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PART II

*The Effect of the War on the Form of the  
International Gold Standard*



## CHAPTER 2

### *The Sacrifice of Some of the External Forms of the Gold Standard in Order to Preserve Others*

The crisis of 1914, by suddenly reversing the distribution of international credit, laid bare in a remarkable way the financial anatomy of the pre-war international gold standard system. It demonstrated the dependence of that system upon the regular and uninterrupted operation of the financial machinery of the City of London, and showed the difficulties that arise when an attempt is made to force gold to serve as a balancing item in international payments when credit is disorganized. The crisis caused moratoria, suspensions of specie payments, and legal or de facto gold export embargoes in many countries. Nevertheless it did not break down the international gold standard completely or all at once. It inaugurated a gradual and piecemeal alteration in the external forms of the gold standard within individual countries. Since the gold standard up to this time had the attributes of an international convention simply because it existed simultaneously as a domestic institution within the various countries adhering to it, these internal changes greatly modified but did not wholly destroy its functioning as an international convention. Consequently no simple statement with respect to the breakdown of the gold standard during the war can be true.<sup>1</sup>

<sup>1</sup> It is a popular belief expressed in many American writings that during the war the United States alone remained on the gold standard while all other countries abandoned it. Writing in 1932 B. M. Anderson, Jr. said, for example: "There has been no time in the past thirty-six years when there has been justifiable ground for doubt as to our ability to maintain the gold standard *in its full integrity* . . . In 1914 we were obliged to close our stock exchange to prevent an avalanche of foreign selling of American securities in our market, but the question of the maintenance of our gold standard, *even*

### The Gold Standard, Form and Substance

In order to establish the exact sense in which it is true to say that various countries 'went off' gold during the war, it is helpful to distinguish carefully between the external form of the gold standard and its substance.

By the external *form* of the international gold standard we mean:

- 1) the juridical concept that gold is the monetary standard of a given country
- 2) the legal systems established in countries in which this juridical concept exists to give formal expression to it
- 3) the domestic banking regulations necessarily implied by the existence of these legal systems
- 4) the code of financial practice and conduct necessary to give these legal systems their intended effect

and finally

- 5) the system of foreign exchange rates established as a result of the simultaneous existence of such legal systems in several countries.

By the *substance* of the international gold standard we

*though virtually all the rest of the world abandoned it, did not arise at all.*" \*

Yet it is difficult, from either a legal or an administrative viewpoint, to find vital differences between the gold standard in England and America during the period of America's participation in the war. The date when England 'returned to gold' after the war is a landmark in world history, but it is very difficult to determine the date when England left the gold standard to which she returned in 1925. The only generalizations that really allow for the complexities of the situation are of the following type: "For the *greater part* of the war *substantially all* the commercial countries of the world were *more or less* off the gold monetary standard." \*\* Such statements certainly invite a more precise answer to the question of how much of the gold standard did survive the war.

\* *Chase Economic Bulletin*, Nov. 10, 1932, p. 3 (our italics). Cf. also the opening passages of L. A. Rufener's textbook, *Money and Banking* (Houghton, Mifflin, 1934).

\*\* C. J. Bullock, J. H. Williams, and R. S. Tucker: 'The Balance of Trade in the United States,' *Review of Economic Statistics*, Vol. I, 1919, p. 239 (our italics).

mean the whole institutional pattern of trade and of finance that breathes life into these forms of law and practice, and that works out its contribution to economic progress through them. In the pre-war world this was the London-centered system of international finance based upon British predominance in international trade.

### The Retention of the Juridical Concept of Gold as Standard

The modifications made during and after the crisis of 1914 in the monetary systems and banking laws of most countries did not in general alter the legal conception that gold was the ultimate standard of value. Unlike silver after 1870, gold was in no sense demonetized. From the legal point of view the theory of the gold standard was maintained and the utmost change accomplished by law was the temporary suspension of certain rights and obligations that might tend to dissipate gold reserves and force a genuine *abandonment* of the gold standard as a juridical concept as well as an economic mechanism.<sup>2</sup>

### The Minimum Change in Legal Form Consistent with the Necessary Changes in Practice

Because the gold standard was maintained in legal theory every country sought to accomplish the changes in financial practice made necessary by war-time conditions with a minimum change in legal form. This may be seen clearly by a brief review of legal enactments concerning gold in the principal countries.

<sup>2</sup> The persistence of a rigid judicial conception of gold as standard is demonstrated by many court decisions after the war. It was then responsible in large measure for the decline in the authority of law in Central Europe, for decisions to the effect that 'a mark was a mark' long after the mark had greatly depreciated in value were repugnant to the innate sense of justice of the population. For a general discussion of the governing principles of law and court decisions on this matter cf. F. A. Mann, *The Legal Aspects of Money* (London, Oxford University Press, 1938), Part I.

*The Legal Framework of the International Gold Standard during the War*

The gold standard exists as an international legal convention when

- 1) the monetary units of the several countries adhering to it are defined as fixed weights of gold;
- 2) these monetary units, and all other means of payment in the several countries expressed in terms of these units, and gold bullion, are freely convertible into one another at the rate established by the legal definitions of the units by
  - a) free melting, free coinage, and the redemption of notes in gold; or by
  - b) the establishment of some agency that is obliged to buy and sell gold at fixed prices in unlimited amounts; or by
  - c) some combination of (a) and (b);
- 3) when no restriction is placed upon either the import or the export of gold.

UNITED KINGDOM

The legal system embodying these requirements in the United Kingdom came through the war virtually unscathed. The definition of the gold content of the sovereign has remained unchanged until the day of writing (June 1939). The legal right of the citizen to bring gold bullion to the Mint for coinage into sovereigns and to demand the redemption of Bank of England notes in coin at the rate established by the legal definition of the sovereign was not withdrawn until the passage of the Gold Standard Act of 1925. Until that time the cost of obtaining gold from the Bank of England by the redemption of notes, expressed in shillings and pence, was 77 s. 10½ d. per ounce 11/12 fine. This equivalent is referred to in these studies and in common parlance as the Bank of England selling price for gold, for in practical effect though not in form it was a selling price. By the Act of 1925 this was

recognized in terms, for that Act introduced a limitation in the legal right of redemption, restricting it to redemption in gold bullion in amounts of not less than 400 ounces troy of fine gold (£1,699), and directed the Bank of England to *sell* such gold bullion for legal tender moneys at the *price* of 77 s. 10½ d. per ounce 11/12 fine. As a necessary corollary of this change the Act of 1925 restricted the right of free coinage of bullion into sovereigns at the Mint to the Bank of England. Not until the Gold Standard (Amendment) Act of 1931 was the convertibility of Bank of England notes into gold legally withdrawn, and even then the *selling price* of the Bank was not officially changed. The obligation laid upon the Bank by Section IV of the Peel Act to purchase all gold offered at 77 s. 9 d. per ounce remained in force without alteration or amendment until the passage of the Currency and Bank Notes Act of 1939, when it was repealed. During the war the right to import gold was not legally impaired, but gold produced in the Empire was purchased in the countries of origin by the government through the Bank of England at prices varying from 77 s. 9 d. to 77 s. 10½ d. per ounce, and in 1916 importers of other gold were requested to sell all gold imported to the Bank of England at its buying price.<sup>3</sup> The inability to supply any other buyer with imported gold acted in the same manner as a legal restriction on imports, though it was not one in legal form. The first legal restriction on the right to export gold was imposed by an Order in Council issued on April 1, 1919, at the same time that the import restriction was lifted.<sup>4</sup> Aside from the impounding of gold imports, the only break in the legal system governing the adherence of the United Kingdom to the gold standard as an international convention actually made during the war was the prohibition of gold melting under the Defense of the Realm Act in December 1916.

