,532	7,054	3,985
June 30.....	50,238	26,235	7,098	4,220
July 31.....	49,765	26,564	6,875	4,146
Aug. 31.....	49,378	25,017	7,136	3,734
Sept. 30.....	49,071	27,133	7,312	4,450
Oct. 31.....	49,423	27,242	7,442	4,241
Nov. 30.....	.....	27,117	..	4,314
Dec. 31.....	50,640	27,155	7,561	4,788
Jan. 31, 1902.....	50,988	28,254	7,404	4,719
Feb. 28.....	51,436	27,282	7,675	4,546
Mar. 31.....	51,356	26,369	7,219	4,081
Apr. 30.....	50,973	27,439	7,327	4,238
May 31.....	49,820	26,349	7,719	3,663
June 30.....	51,154	27,372	8,175	4,743
July 31.....	51,376	27,315	7,490	4,308
Aug. 31.....	51,184	25,866	7,523	4,063
Sept. 30.....	51,468	25,243	7,436	3,770
Oct. 31.....	50,813	25,244	7,534	4,248
Nov. 30.....	50,438	24,898	7,638	4,098
Dec. 31.....	50,949	24,952	7,407	4,392
Jan. 31, 1903.....	51,599	25,490	7,841	3,849
Feb. 28.....	50,580	23,683	7,688	3,228
Mar. 31.....	49,785	22,549	7,432	3,411
Apr. 30.....	49,595	23,288	7,793	3,886
May 31.....	49,611	25,448	7,605	4,089
June 30.....	50,893	26,076	7,548	4,010
July 31.....	.....	27,150	..	3,997
Aug. 31.....	51,126	.....	7,837	..
Sept. 30.....	51,534	22,459	7,717	3,021
Oct. 3.....	.....	22,823	..	3,016
Nov. 30.....	50,662	24,133	7,648	3,442
Dec. 31.....	50,360	27,990	7,491	4,657
Jan. 21, 1904.....	.....	.....	..	..
Feb. 28.....	50,598	24,675	7,681	3,701
Mar. 31.....	48,663	24,370	7,090	3,616
Apr. 30.....	48,834	24,274	7,234	3,916
May 31.....	49,055	24,138	7,485	3,951
June 30.....	50,511	24,425	7,284	3,481
July 31.....	50,618	24,686	7,386	3,423
Aug. 31.....	49,786	26,270	7,636	3,671
Sept. 30.....	50,068	26,805	7,634	3,967
Oct. 31.....	50,818	27,434	7,783	3,919
Nov. 30.....	.....	.....	..	..
Dec. 31.....	50,693	27,155	7,322	3,821

TABLE XXI (Continued)

Approximate Date	Deposit and Current Accounts		Cash on Hand and at Bank of England	
	National Provincial Bank of England, Limited	London and Westminster Bank, Limited	National Provincial Bank of England, Limited	London and Westminster Bank, Limited
Jan. 31, 1905.....	51,835	25,069	7,676	3,555
Feb. 28.....	50,980	25,837	7,741	3,896
Mar. 31.....	50,501	26,434	7,629	4,270
Apr. 30.....	50,673	26,470	7,133	3,878
May 31.....	50,533	25,133	7,685	3,560
June 30.....	52,345	27,817	7,797	4,322
July 31.....	53,017	28,156	7,601	4,260
Aug. 31.....	52,283	.....	7,704	..
Sept. 30.....	52,761	27,072	8,134	3,657
Oct. 31.....	52,851	25,543	7,706	3,788
Nov. 30.....	51,358	23,863	7,828	3,454
Dec. 31.....	52,594	25,442	8,205	3,642
Jan. 31, 1906.....	52,987	24,004	8,004	3,387
Feb. 28.....	53,125	24,145	7,912	3,600
Mar. 31.....	52,356	24,571	9,007	3,137
Apr. 30.....	51,985	24,128	7,964	3,657
May 31.....	52,299	24,081	7,672	4,551
June 30.....	53,296	26,638	7,902	3,630
July 31.....	52,887	24,741	7,914	3,272
Aug. 31.....	53,026	26,680	7,955	4,107
Sept. 30.....	53,373	26,884	7,739	3,541
Oct. 31.....	53,522	26,382	8,757	3,781
Nov. 30.....	52,988	26,341	8,003	3,622
Dec. 31.....	54,242	28,474	8,603	3,829
Jan. 31, 1907.....	53,538	27,307	8,266	4,546
Feb. 28.....	54,694	27,817	8,087	4,672
Mar. 31.....	55,330	24,483	8,211	3,871
Apr. 30.....	54,684	26,203	8,240	4,261
May 31.....	54,484	26,439	8,114	4,001
June 30.....	54,850	.....	7,809	3,781
July 31.....	55,733	.....	8,550	..
Aug. 31.....	55,078	26,673	8,509	3,664
Sept. 30.....	54,211	26,712	8,248	3,353
Oct. 31.....	55,433	25,163	8,245	3,050
Nov. 30.....	53,888	25,850	8,227	3,195
Dec. 31.....	54,904	26,825	9,251	4,244
Jan. 31, 1908.....	55,953	.....	8,885	..
Feb. 28.....	55,437	25,258	8,418	3,870
Mar. 31.....	54,833	26,133	8,302	4,018
Apr. 30.....	54,913	24,630	8,425	3,373
May 31.....	54,705	25,612	8,465	3,903
June 30.....	56,674	27,281	8,678	3,926
July 31.....	57,363	27,705	8,626	4,428
Aug. 31.....	57,042	27,414	8,305	4,152

