

PRINCETON STUDIES IN INTERNATIONAL FINANCE NO. 24

Key Currencies and Gold  
1900-1913

Peter H. Lindert

INTERNATIONAL FINANCE SECTION  
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by  
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# KEY CURRENCIES AND GOLD

1900-1913

## 1. INTRODUCTION

The troubled union of gold and leading currencies on which the international reserve structure has depended is being realigned under pressure. The pressures on the dollar that have continued for a decade are largely responsible for the present retrospective study. Although the experiences being examined date back more than half a century, the focus has been particularly influenced by such recent events as the seemingly irreversible deficits and gold losses of the United States, Robert Triffin's *Gold and The Dollar Crisis*, the progressive restrictions on American lending abroad, and the two-price gold system of March 1968.

The persistence of an atmosphere of crisis over so many years quite naturally leads to curiosity about the emergence and past maintenance of the key-currency system that has proved so fragile. It is illuminating to ask when and how such a system evolved, and when or whether it has functioned smoothly.

The fourteen prewar years that opened this century seem especially appropriate for this inquiry. It is common knowledge that most private international settlements were conducted in sterling, French francs, and German marks rather than in gold, and these key currencies are generally thought to have comprised a share of the world's official reserves as well. In addition, the era in which international monetary relationships exhibited their most impressive stability can be dated from about the turn of the century. Fixed gold parities had finally been established in the mid- and late 1890's by Russia, India, Japan, Italy, Austria-Hungary, Greece, and Rumania, and the monometallic gold standard had survived its last electoral threat in the United States in 1896.

The role of world banker was performed by Britain, France, and Germany in these years on a scale unmatched either before or since. Between the turn of the century and the outbreak of war, Britain poured over 5 per cent of her estimated national product (or about two-fifths of net national investment) into net foreign investment, primarily into long-term fixed-interest bonds. By 1913 the share of net

foreign assets in the value of Britain's consolidated wealth may well have been between a quarter and a third. At the liquid end of the financial spectrum, equally impressive and unprecedented figures would apply (if obtainable) to the annual volume of liquid sterling bills and deposits exchanged the world over.<sup>1</sup> French and German net foreign investments ranged somewhere from 1.5 to 3.5 per cent of the respective national incomes, or from 7.5 to 18 per cent of national saving, from the 1860's through 1913. Despite the unavoidable roughness of the estimates underlying data of this sort, it is clear that the three major prewar creditor countries lent a much larger share of their income and saving to foreigners than has the United States in the postwar years.<sup>2</sup>

It is on this overall context of maximum commitment to international lending, liquidity creation, and stable gold parities at a time of vigorous growth in world trade and output that the following inquiry into the successful past operation of a key-currency system is focused. The turn of the century has been selected as the specific starting point for many of the following measurements primarily because more data are available for that point in time than for dates in proximate years. What data there are indicate that the conclusions below would not be altered if it were possible to select any other starting date from the decade or so after 1895 and any other terminal date from the last five prewar years.

The sets of questions that lend themselves to treatment in the present study are:

- (1) In what amounts and for what purposes were liquid claims on foreign countries held? How large were the foreign-exchange

<sup>1</sup> The worldwide reliance on the liquid paper liabilities of one or a handful of centers does seem to have been quite recent, as the present discussion implies. An arbitrary date for the "emergence" of key-currency arrangements is best placed somewhere in the latter half of the nineteenth century. The international prestige attached to individual currencies in earlier centuries typically stemmed from widespread acceptability of coins rather than paper. The centrality of the Amsterdam money market in the seventeenth and eighteenth centuries apparently rested on operations in bills on foreign places rather than on the creation of deposit claims against Amsterdam itself. See Charles H. Wilson, *Anglo-Dutch Commerce and Finance in the 18th Century* (Cambridge: University Press, 1941), especially pp. 199-200.

<sup>2</sup> Net foreign investments accounted for less than 0.4 per cent of the net national product of the United States and only 4.7 per cent of net national saving over the two decades ending with 1966.



assets of official institutions in relation to their metallic holdings?