<sup>3</sup> *Mocatta and Goldsmid's Annual Circular*, 1919, p. 4.

<sup>4</sup> *Board of Trade Journal*, April 3, 1919, p. 434.

## CONTINENTAL BELLIGERENTS

The suspension of specie payments at the central banks of Germany, Austria-Hungary, Russia, and France, and the imposition of gold export embargoes by these countries has already been referred to in Chapter 1. The smaller powers of Central Europe followed suit, and in many of these countries the transport of gold even within their own borders was prohibited. Because of her creditor position France was able to postpone her gold export embargo until July 1915, and Italy is not included in the list because, before the war, the lira was not convertible into gold at a fixed ratio, but was kept relatively stable by the efforts of the Bank of Italy and the Ministry of Finance. In considering the vitality of the idea of gold as standard during the war it is important to emphasize that these measures represented the breakdown of a part only of the legal framework embodying the gold standard in the continental belligerent countries. The rest was preserved intact. The definition of the gold content of the standard coins of France, Germany, Austria-Hungary, and Russia remained unchanged. The obligation of the central banks and treasuries of these countries to purchase gold at fixed prices based upon the mint price was not altered, and no restrictions were placed upon the import of gold.

## NEUTRAL COUNTRIES

At the outbreak of the war the Dutch government placed an embargo on gold exports and authorized the Netherlands Bank to suspend specie payments. Argentina, likewise, imposed an embargo on gold exports on August 2, 1914, and on August 8 made the notes of the Caja de Conversion legal tender and established gold depositories at the Argentine embassies abroad, providing that gold held in these depositories was to count as part of the gold holdings of the Caja. Such measures were not, however, the most common form of interference with legal gold standard arrangements in neutral

countries, which was, rather, to place obstacles in the way of gold imports. Argentina, herself, for example, changed her gold policy when her foreign gold deposits began to increase unduly. In the summer of 1915 the Caja refused to accept gold at its foreign depositories except at a discount of  $1\frac{1}{2}$  to 2 per cent plus a deduction for the cost of shipment to Argentina of 2 per cent. A similar change of policy took place in Holland. When, in 1915, Dutch imports began to fall more rapidly than Dutch exports, and capital payments were heavily in favor of Holland, gold began to move toward Holland in large volume in spite of obstacles in the countries of origin.<sup>5</sup> The Netherlands Bank then adopted the policy of not purchasing any gold, or accepting any deposits of gold abroad unless it was fully informed of the origins and purposes of these shipments and considered them to be in the national interest. The Bank was able to do this without fresh legislation as it was not bound either by law or by its statutes to buy all gold offered, but maintained a fixed buying price for gold merely as a matter of policy. This gold repulsion policy was continued in 1916,<sup>6</sup> but in the later stages of the war Holland was often forced to accept payment for her exports in gold because no other means of payment was available, and she in turn tendered gold to other countries in payment for Dutch imports. These offers created difficulties with the Scandinavian countries which were themselves practicing a gold repulsion policy.<sup>7</sup> On February 8, 1916 the Swedish Riksbank was relieved of its obligation to give 2478.8 kr. for 1 kilogram of gold, and free coinage was suspended. For Sweden therefore to accept payment for goods in gold required a regular politi-

<sup>5</sup> "It is certainly remarkable that the export of gold took place quite regularly and practically without difficulty from those countries which had proclaimed a general prohibition on the export of gold while nearly all shipments to the Netherlands of gold from America, the country which had not prohibited the export, were exposed to serious obstacles." Netherlands Bank, *Annual Report*, 1915-16, p. 15.

<sup>6</sup> *Ibid.*, pp. 15-17; 1916-17, p. 16.

<sup>7</sup> *Ibid.*, 1917-18, pp. 12-13.

cal treaty, such as that concluded between the Bank of the Netherlands and the Swedish Riksbank for the payment of Dutch purchases of Swedish coal in gold. Gold as a commodity was not absolutely prohibited from importation into Sweden, but its entry into the monetary system was prevented. In principle, Denmark and Norway went along with Sweden and agreed to pass similar measures when it became necessary.<sup>8</sup> Spain also was reluctant to accept gold. The buying price of the Bank of Spain for foreign gold coins was temporarily reduced, only 4.90 pesetas being given for the American gold dollar in 1917 instead of the mint price of 5.18 pesetas.

#### THE UNITED STATES

In the United States, the country commonly regarded as coming through the war with the gold banner flying more proudly than anywhere else, there was no change in the legal definition of the gold dollar, and the obligation placed upon the Secretary of the Treasury by the Gold Standard Act of 1900 to keep all the moneys of the United States at par with gold was not changed, though the mechanism for accomplishing this was altered by the passage of the Federal Reserve Act. The import of gold also was not restricted but in September 1917 the right to export gold was limited to those who could obtain licenses from the Federal Reserve Board acting with the consent of the Secretary of the Treasury.

#### *The International Gold Standard as a Code of Practice during the War*

The retreat from the international gold standard as a code of practice was far more complete than the retreat from it as a legal system, especially in Great Britain. England did not 'suspend specie payments' during the war, nor did she place an embargo on the export of gold. In practice, however, both domestic convertibility and free export were abandoned. During the early months of the war while England was insistent

<sup>8</sup> Blankart, *op. cit.*, pp. 55-9.

that the obligations of the international gold standard be lived up to by her debtors, in particular by the United States, and that debts due her should be paid in gold, the position of the exchanges rendered the Bank of England immune from a foreign drain on its reserves. The attitude of the British public and of the banks saved it from a domestic drain after the first days of the crisis. As the situation gradually changed, however, increasing pressure was brought to bear upon those who wished to redeem notes in gold by an appeal to their patriotism and by a rigid inquisition into the purposes and motives of everyone who presented notes for redemption. This finally amounted in practice to a refusal of the right of conversion except in a few cases in which the purpose was purely and simply to assert the holder's legal rights. Early in 1915 the sterling-dollar rate fell for the first time below the peace-time gold export point to the United States. In February the Treasury took steps to place difficulties in the way of redemption of Currency Notes. During most of 1915 the depreciation of sterling in terms of the dollar offered on the surface a substantial motive for a demand for gold for export, but in January 1916 the pound was pegged at  $4.76\frac{7}{16}$  where it was held during the rest of the war. At that rate the profit motive, in the absence of other impediments, was probably insufficient to have resulted in the presentation of notes for redemption at the Bank of England to obtain gold for export to the United States.<sup>9</sup> The incentive to the redemption of notes was further lessened by the issue of regulations under DORA on December 5, 1916 prohibiting the melting of gold coin or its use otherwise than as a currency. It was reduced to zero by the regulation of May 18, 1918, which made it illegal to buy or sell gold at a premium within England.