TABLE XXI (Continued)

Approximate Date	Deposit and Current Accounts		Cash on Hand and at Bank of England	
	National Provincial Bank of England, Limited	London and Westminster Bank, Limited	National Provincial Bank of England, Limited	London and Westminster Bank, Limited
Sept. 30.	58,096	26,782	9,147	3,258
Oct. 31.	58,261	25,829	8,656	3,073
Nov. 30.	58,577	23,216	9,199	2,883
Dec. 31.	59,266	26,626	10,356	4,336
Jan. 31, 1909.	58,746	23,833	9,547	3,687
Feb. 28.	57,294	22,347	9,135	2,901
Mar. 31.	56,200	22,816	8,414	3,345
Apr. 30.	56,659	23,818	8,395	4,348
May 31.	56,600	23,735	8,362	3,224
June 30.	58,646	26,814	8,713	4,018
July 31.	58,724	29,115	8,801	....
Aug. 31.	59,112	....	8,807	....
Sept. 30.	59,469	....	8,852	....
Oct. 31, 1909.	58,625	....	8,520	....
Nov. 30.	58,127	....	8,598	....
Dec. 31.	59,542	....	10,073	....
Jan. 31, 1910.	58,873	....	8,814	....
Feb. 28.	60,824	....	8,987	....
Mar. 31.	61,433	....	8,759	....
Apr. 30.	62,240	....	9,323	....
May 31.	62,720	....	9,493	....
June 30.	62,387	....	9,850	....
July 31.	63,877	....	9,678	....
Aug. 31.	62,697	....	9,539	....
Sept. 30.	63,625	....	9,577	....
Oct. 31.	63,419	....	9,164	....
Nov. 30.	63,410	....	9,296	....
Dec. 31.	65,143	....	9,892	....
Jan. 31, 1911.	65,355	....	9,532	....
Feb. 28.	65,274	....	9,746	....
Mar. 31.	63,744	....	9,742	....
Apr. 30.	62,457	....	9,836	....
May 31.	63,737	....	9,707	....
June 30.	64,910	....	9,690	....
July 31.	64,251	....	9,843	....
Aug. 31.	63,026	....	9,720	....
Sept. 30.	62,540	....	9,200	....
Oct. 31.	62,212	....	9,333	....
Nov. 30.	62,329	....	9,510	....
Dec. 31.	62,892	....	9,676	....
Jan. 31, 1912.	63,330	....	9,431	....
Feb. 28.	62,056	....	9,567	....
Mar. 31.	61,840	....	9,231	....
Apr. 30.	62,207	....	9,489	....

TABLE XXI (Continued)

Approximate Date	Deposit and Current Accounts		Cash on Hand and at Bank of England	
	National Provincial Bank of England, Limited		National Provincial Bank of England, Limited	
May 31.....	64,281		9,667	
June 30.....	62,892		9,164	
July 31.....	63,384		9,478	
Aug. 31.....	64,058		9,511	
Sept. 30.....	64,898		9,616	
Oct. 31.....	64,476		9,465	
Nov. 30.....	64,523		9,709	
Dec. 31.....	65,660		10,292	
Jan. 31, 1913.....	65,213		10,261	
Feb. 28.....	64,704		9,992	
Mar. 31.....	64,432		10,462	
Apr. 30.....	63,324		9,863	
May 31.....	64,143		10,115	
June 30.....	66,606		9,964	
July 31.....	65,704		10,349	
Aug. 31.....	65,706		10,627	
Sept. 30.....	65,655		10,127	
Oct. 31.....	65,567		
Nov. 30.....	65,668		
Dec. 31.....	67,882		

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