- (2) How did the amount of liquid foreign liabilities of each reserve center compare with the size of its reserves?<sup>3</sup> Did the reserve-currency countries (Britain, France, Germany) incur prolonged payments deficits by current definitions, as have the United States and the United Kingdom in more recent years? Did those countries lose gold?
- (3) The conclusion that the reserves of Britain and Germany indeed fell increasingly short of their liquid liabilities (Chapter 3 below) renews the perennial question: why was this era in international monetary history so conspicuously stable? What precise mechanisms enabled the central banks of these countries to defend their reserves and convertibility against the pressures that arose? What features of the financial network prevented the defense measures of one center from placing unmanageable strain on another?
- (4) What accounts for the numerical similarity of the overall payments position of the center countries to the recent dollar glut? Can this pattern be causally linked to the financial intermediation performed by the center countries or to their reserve-center status?

The first set of questions is taken up in Chapter 2, the second and third in Chapter 3, and the final set in Chapter 4.

Although the focus of this study is on the period 1900-1913, care must be taken to keep the present-day framework that has shaped the inquiry from presenting a distorted perspective on the functioning of the international monetary system in those years. In particular, some justification must be offered for imposing mid-century balance-of-payments accounting on an era that hardly knew or cared about these elaborate measurements. The concepts being applied are those of the "liquidity" and "official-settlements" definitions of an overall payments

<sup>3</sup> A "reserve currency" will be defined here as one which official as well as private foreigners willingly hold in liquid form in significant amounts and for significant lengths of time. A "vehicle currency" is one which, in the form of liquid claims, experiences a continuously high *turnover* in international transactions, including a large share of transactions not involving the country with which the currency is associated. The two definitions naturally tend to apply to the same currencies. The term "key currency" will be applied to currencies that are both reserve and vehicle currencies.

balance.<sup>4</sup> Each relates changes in a country's internationally liquid reserves to its external liquid liabilities only, on the argument that a given amount of the latter represents a different and greater cause for concern about official reserves than the same amount of domestic funds. The residential distinction between domestic and foreign creditors can only be arbitrary since the threat of conversion of a certain claim into gold is rightly regarded as an unknown percentage probability. Nonetheless, it is generally assumed that greater percentages of foreign than of domestic funds are likely to seek sudden conversion in time of crisis. Foreign-held balances also respond to foreign monetary policy measures and to market opportunities different from those facing domestic asset holders. In a historical context in which official gold might be sold either to domestic or to foreign private citizens, distance and institutional barriers frequently made it more difficult to repurchase coins and bars from abroad than from private domestic stocks. Before 1914 central bankers indeed applied special "gold devices" to prevent the export of gold that they would have been more willing to yield to domestic circulation.<sup>5</sup> For these reasons, the implied focus on international claims by the current measurements of overall balance seems valid in connection with the period 1900-1913.

The fact that gold could then be sold to private parties both domestic and foreign detracts very little from the importance of the balance-of-payments focus. The private circulation of gold makes the liquidity definition of overall balance preferable to the official-settlements definition, which does not display liquid liabilities to private foreigners "below the line" along with liabilities to foreign official institutions. In certain computations referred to in Chapter 4, however, the paucity of data on private claims will necessitate substitution of official-settlements balances for liquidity balances.

It should be stressed that comparing liquid liabilities with reserves

<sup>4</sup> For a comparison of the two measures by a document favoring the official-settlements variant, see Review Committee for Balance of Payments Statistics, *The Balance of Payments Statistics of the United States* (Washington: 1965). Various special accounting categories given in current U.S. balance-of-payments presentations are omitted in the chapters below on the grounds that they are institutionally irrelevant to the period 1900-1913. Prime examples are the net changes in the I.M.F. position and changes in holdings of Roosa bonds.

<sup>5</sup> For a general description of the gold devices, see Richard S. Sayers, *Bank of England Operations, 1890-1914* (London: P. S. King and Son, 1936), especially Chapter IV; and Arthur I. Bloomfield, *Monetary Policy under the International Gold Standard, 1880-1914* (New York: Federal Reserve Bank of New York, 1959), pp. 52-55.

does not imply that a massive conversion of balances was imminent or just narrowly averted. Rather the following chapters examine, in addition to the size of this potential but ostensibly remote threat, some causes for the appearance of this "overhang" of claims, and the means used by central banks to deal with it. The fact that the pound, the mark, and the franc survived all pressures in the years before 1914 in fact augments the importance of discerning the extent of these pressures and explaining the monetary tranquility that distinguishes this period from subsequent experience with the key-currency system.<sup>6</sup>

<sup>6</sup> Much of the material that follows has been discussed at greater length in the author's "Key Currencies and the Gold Exchange Standard, 1900-1913," unpublished doctoral dissertation, Cornell University, February 1967 (hereafter referred to as Lindert [1967]). Both dissertation and monograph have benefitted greatly from Professor Bloomfield's earlier study in this series, and from his comments and suggestions. Helpful criticisms have also been provided by John L. Bridge, Douglas F. Dowd, Jaroslav Vanek, David T. Williams, Jeffrey G. Williamson, and Nancy Williamson, and financial assistance by the Ford Foundation.