These piecemeal measures were not, however, the major departure of England from adherence to the international

<sup>9</sup> The rates of insurance on gold were fixed by the British government at a rate so high that gold exports were unprofitable with the exchange at  $4.76\frac{7}{16}$ . S. E. Harris, *Monetary Problems of the British Empire* (Macmillan, 1931), pp. 247-8.

gold standard as a code of practice during the war. London ceased to be a free gold market not because insurance was unobtainable, or because the holder of a five pound note could not get gold for it, or because the holder of a sovereign could not legally melt it, but primarily because the bullion market did not carry out gold transactions. The failure of the market to do so was at first defended on the ground of lack of reciprocity upon the part of other nations. In the summer of 1915 E. L. Franklin of Samuel Montagu and Company gave this explanation:

“notwithstanding that there is no prohibition placed on the export of gold to neutral countries, no bank or banker can be found who will avail himself of the benefits accruing from such transactions *because it is the general opinion that it is against the interests of this country for gold to leave England as long as other governments do not allow gold exports from their country.*”<sup>10</sup>

Under war-time conditions the gold from new production coming on the London market would soon have been used up by shipments to neutrals and would have proved a very weak ‘first line of defense’ for the Bank of England gold reserves. Gold embargoes on the continent would have rendered quite impossible the repetition of the experience of 1907 when a heavy loss of gold to America was offset by the exercise of England’s ‘pull’ over the continental exchanges. The importance of protecting the reserves was not called in question, for England was not felt to be ‘off’ the gold standard. Consequently, the ‘gold income’ of Great Britain was not made available for distribution to the highest bidder, but was retained in England. The Bank of England reserves were protected from demands from the market whether based upon the exchange rates or not.<sup>11</sup>

<sup>10</sup> Kirkaldy, *Credit, Industry, and the War* (London, Pitman, 1915), p. 249 (our italics). Cf. the attitude of certain gold bloc countries, especially the Netherlands after September 1931.

<sup>11</sup> This war-time practice of suspending the functioning of the bullion market was unobtrusively followed during the difficult times preceding the suspension of the gold standard in September 1931. Cf. Ch. 27, pp. 1013-4.

After the United States became a belligerent, difficulties were placed in the way of the redemption of American paper money in gold similar to those in England. For example, the writer knows of a holder of a Federal Reserve note who was obliged to carry his demand for its redemption in accordance with its terms up to one of the highest Treasury officials before he could enforce his rights. The export of gold, as already stated, was subject to license from September 1917 to June 1919.

In both Great Britain and the United States, therefore, by a combination of legal enactment, administrative control, and private practice, the fulfillment of two of the cardinal requirements of the gold standard as a formal legal institution, namely, interconvertibility of notes and gold and free international movement of gold, were suspended, as they had been by the continental belligerents by outright suspension of specie payments and embargoes on the export of gold, and in neutral countries in varying degree by limitations on the right of free coinage and interferences with the import of gold. The statement, however, that these measures took either the belligerents who interfered with the export of gold or the neutrals who interfered with its import off the gold standard must be carefully qualified.

*The Objectives of the Changes in Gold Standard Legal Rules and Gold Standard Practice*

Every belligerent country was forced to draw the physical resources for waging war from every available source both at home and abroad. The means of supporting civilian populations had to be provided from resources, domestic and foreign, that had been greatly depleted by the use and destruction of wealth for war purposes. The resulting unprecedented domestic and international diversion of productive powers into new channels and transfer of ownership and control of wealth made credit expansion a necessity. Because of the world-wide distribution of the physical resources consecrated

to the purposes of war, this credit expansion was spread over the world of neutrals as well as over the world of belligerents (cf. Ch. 4). Every country directly affected by the war was also faced by another requirement of war finance, hardly less impelling: the maintenance of the confidence of its people in the 'soundness' of its money and of its banking system. This confidence was fostered by the preservation, as far as possible, of the traditional system of exchange rates established under the pre-war international gold standard. Had the gold resources of the belligerent countries with weak exchanges been dispersed, it would have been difficult to obtain the credits and mobilize the securities that were the main means of maintaining these rates. Confidence was fostered also by the preservation of something like the relationship between published gold reserves and the volume of notes and of deposit credits that had long been familiar before the war. Even when it was impossible to preserve these familiar ratios, confidence in the currency and in the banks was promoted and preserved, in surprising degree, merely by the continued presence of the physical volume of gold held in central banks and treasuries before the war. Every country rejoiced in its successes and was alarmed by its failures in keeping intact these familiar landmarks of financial 'soundness' and thus preserving in the minds of the people the conviction that the gold standard was still in being in their own country, or, at worst, was merely temporarily suspended.

Every country therefore struggled to preserve as far as possible the pre-war gold standard forms. Some parts of the pre-war legal system relating to gold were maintained by most countries throughout the war, notably the obligation placed on central banks and treasuries to buy all gold offered at a fixed price. Prohibition of gold export and inconvertibility of currencies gave to those in control of financial policy freedom in the choice of means by which to protect and increase gold reserves—the outward and visible symbol of the existence of the gold standard as a domestic institution—and to perpetu-

ate, as far as possible, the pre-war system of exchange rates—the outward and visible symbol of the existence of the gold standard as an international system. It is a paradox that during the war countries 'went off' gold in order to preserve to the maximum possible degree the psychological and economic advantages of these two great traditional characteristics of the gold standard.

The four major objectives of the retreat from fulfilling the legal obligations and banking codes of practice traditionally required of countries on the gold standard were to

- 1) maintain unimpaired the juridical concept of gold as a monetary standard;
- 2) carry forward until more normal times the essential legal framework of the institution so that it could be easily restored to full operation in time of peace;
- 3) preserve as far as possible the place of gold in the banking systems of gold standard countries, even if only as a confidence-inspiring factor;
- 4) preserve as far as possible the traditional system of exchange rates defined by the system of mint pars existing in 1914.

These objectives were all in one way or another associated with an effort to preserve rather than to destroy the gold standard as a social institution. It is therefore fundamentally true to say that during the war some of the external forms of the gold standard were abandoned in order to preserve others.

### Major Characteristics of Gold Distribution during the War

As a result of the extraordinary situation we have described as the abandonment of some of the external forms of the gold standard in order to preserve others, the distribution of gold during the war had four major characteristics: gold concentration, gold payment, gold arbitrage, and gold repulsion.

#### *Gold Concentration*

In order to preserve the nominal place of gold in their monetary and banking systems, when these were subject to strong

inflationary influences, and at the same time to maintain their exchanges as nearly as possible in their pre-war relation to other currencies, the governments of belligerent countries felt under heavy pressure to accumulate gold from every possible source. The suspension of specie payments and actual or de facto gold export embargoes left them free to pursue an intensive policy of gold accumulation and gold concentration. This was of two main types:

- 1) the accumulation of gold from new production, its withdrawal from circulation and from private banks, and its concentration in the hands of central banks and treasuries
- 2) the concentration of gold in the hands of the principal financial powers in the two belligerent groups as a pledge for advances to their allies.

In this process Great Britain was the most important single factor.

#### GOLD ACCUMULATION AND CONCENTRATION IN ENGLAND

For reasons already discussed, England was able to draw gold from all over the world at the outbreak of the war. In addition, as head of the British Empire she enjoyed peculiar advantages in the war-time hunt for gold. She was able to arrange for the use of gold held in London by Empire countries, such as the £8 million of the Egyptian gold reserve under the control of the International Debt Commission that was deposited in London, and to influence the movement of gold to or from the Indian gold reserve. Far more important were the arrangements made in South Africa, Australia, and India to ensure a steady flow of new gold into the British government's hands. Early in the war an agreement was made giving the Bank of England the exclusive right to purchase the product of the South African mines at 77 s. 9 d. per ounce, and measures were taken in South Africa to prevent production from falling in spite of rising costs and a fixed price for the output.<sup>12</sup> The Australian government placed an

<sup>12</sup> W. A. Brown, Jr., *England and the New Gold Standard, 1919-1926* (London,

official embargo on the export of gold, but newly produced Australian gold was purchased by the Bank of England in Australia at 77 s. 10½ d. per ounce. This inward flow of Empire gold was protected from Indian demand by requiring all gold imported into India after June 1917 to be sold to the government at a price that did not recognize any depreciation of sterling in terms of gold and therefore did not effectively compete with the bid of the Bank of England (cf. Ch. 9), then the only buyer of gold in England. These imperial policies were based upon the theory that England was still 'on' the gold standard.

Moreover, since England's position as middleman in the purchase of war supplies for her allies increased the difficulty of supporting the sterling-dollar exchange, it was arranged that large parts of the gold reserves of France, Russia, and Italy should be sent to England. The first Russian gold shipment to London was made in October 1914.<sup>13</sup> As early as April 1915 the Bank of France sent £20 million of gold to the Bank of England, as part of a transaction by which the French Treasury borrowed £62 million from the British Treasury. This gold was actually sold to the Bank of England. In 1916 and 1917 much larger sums were obtained on the basis of a 'loan' of gold to the Bank of England, and the item 'gold held abroad' first appeared on the balance sheet of the Bank of France.<sup>14</sup> England also acted as middleman on a large King, 1929), pp. 23-4; this matter has also been treated by C. J. Smit in an unpublished manuscript.

<sup>13</sup> The item 'gold held abroad' appeared on the balance sheet of the Russian State Bank in November 1914. The figures under this head were partly fictitious, as British credits were treated as 'gold abroad' by the Bank. S. S. Katzenellenbaum, *Russian Currency and Banking, 1914-1924* (London, King, 1925), pp. 52 ff.

<sup>14</sup> Whether these shipments involved a transfer of ownership of the gold was seriously disputed after the war; cf. Harris, *op. cit.*, pp. 305-7; also Gaston Jéze and Henri Truchy, *The War Finance of France* (London, Milford, 1927), pp. 297 ff. The final settlement of the 1916 advances was not reached until 1926, and then only after difficult negotiation. For this settlement, cf. Emile Moreau, 'Le Relèvement Financier et Monétaire de la France, 1926-28,' *Revue des Deux Mondes*, March 15, 1937, pp. 299-319. This is the second in a series

scale in the use of Japanese and Russian gold to build up dollar balances after 1915.

At the same time gold was concentrated within the United Kingdom. The Bank of England was able to avoid losses of gold to domestic circulation, and even add to its reserves from that source, and in August 1915 certain joint stock banks transferred about £20 million in gold from their own holdings to the Bank.

From these multifarious sources, many of which were evidence of Great Britain's unique position in the world's banking system, a large but unknown<sup>15</sup> amount of gold was accumulated in the hands of the Bank and of the British government.

#### GOLD CONCENTRATION IN FRANCE

Like England, though in less degree, France was able early in the war to draw gold from abroad. For further accumulation of reserves, however, the only great resource open to France was the domestic circulation. Very strenuous efforts were made to get gold into the Bank of France. Large enterprises, such as the Chemin de Fer du Nord, were forced to give up their gold reserves. The patriotism of the people was appealed to systematically in an effort to counteract the very active gold hoarding that continued throughout the war. Gold in the French stocking was replaced to some degree by notes. *Comités d'Or* were formed throughout the country, and, by the end of 1917, 2,277 million francs in gold had been taken from commerce and hoarding. During one period of six weeks 300 million gold francs were obtained in this way.<sup>16</sup>

of four articles by M. Moreau which appeared in the March 1, March 15, April 1, and April 15, 1937 numbers of the *Revue*.

<sup>15</sup> Figures of gold movements were not published after 1916. Substantial amounts imported into England and bought by the government did not appear in any published account at the time; Messrs. Samuel Montagu & Co., *Weekly Review of the Foreign Exchanges*, Aug. 3, 1916.

<sup>16</sup> Jèze and Truchy, *op. cit.*, p. 300; Blankart, *op. cit.*, p. 67.

## GOLD CONCENTRATION IN THE UNITED STATES

During the latter part of the neutrality of the United States, American authorities were alarmed at the inflationary possibilities of the gold coming to her shores. This anxiety found, however, no stronger expression than intimations to the Entente powers that if the large flow of gold to America continued, some definite steps to check it would be necessary. Before an actual gold repulsion program was formulated, however, the United States became a belligerent, and her attitude on this point changed completely. To prevent an outward flow of gold to the countries that still remained neutral, the gold export embargo was imposed, and the gold imports that continued to come in were regarded as a welcome addition to reserves. In addition, a vigorous policy of gold concentration within the country was pursued. This took the form of impounding gold in the Federal Reserve banks by the following means:

- 1) the encouragement of state banks to become members of the Federal Reserve system in order to get gold from them in payment of Federal Reserve bank stock and for the establishment of required reserve balances
- 2) the passage from a system in which part of the legal reserves of member banks could be held in gold in their vaults to one in which only deposits with the Federal Reserve banks could count as reserves
- 3) an appeal to holders of gold certificates to exchange them for Federal Reserve notes in order to increase the reserve ratio of the Federal Reserve banks.

## GOLD CONCENTRATION IN GERMANY AND OTHER CONTINENTAL BELLIGERENTS

In Germany every effort was made to accumulate gold and concentrate it in the hands of the Reichsbank. The measures taken were often extreme. Gold accumulated before 1913 in Spandau amounting to 120 million marks, and another 120

million marks accumulated in 1913 and the first half of 1914, were transferred to the Reichsbank.<sup>17</sup> During the war every conceivable method of propaganda was adopted to get gold from the people.<sup>18</sup> Lotteries were even arranged in which winning tickets were given to those bringing gold to the banks. The people were called upon to give up their gold ornaments. In July 1918 a 'gold buying week' was instituted. For Germany, moreover, the domestic circulation was not the only means of building up central gold reserves. Gold was taken from the occupied districts of Belgium, Roumania, and Russia. Gold estimated at 400 million marks was acquired by the Treaty of Brest-Litovsk. Also almost all the gold reserve of the Austro-Hungarian Bank was transferred to the Reichsbank in 1915 to cover foreign payments.