## 2. FOREIGN CURRENCIES AS RESERVES

The dearth of reliable information on the extent of liquid indebtedness between countries has been the most formidable single barrier to our understanding of the international financial network before World War I. Much of the present chapter must therefore be addressed to the task of improving on our dim perception of these magnitudes.

### 2.1 GATHERING NUMBERS

Professor Bloomfield recently made the first serious effort to assemble the missing figures.<sup>7</sup> Utilizing personal contact as well as a wide variety of published and unpublished sources, he was able to present eighteen annual series on official exchange holdings and a slightly smaller number of private series, in addition to numerous individual estimates of various international balances. The use of additional materials, most of them published but all of them obscure, has enabled the present author to supplement his data on the amounts held, and also to indicate the currency distribution of many such holdings.<sup>8</sup>

Although these two studies have unearthed a surprising abundance of information, the task of measuring the world's short-term international capital is far from completed, and for obvious reasons. The unsolicited disclosure of such revealing statistics was not a widespread practice. Finance was a very private affair. To make matters worse, the four most important countries—Britain, France, Germany, and the United States—displayed the greatest reluctance to present foreign-exchange data. Not only did their governments fail to release aggregates based on data withheld by private institutions, but there is also good reason to doubt that officials even ascertained these magnitudes for their own use. The United States Comptroller of the Currency, for one, apparently never gathered confidential foreign-exchange data from American banks. No British figures on short-term external claims have been released by any of the larger banks or by the Government, and the apparent inability of the Cunliffe and Macmillan Committees

<sup>7</sup> Arthur I. Bloomfield, *Short-Term Capital Movements under the Pre-1914 Gold Standard*, Princeton Studies in International Finance No. 11 (Princeton: International Finance Section, 1963).

<sup>8</sup> The tables of primary data that underlie most of the aggregates presented below occupy too much space for inclusion in the present monograph. These tables and a detailed listing of the sources consulted can be found in Lindert (1967), Chapter 2.

to discern Britain's prewar short-term position suggests that the appropriate aggregates will never be forthcoming from the British side. The same pessimistic appraisal seems unavoidable regarding German and French data.

The smaller countries, on the other hand, were more willing to scrutinize and publicize their foreign-exchange positions, apparently because these were key indicators for judging the overall soundness of their national currencies. For several secondary countries, as will be noted again below, foreign-exchange assets in fact formed part of the legal (and published) reserves backing domestic-currency issues. The availability of data for the peripheral countries, it turns out, is sufficient in the aggregate to warrant a number of rough but illuminating quantitative conclusions about the external positions of the major countries. Since any financial claim can be measured from the balance sheet of either party involved, the present study can undertake at least a partial measurement of the crucial data on British, French, and German liquid liabilities by drawing on the liquid foreign *asset* figures of the peripheral countries. While many of the reporting institutions did not specify the shares of their foreign-exchange assets held in each currency, breakdowns of the available currency<sup>9</sup> and less direct evidence suffice to establish that the greater part of the exchange holdings measured consisted of sterling, francs, and marks. Consequently, this study will measure the payments positions of England, France, and Germany from the outside—that is, from the data that peripheral countries have provided on their holdings in the major financial centers.

The figures obtained pertain to the foreign-currency assets<sup>10</sup> of various institutions in thirty countries between 1880 and 1913. While care has been taken not to rely on any of the casual isolated "guesstimates" made by financial writers of the time, errors could exist in any

<sup>9</sup> Strictly speaking, balance-of-payments statistics should be collected on a residence basis and not on a currency basis. This means, for example, that Italy's financial claims against Great Britain are those claims held against British residents and not those that happen to be denominated in sterling. As far as can be determined, the data presented below do represent the former type of financial relationship (i.e., claims of one country against the *residents* of the other country specified by the primary source of data). For semantic convenience, at any rate, the distinction between nationality of debtor and nationality of currency will be suppressed, and—to use the same example—Italy's claims against British residents will be referred to as her holdings of "sterling."