Like France and Germany, Italy and Russia (until the debacle of 1917) both engaged in the world-wide hunt for gold. In March 1917, for example, Italy offered a loan in payment for which Italian gold lire were accepted at a premium of 30 per cent, sovereigns at the rate of 32.70 per lira, and gold dollars at 6.70 per lira. The subscribers were given the right to recover their gold six months after peace was declared in exchange for Italian notes at par. This was a curious proceeding in a country in which the appearance of a gold premium was prohibited by law. The Russian Treasury used a different device, giving foreign exchange to importers at par less a 2 per cent commission against delivery of gold.<sup>19</sup>

All the continental belligerents, in their efforts to concentrate gold, were faced by a steady contraband trade and domestic hoarding. They all tried to exchange state obligations for gold rather than for notes. The drafts they made upon the domestic gold circulation in order to support their ex-

<sup>17</sup> Gaston Jèze, 'Les Finances de Guerre de la France,' *Revue de Science et de Législation Financières*, Vol. 13, 1915, p. 618.

<sup>18</sup> The same policy of gold concentration was carried out by Germany's allies. In Turkey the death penalty was imposed for making payments in gold.

<sup>19</sup> These details concerning gold concentration by continental belligerents are taken from Blankart, *op. cit.*, pp. 64-9.

changes and keep the gold supplies of the central banks from falling constituted a concerted passage from the forms of the so-called 'full' or orthodox gold standard to those of the gold bullion standard. The sacrifice of the gold circulation, like that of free export and the right of convertibility, was part of an effort to preserve, rather than destroy, the external forms of the international gold standard by protecting bank reserves and supporting exchange rates.

### *Gold Payment*

Upon these large accumulations of gold liberal drafts were made to support the exchanges. The pledge of portions of the French, Russian, and Italian reserves to England in exchange for credits and the use of the reserves of Austria-Hungary by Germany were part of this process.<sup>20</sup> England drew freely upon her accumulated gold stocks to support the sterling exchange in New York and in other neutral markets, and on several occasions in 1915 and 1916 even permitted the reserve of the Bank of England to be drawn down. Substantial amounts of gold were shipped from France to the United States in 1915 and 1916 and the theory was popularly discussed in France, especially in the form known as the Moroni scheme, that the exchange might be supported by choking America with gold and thereby raising American prices. Large payments to neutrals were made in gold by Germany on her own behalf and on behalf of Austria-Hungary directly for goods and to support the exchanges.

This use of the accumulated gold reserves of the belligerent powers constituted in effect the use of gold as a substantial merchandise item in the balance of payments—a direct means

<sup>20</sup> During the war France shipped 1,955 million francs in gold to England for which credits of roughly three times this amount were secured (Annual Reports of the Bank of France; cf. Jèze and Truchy, *op. cit.*, p. 300). From October 1914 to July 1917 Russia shipped 450 million roubles of gold to England (Katzellenbaum, *op. cit.*, p. 60). Italy, beginning in July 1915, shipped in all 562,300,000 lire of gold to England (C. E. McGuire, *Italy's International Economic Position* (Macmillan, 1926), p. 371).

of settling foreign debts and acquiring the material resources necessary for the prosecution of the war. It was possible only because of the continued existence of part of the legal framework of the international gold standard—the willingness of central banks to fulfil their legal obligations to buy all gold offered them at fixed prices.

### *Gold Arbitrage*

Until the United States entered the war, gold arbitrage transactions of the pre-war type were frequent in neutral markets. They were influential in keeping the dollar exchange from depreciating in terms of certain continental European neutral markets and those of certain South American countries. They caused a secondary redistribution of the gold flowing from the belligerents to America and increased the amount moving to these smaller neutral countries.

### *Gold Repulsion*

The international distribution of gold through gold payment and gold arbitrage during the war was a danger to the maintenance of gold in its traditional place in the monetary and banking systems of *both* the gold losing and the gold receiving countries. Both England and France parted with gold reluctantly because the loss of gold reserves was felt to be a threat to the solvency of their banking systems. The same conflict between the demand made upon available gold supplies to build up reserves and that made to support the exchanges was present in Germany, where great importance continued to be attached to the preservation of the gold reserves of the Reichsbank, and in other belligerent countries. The circumstances that gave rise to alarm in belligerent countries lest gold reserves prove inadequate gave rise also to anxiety in neutral countries lest the inward flow of gold should result in excessive reserves and lead to rapid inflation. The various impediments to the inward flow of gold established by Sweden, Spain, the Netherlands, and Argentina, already

described, were part of a definite gold repulsion policy by creditor countries. This was as truly an abandonment of parts of the formal legal requirements of the international gold standard in order to preserve as nearly as possible the system of monetary and banking regulations long sanctioned by tradition as was the suspension of specie payments and the imposition of export embargoes by the belligerent powers.

### The Subordinate Role of Gold

When applied to the pre-war period, our distinction between the form and the substance of the international gold standard would emphasize the role of gold as an instrument used to secure certain economic and financial objectives by a world-wide system of international credit having its principal center in London. During the war the role of gold was even more subordinate to that of credit. Gold movements were controlled by the conscious, purposeful, and political direction of central banks and treasuries which supplanted in large degree the banking forces that had directed gold distribution in time of peace. This is strikingly apparent when the processes of gold concentration, gold payment, gold arbitrage, and gold repulsion are examined in their relation to the whole effort of the world's credit and banking system to maintain the gold standard as a traditional system of rates and as a domestic institution during the war.

### CHAPTER 3

#### *The International Gold Standard as a Traditional System of Rates during the War*

One of the striking facts of the history of exchange rates during the war is that they diverged widely from a familiar system of gold pars which still remained in existence in law. Yet it cannot be said that that system of gold pars did not exert a profound influence upon the course of the exchanges. It persisted throughout as the common conception of 'normal,' and any deviation from it was regarded as a depreciation or appreciation in terms of gold. Every country made extraordinary efforts to keep the deviation of their exchanges from the old system of parities as small as possible. These efforts included unprecedented control of merchandise imports by government, the restriction and control of capital exports, the use of private and governmental international credits, and a wholesale mobilization and alienation of foreign securities; also a whole series of measures to distribute the available supply of foreign exchange and to prevent speculation by means of one form of exchange control or another, and measures to fill by official dealings the gaps left by the war in the mechanism of exchange arbitrage; finally, controlled and directed distribution of gold. As a result, a solid nucleus of relatively stable exchange rates was maintained throughout the war, from which there was occasionally a fanlike dispersion of certain other rates. At the time of the Armistice there was a remarkable gravitation of the whole system of rates toward the old pars.

Chart 1 indicates the composition of this central nucleus and the dispersion of the various important exchange rates

14-16	Petrograd	Valparaiso Milan							14-16
16-18						Rio de Janeiro			16-18
18-20		Berlin				Milan			18-20
20-22		Milan				Rio de Janeiro			20-22
22-24					Milan				22-24
24-26		Vienna Petrograd				Milan Rio de Janeiro			24-26
26-28	Valparaiso					Rio de Janeiro Berlin			26-28
28-30									28-30
OVER 30		Vienna (63.7) Petrograd (84.2)	Petrograd (59.7) Vienna (38.5)	Petrograd (56.1)	Milan (59.0) Petrograd (28.2)				OVER 30

SOURCE: *Federal Reserve Bulletin*  
 Aug. 1914: War crisis (No quotations for Yokohama, Rio de Janeiro, Stockholm, Zurich, Bombay, Madrid, Buenos Aires)  
 Dec. 1914: Premium of sterling in New York disappears (No quotations for Yokohama, Rio de Janeiro, Stockholm, Madrid, Buenos Aires, Bombay)  
 Aug. 1915: Control of sterling-dollar exchange begun (No quotations for Rio de Janeiro)  
 Jan. 1916: Sterling-dollar exchange pegged  
 Nov. 1916: Allied resources nearly exhausted  
 April 1917: American Treasury support of the exchanges (No quotations for Berlin and Vienna)  
 April 1918: Maximum dispersion due to American gold embargo (No quotations for Berlin and Vienna)  
 Nov. 1918: Armistice (No quotations for Berlin, Vienna, and Petrograd)

Extreme quotations (in parentheses) are given as percentages of pre-war pars

TABLE I

*Exchange Rates on New York, 1914-1918*  
*Highest Rates on New York during the Given Month as Percentages of Pre-War Pars*

	AUGUST 1914	DECEMBER 1914	AUGUST 1915	JANUARY 1916	NOVEMBER 1916	APRIL 1917	APRIL 1918	NOVEMBER 1918
London	114.3	100.5	97.9	98.2	96.9	97.8	97.7	97.8
Milan	105.8	99.1	83.2	79.1	77.9	75.2	59.0	81.6
Amsterdam	104.5	101.0	100.3	114.1	102.0	103.9	120.0	105.1
Copenhagen	102.6	94.2	96.6	104.1	101.3	107.8	118.5	100.8
Berlin	101.9	97.2	86.7	80.6	73.7			
Paris	101.6	101.4	91.8	88.9	88.7	91.2	90.6	96.1
Vienna	100.3	88.7	74.9	63.7	58.5			
Petrograd	99.3	83.5	71.8	58.2	59.7	56.1	28.2	
Montreal	100.0	100.75	99.97	99.87	100.03	98.07	96.44	98.56
Valparaiso	88.6	73.8	84.4	89.6	115.2	114.1	163.2	135.7
Zurich		100.0	97.6	101.0	100.2	102.8	121.9	105.3
Bombay			101.7	101.7	99.8	100.2	114.8	110.1
Madrid			100.3	99.1	106.5	113.5	154.2	107.3
Yokohama			99.1	101.3	102.3	102.6	104.1	109.8
Stockholm			98.6	105.0	106.2	113.1	128.7	108.2
Buenos Aires				99.2	102.2	101.0	103.3	107.2
Rio de Janeiro				72.4	73.9	75.1	79.6	83.2

SOURCE: *Federal Reserve Bulletin, 1918*, pp. 837-9 and 1199; Montreal rates provided by the Bank of Nova Scotia.

around it. A single chart showing a large number of rates would be difficult to read because of the crossing of many lines and because, to include extreme quotations, the scale would have to be so small that the fluctuations within the central nucleus would be hard to distinguish. A tabular presentation would not bring out sharply the relationships here emphasized. Therefore a few important rates on New York have been given for selected months and the grouping and dispersion is indicated by showing the position of each rate on a common scale of percentage deviations from pre-war parity. In spite of the emphasis in these studies on the central position of London in international finance it has seemed wise to take New York as a base because of the terms in which the foreign exchange problem was universally discussed from 1914 to 1925. Some base must be chosen and both writer and reader, and especially both chart maker and chart interpreter, must not forget that by choosing a base every movement in the system is shown as related to that base. The whole situation may be seen in quite a different light if the base is shifted. The fanlike dispersion of rates around a central nucleus during the war is an important fact, but it does not appear if one glances at Dr. Blankart's admirable chart of the behavior of exchange rates on *Switzerland* during the war. There, with a few exceptions, one sees only various degrees of 'depreciation.'

### The Key Rate in the System

#### *The Dispersion of Rates, December 1914*

By December 1914 the foreign exchange deadlock was substantially broken. Sterling was at par in New York, and the exchanges of France, the United States, Spain, Italy, the Netherlands, Switzerland, and Great Britain, as a group, did not deviate from their respective parities by more than 4 per cent whether Paris, New York, London, or Zurich is taken as a base.<sup>1</sup>

<sup>1</sup> These relationships are clearly shown by the charts at the close of Dr. Blankart's book, and in Bullock, Williams, and Tucker, *op. cit.*, p. 243.

The record is very incomplete, however, because of the absence of published quotations for the yen,<sup>2</sup> the Argentine peso, and the milreis. Among the recorded rates the important breaks in the pre-war system were the depreciation of the currencies of Germany, Austria-Hungary, Russia, Denmark, and Chile.

### *Sources of Instability*

A great strain was being put upon this system of rates. Even in 1915 the world's currents of trade were becoming more and more dominated by the movement of goods from neutrals to belligerents—especially to the Entente powers. A glance at the figures of war-time merchandise trade (Table 2) will recall this extraordinary revolution in the direction of world trade. The large increase in imports relative to exports in the United Kingdom, France, Russia, and Italy, and the large increase in exports relative to imports in the United States, Argentina, Japan, Brazil, and Spain are striking features of this table. The German and Austro-Hungarian trade figures show the same sort of increase in the passive merchandise balance as do those of the other belligerents, until the British blockade became effective and America entered the war. The influence of these events can be seen clearly in the German figures which, in the absence of any official data, are taken

Taking New York as the base, the French franc, the peseta, and the pound sterling were at about parity with the dollar. The lira was depreciated about 3 or 4 per cent; the mark 8 per cent; the Swedish krona 15 per cent; and the rouble 17 per cent.

Taking Zurich as the base, the lira, the dollar, the French franc, the guilder, the pound sterling, and the peseta were within about 3 per cent of par. The mark was depreciated about 8 per cent, and the rouble and the Austro-Hungarian krona about 15 per cent.

Taking Paris as a base, the pound sterling, the guilder, the dollar, the Swiss franc, the peseta, and the lira were at par or not depreciated more than about 3 per cent. The Swedish krona was depreciated about 8 per cent and the rouble about 18 per cent.

Taking London as the base, the French franc, the dollar, the peseta, and the guilder were at about par. The lira was depreciated about 3 per cent, the Swedish krona about 5 per cent, and the rouble about 10 per cent.

<sup>2</sup> Inouye, *op. cit.*, gives no quotations for November and December 1914.