<sup>10</sup> Foreign-currency assets were more faithfully published than the corresponding liabilities. Thus, no attempt has to be made to estimate the foreign assets of the major countries from the liability figures of peripheral countries.

of several figures. Nearly all of the data come from the year-end<sup>11</sup> balance sheets of private commercial banks, central banks, national treasuries, and special exchange funds. The assets consisted of commercial and financial bills drawn on foreign places, foreign treasury bills, deposits in foreign banks, current-account credits with banking branches and correspondents abroad, and a small amount of foreign government bonds deserving the adjective "liquid" (British consols, French *rentes*, and German imperial bonds). No one country has been covered entirely; figures available for some years are missing for others; and several institutions reported only part of their holdings (e.g., only their foreign bills and only their bank deposits abroad). While at least 90 per cent of the official exchange balances seem to have been covered for the end of 1913, the share of private claims represented must be much less than one-half, and both shares are progressively lower for earlier years.

The magnitude of the omissions is less important, however, than the likely impact that the missing figures would have on the specific measurements to be made. Inadequate coverage of some quantitative measure does not preclude inferences based on estimates seeking only to establish a general range of values. Thus, although this and the following chapter cannot pin down an accurate measure of the foreign indebtedness and payments balances of the major countries, it will prove both possible and useful to establish boundary estimates of these magnitudes. Boundary estimates from incomplete information have to rest on two foundations: (1) the use of the most "conservative" interpretation of data whenever several interpretations are possible (i.e., the higher estimate when an upper boundary is sought, and the lower for a lower boundary), and (2) indirect evidence about the missing data showing that their inclusion would not place the true figure on the "wrong" side of the boundary. This approach underlies the arguments that follow. Only minimum estimates, and not direct value estimates, can be presented for the liquid obligations and payments deficits of the major countries between the turn of the century and the First World War. Several reasons for assuming that the missing data on the United States, the great international banks, non-financial enterprises, and other groups would reinforce the conclusions

<sup>11</sup> Data referring to dates between September 30 and March 31 have been included in annual year-end aggregates. Data given for June 30 and other summer dates, however, have been used only in benchmark calculations and not in annual series.

of this study are given elsewhere.<sup>12</sup> The most obvious reason is simply the rapid expansion of trade and international banking that characterized the period under study.

Since many of the foreign-asset figures are not broken down by currency, it will also prove helpful in the next chapter to display specially derived "unallocated residuals" for the ends of 1899 and 1913. For each of these benchmark dates, a partial currency breakdown yields figures on claims against Britain, France, Germany, and other centers plus holdings that represent an unknown currency mixture. The latter amount will be presented to allow speculation on the shares of sterling, francs, and marks in this total. While the three main currencies probably accounted for more than half of the unallocated amount, none of the conclusions below actually depend on such conjecture.

Since far more data are accessible for the end of 1913 than for any earlier date, a relatively clear picture of the pattern of the holdings of currency at that time precedes the more involved task of tracing their growth over the previous decades.

## 2.2 METALLIC AND PAPER RESERVES IN 1913

The predominance of official holdings among those for which figures have been found makes it convenient to turn first to these holdings and their share of official reserves. Deciding which institutions should be considered official is not difficult, but a few borderline cases deserve brief mention. The arguments of Professor Bloomfield for inclusion of the Yokohama Specie Bank, the Bank of Sicily, the Bank of Naples, the Swedish National Debt Office, and the Belgian *Caisse Générale d'Epargne et de Retraite* as official have been accepted.<sup>13</sup> All banks usually referred to as central banks have been included, even when privately owned and legally independent of the national government. All other privately owned banks, however prominent, have been excluded, although a good case could be made for the official nature of some (for example, the Canadian chartered banks).

The 1913 amounts of official gold, silver, and exchange reserves are shown for a slightly Europe-heavy sample of thirty-five countries in Table 1. Although no one type of reserve asset has been thoroughly covered for all the central banks and governments, the world totals represent a broader coverage of each than has previously been pre-

<sup>12</sup> Lindert (1967), Chapters 2-4.

<sup>13</sup> Bloomfield, *Short-Term*, pp. 10, 11.