TABLE 2

*Net Merchandise Trade of Various Countries, 1914-1918*

Net exports +, Net imports - (thousands)

	<i>Monetary Unit</i>				
	1914	1915	1916	1917	1918
Great Britain	-170,440	-367,963	-344,660	-467,408	-783,787
France	-1,533,335	-7,098,425	-14,425,825	-21,541,267	-17,583,641
Italy	-712,944	-2,170,106	-5,301,996	-10,681,695	-12,693,967
Russia	-142,000	-736,000	-1,241,000 <sup>1</sup>	-1,502,000 <sup>1</sup>	-53,000
Austria <sup>2</sup>	-807,000	-2,465,000	-4,475,000	-3,226,000	
Germany <sup>3</sup>	-1,100,000	-4,100,000	-4,500,000	-3,600,000	-2,400,000
United States <sup>4</sup>	+470,654	+1,094,420	+2,135,599	+3,630,693	+2,974,056
Japan	-5,000	+176,000	+371,000	+594,000	
Argentina	+75,000	+331,000	+326,000		
Brazil	+11,954	+22,881	+14,640	+15,000	
Denmark	+62,435	-50,414	-72,284	-54,430	-199,721
Netherlands	-335,778	-135,102	-370,754	-145,486	-227,147
Norway	-157,255	-191,208	-365,331	-869,935	-497,508
Spain	-167,775	+53,750	+97,006	+4,555	+386,922
Sweden	+43,447	+173,859	+417,810	+590,941	+117,123
Switzerland	-247,080	-6,597	+78,235	-71,752	-429,433

SOURCE: *Commission of Gold and Silver Inquiry* (U.S. Senate, Serial 9, 1925), Vol. I and II, Statistical Appendices; for Japan, Argentina and Brazil, Charles Blankart, *Die Devisenpolitik waehrend des Weltkrieges* (Zurich, Arell Fussli, 1919), p. 14; no official figures published for Belgium.

<sup>2</sup> Kindly furnished to the writer by the Reichs-Kredit Gesellschaft, Berlin.

<sup>3</sup> Kleine-Natrop, *Devisenpolitik in Deutschland vor dem Kriege und in der Kriegs- und Nachkriegszeit*, p. 11.

<sup>1</sup> Over European border only.

<sup>4</sup> *Statistical Abstract of U.S., 1919*, p. 389.

from a small volume by Dr. Kleine-Natrop published in 1922.<sup>3</sup> The trade of the northern European neutrals also was

*German Merchandise Trade (billiards of paper marks)*

	IMPORTS	EXPORTS	EXCESS OF IMPORTS
1914, Aug.—Dec.	2.1	1.4	0.7
1915	7.1	3.1	4.1
1916	8.4	3.8	4.5
1917	7.1	3.5	3.6
1918	7.1	4.7	2.4

influenced profoundly by the blockade, and they too were subject in the later years of the war to great pressure from both sides to supply them with essential commodities. There was even a regular trade between Germany and England through the Netherlands known to both war offices. The lack of definite trend, except in the case of Norway, may be partly, if not predominantly, due to these pressures, though the matter has never been adequately studied. Some idea of their severity may be gleaned from a passage in the Annual Report of the Netherlands Bank for 1916–17 (English ed. p. 89) :

“The Netherlands constantly had to supply many goods to foreign countries, more especially to the belligerent powers. . . . The Netherlands have supplied these goods, not only because they would thereby earn money, but especially because such supply had practically become a duty. On the one hand the country was forced to find a market for its own agricultural products of which the quantities produced considerably exceeded the home requirements, against which the Netherlands could demand other goods, particularly raw materials, fertilizer and cattle food from foreign countries in order to keep its own industry and agriculture going. On the other hand a certain pressure was placed on the country by foreign powers which required our products for their own consumption and who would have considered it as an unfriendly act if we had stopped supplies; this imagined unfriendliness they threatened to retaliate by impeding our free navigation across the sea and by placing difficulties in the way of our import of grain,

<sup>3</sup> *Devisenpolitik in Deutschland vor dem Kriege und in der Krieg's- und Nachkriegszeit* (Berlin, Hans Preiss, 1922). A photostatic copy of this work was kindly sent to the author by the Institut fuer Weltwirtschaft at Kiel.

iron, coal, etc. In the end it therefore became a matter of life and death for this country to maintain as much as possible the exports of its own products."

The extraordinary war-imposed changes in the flow of merchandise trade tended to

- 1) weaken the exchanges of all belligerents against neutral currencies and Japan: that is, to strengthen the American, Japanese, and South American exchanges, and those of the smaller European neutrals against England, France, Italy, Russia, and Germany and Austria-Hungary;
- 2) break up the British Empire exchanges by strengthening the Indian rupee and Canadian dollar in sterling;
- 3) detach the French, Italian, and Russian exchanges from their former relationships to sterling;
- 4) separate the German and Austro-Hungarian exchanges from those of the Entente countries and of the neutrals.

That is to say, they threatened to disintegrate completely the pre-war system of exchange rates and, indeed, to prevent the establishment of any alternative *system* of rates.

Such a situation would have greatly increased the cost of imports into the Entente countries and have seriously disturbed their domestic price structures by causing erratic fluctuations in the prices of imported goods. It would have introduced an incalculable speculative element into all their international transactions and have increased the difficulties of financing the war through foreign credit. Even more important, it would have had the grave psychological disadvantage of undermining the confidence of peoples in the strength and in the future of their own currencies.

#### *The Central Importance of the Sterling-Dollar Exchange*

The sterling-dollar rate was the key rate in the effort to resist these forces of disintegration. In the battle to preserve a system of exchange rates Great Britain stood in a central place, first, because as head of the Empire she was the representative of a large group of countries maintaining stable

exchanges among themselves; second, because as financier and supplier of her continental allies the sterling rate was of immense direct importance to France, Italy, and Russia; finally, because London continued to be during the war, as it had always been, the market for dollars for all Europe. As long as the dollar-sterling rate remained relatively stable, and the British Empire constituted a unit in currency matters, a nucleus was established sufficiently broad to serve as the basis for other stabilization operations. There was a link between the Empire, the Continent, and the Americas. The French franc could be supported against the world, and the Canadian dollar did not have to choose whether to follow the American dollar or the pound.

The pound sterling itself, however, was subject to pressure from a multitude of causes. Not only British, but French, Italian, and Russian purchases of war materials in America tended to weaken sterling in New York, as did large British purchases of goods in America for resale to the continent. The requirements of the continental allies for dollars could be provided only in small part by direct remittance, for the relatively small supply of dollars offered in the continental markets was soon exhausted, and indirect remittance through London tended to be the cheaper method of payment to America. Under more normal conditions arbitrage transactions would have kept the cost of the two methods of remittance the same, while marginal adjustments in the more flexible items in the balances of payments of the continental countries would have relieved the pressure on sterling. Before the war the use of London as a clearing house for continental transactions with America did not mean that sterling was under steady pressure in New York whenever continental currencies were weak. But during the war there was a constant tendency for the continental exchanges to be weaker in New York than in London. Arbitrage opportunities involving the purchase of sterling tended to be infrequent and to be closed before any new equilibrium in the system of ex-

change rates could be established. Arbitrage opportunities involving the sale of sterling tended to appear regularly. In the language of the market, sterling tended to decline in New York 'in sympathy with' the weakness of the continental exchanges.

Under these circumstances efforts to support the continental exchanges in London without supporting them in New York sharply accentuated the pressure on the sterling-dollar rate by placing impediments in the way of an appropriate adjustment of the whole system of exchange rates. If the essential weakness of the continental exchanges could not express itself in a decline of these exchanges *both* in London and New York, it had to express itself in a decline of these exchanges in New York *and* a decline of sterling in New York.<sup>4</sup> These influences on the sterling-dollar rate were magnified many fold by the role of England as financier of the war for her continental allies. When France and Italy made purchases in America with borrowed sterling, the pound rather than the franc was weakened. When England bought goods for cash or short credit in America and sold them on the continent on liberal terms the same result followed.