TABLE I  
THE COMPOSITION OF REPORTED OFFICIAL RESERVES IN 35 COUNTRIES, END OF 1913  
(Converted into millions of dollars at 1913 pars)

	(1) <i>Gold</i>	(2) <i>Silver</i>	(3) <i>Foreign exchange</i>	(4) <i>Total reserves</i>	(5) = (3) as <i>a percentage of (1) + (3)</i>
<i>Three main creditors</i>	1,122.5	189.4	52.8	1,364.7	4.5%
United Kingdom, B of England	164.9	NA	—	164.9	—
France, B of France	678.9	123.5	3.2	805.6	0.5
Germany, Reichsbank	278.7	65.9	49.6	394.2	15.1
<i>Other Europe</i>	1,757.0	309.4	610.6	2,677.0	25.8%
Austria-Hungary, A.-H. B	251.4	50.7	17.1	319.2	} 6.4
Austria-Hungary, Imperial Treasury	0.2	4.6	—	4.8	
Belgium, B Nationale	48.1	10.8	32.2	91.1	} 61.8
Belgium, government	a	NA	13.7	13.7	
Belgium, Caisse Générale d'Epargne et de Retraite	a	NA	31.8	31.8	
Bulgaria, Nat'l B	10.6	4.5	2.7	17.8	
Denmark, Nat'l B	19.6	1.3	6.2	27.1	} 13.3
Denmark, Treasury	20.9	6.2	—	27.1	
Finland, B of Finland	7.0	0.4	20.9	28.3	74.9
Greece, Nat'l B	4.8	0.3	43.9	49.0	90.1
Iceland, B of Iceland	0.1	—	NA	0.1	NA
Italy, 3 issue banks	265.4	21.3	38.1	324.8	} 13.2
Italy, Treasury	68.5	18.6	12.7	99.8	
Netherlands, B of Netherlands	61.1	3.9 <sup>f</sup>	6.2	71.2	} 9.2
Netherlands, Treasury	a	0.1	—	0.1	
Norway, B of Norway	11.9	0.4	10.8	23.1	} 47.6
Norway, Treasury	—	0.2	—	0.2	
Portugal, B de Portugal	8.1	9.6	NA	17.7	NA



Rumania, Nat'l B	29.2	0.3	15.9	45.4	35.3
Russia, State B	786.2	31.2	86.1	903.5}	28.0
Russia, Treasury	NA	NA	219.5 <sup>b</sup>	219.5}	
Serbia, Nat'l B	11.2	0.7	0.8	12.7	6.7
Spain, B of Spain	92.4 <sup>c</sup>	138.8	NA <sup>c</sup>	231.2	NA <sup>c</sup>
Sweden, B of Sweden	27.4	1.3	34.3	63.0}	61.3
Sweden, Nat'l Debt Office	NA	NA	9.1	9.1}	
Switzerland, Nat'l B	32.9	4.2	8.6	45.7	20.7
<i>Western Hemisphere</i>	1,764.9	525.2	64.8	2,354.9	3.5%
Argentine, Conv. Fund	225.2	NA	—	225.2}	1.9
Argentine, B of the Nat'n	30.9	NA	5.0	35.9}	
Bolivia, B of the Nat'n	2.6	NA	NA	2.6	NA
Brazil, Amortizat'n Fund	89.6	NA	NA	89.6	NA
Canada, Min. of Finance	115.4	0.2	13.2	128.8	10.2
Chile, Conv. Fund & Emission Office	NA	NA	46.6	46.6	NA
Uruguay, B.R.O.U.	10.8	1.7	NA	12.5	NA
U.S.A., Treasury	1,290.4	523.3 <sup>d</sup>	—	1,813.7	—
<i>Africa, Asia, Australia</i>	201.8	108.5	403.9	714.2	66.7%
Algeria, B of Algeria	8.2	NA	NA	8.2	NA
Australia, Treasury	22.0	NA	2.3	24.3	9.5
Ceylon, government	1.0	3.8	3.1	7.9	75.6
Egypt, Nat'l B	10.5	0.7	8.0	19.2}	40.4
Egypt, Treasury	1.3	3.7	NA	5.0}	
India, Treasury & special funds	83.0	88.4	136.3	307.7	62.2
Japan, B of Japan	63.8	0.2	78.3	142.3}	78.3
Japan, government	1.0	NA	41.9	42.9}	
Japan, Yokohama Specie B	0.6 <sup>e</sup>	NA	115.7	116.3}	39.9
Neth. Indies, B of Java	10.4 <sup>f</sup>	11.7 <sup>f</sup>	6.9 <sup>f</sup>	29.0}	
Philippines, Gold Std. Fund	NA	NA	11.4 <sup>g</sup>	11.4 <sup>g</sup>	NA
ALL 35 COUNTRIES	4,846.2	1,132.5	1,132.1	7,110.8	18.94%