The problem, therefore, of preventing the depreciation of the currencies of the Entente countries other than England both in London and New York became inseparably linked with the problem of preventing the depreciation of sterling in New York.

#### *Measures of Support*

In 1915 England began a highly selective use of her accumulated gold in support of her exchanges; <sup>5</sup> \$109 million in gold

<sup>4</sup> Cf. Ch. 29, The Possible Modes of Behavior of any Foreign Exchange Triangle.

<sup>5</sup> Where devices other than gold shipments could be used they were; e.g., the issue of British treasury bills in Amsterdam against gold in London to provide the means of payment for goods bought in the Dutch East Indies (Harris, *op. cit.*, p. 303); and the whole policy adopted with reference to the Indian rupee which reduced gold imports into India far below the pre-war average (Brown, *op. cit.*, pp. 30 ff.).

was shipped directly from England to the United States, and twice that amount (\$219 million) was shipped from Canada, mostly from the English depositary in Ottawa. These Canadian shipments were the beginning of a new and increasingly important phase in the history of that depositary. Sir Thomas White has described these operations in the article already quoted in connection with the 1914 crisis:

"At the time that Great Britain was commandeering the American investments of British subjects, she was requisitioning gold in all parts of the world for the same purpose, making payment for the purchases of herself and her Allies in the United States. This gold came principally from Great Britain, South Africa and Russia, although small consignments were made from Brazil and Borneo. It consisted of a miscellaneous assortment of British sovereigns, American, Russian, German, Austrian, Japanese and French coin, together with fine gold bars. . . . Of a total of \$1,200,000,000 handled by the Department of Finance from the beginning, \$546,000,000 was for the account of the Bank of England, and \$658,000,000 for the account of the Imperial government. From the United States \$104,000,000 was received on the first movement: on the reverse movement \$491,000,000 came to hand from Great Britain, \$353,000,000 from South Africa, \$253,000,000 from Russia, \$692,000 from Borneo and \$172,000 from Brazil. More than three quarters of the entire amount was represented by bullion.

It will be of interest to know that \$253,000,000 was received for the Imperial Russian government. The gold was shipped from Petrograd and Moscow to Vladivostock, there to Vancouver or Esquimalt via Japan in Japanese war ships. . . . In all four consignments of this gold were received from February 1916 to May 1917. . . ."

Smaller shipments of gold were made for similar purposes from London to the Netherlands and Argentina. In addition the Bank of France, after exhausting the supplies of foreign exchange acquired in the second half of 1914, amounting, according to Professor Jèze, to 400 million francs, began in August 1915 to export gold to England, America, and Spain.

These exports amounted to 160 million francs, but this method of supporting the exchange directly was soon abandoned for the policy already referred to of lending gold to the Bank of England in exchange for British credits to the French Treasury. The proceeds of these credits were in large part made available to the French in the form of dollars, but the debt was a sterling debt, a point vigorously insisted on by M. Moreau in the negotiations of 1926. The French authorities never deviated from their contention that it was an essential condition of these loans that on repayment of the credits the gold should be returned to the Bank of France.<sup>6</sup>

It soon became evident, however, that gold shipments alone could not meet the situation: they interfered with the effort to maintain domestic gold reserves; they caused uneasiness to the receivers and were inadequate in amount. From the outset they were supplemented by credit. The British Dominions received advances sufficient to enable them to maintain their London balances in the early months of the war. The French government placed about 400 million francs in treasury bills abroad in December 1914,<sup>7</sup> and early encouraged French bankers to borrow collectively in America. In November 1914 a \$20 million revolving acceptance credit was arranged for French account by Brown Brothers and Company, which opened the doors of Federal Reserve credit to the war needs of the Allies. In April 1915 a \$50 million issue of French 5 per cent bonds was offered in the American market by a Morgan syndicate, and at the same time the Russian exchange was supported by French and British credits and by the sale of treasury bills in London.

<sup>6</sup> Jèze and Truchy, *op. cit.*, pp. 298-9; Moreau, *loc. cit.*

<sup>7</sup> E. L. Dulles, *The French Franc, 1914-1918* (Macmillan, 1929), p. 96. Miss Dulles quotes the authority of Decamps for this statement. Jèze and Truchy refer to a £2 million issue of French treasury bills placed in London by Messrs. Rothschild in October 1914 and a £10 million issue placed by the Bank of England in January 1915, as well as to an issue of \$10 million treasury bills placed in New York in November 1914. *Op. cit.*, pp. 307, 311.

### The Formation of the Sterling-Dollar-Franc Nucleus

#### *The Dispersion of Rates, August 1915*

In spite of the mounting difficulties that had called forth these measures of support, there was still, in August 1915, a certain cohesion in the whole structure of exchange rates. The exchanges of Switzerland, Spain, Sweden, the Netherlands, Great Britain, Argentina, India, Canada, Japan, and Denmark on New York stood at some time during that month within 4 per cent of their pre-war parities. Those of the continental belligerents, however, had moved with reference to this group as a whole. The French franc had depreciated 8 per cent and the lira 16 per cent in New York. The mark had depreciated 11 per cent in Zurich and 15 per cent in New York; the Austrian krone 20 per cent in New York, and the rouble 30 per cent in Zurich, 22 per cent in Paris, and 25 per cent in New York.

#### *Pegging and Exchange Control*

These relationships were not stable. In spite of all measures of support the disintegrating forces were getting the better of the effort to preserve a system of relatively stable exchange rates in the latter part of 1915. The tendency of the neutral exchanges, especially those of the Netherlands, Sweden, Spain, and Argentina, to rise, and of the Italian, Austrian, German, and Russian exchanges to fall in terms of sterling and dollars was very strong. The presence of strain within the Empire group itself is abundantly evidenced by the difficulties experienced in preventing the rupee from rising in London. Finally, the difficulties of preserving a constant relationship between the pound and the franc and the dollar were becoming very great. Gold shipments to the United States were continued on a large scale and, as was true throughout the war, the exchanges continued to be supported through the accumulation of balances in London, Paris, and

Italy by private shippers who wished to postpone remittances home until a more favorable exchange situation prevailed. A \$500 million Anglo-French loan was negotiated in August, signed in September, and subscribed in October 1915, but this large amount, though less than the Allied negotiators wished, was too large for the American market. The loan was not very successful, and large portions of it remained in the hands of the underwriters. Very large public loans in America were thus shown not to be feasible, and the Anglo-French loan was followed by a program of regular borrowing in New York as dollars were required. In this program the placing of short term treasury bills was the chief instrument. Private credits continued to be arranged, such as those opened for British banks in New York in November 1915, and the exchanges received support through substantial subscriptions by Americans to the war loans of belligerents, particularly to the French war loans of December 1915.

These various devices for strengthening the exchanges were supplemented by the systematic mobilization of foreign securities and by their sale or pledge in America. In this, England took the lead. By various gradual approaches the British Treasury moved from the encouragement of the private sale or loan of foreign securities to the government to the forcible taking over of such securities. The program was initiated in July 1915, and by December the government had purchased £46 million of such securities. In January 1916 the American Dollar Securities Committee was formed to carry on this mobilization of securities, the sale of which became the backbone of the support of the sterling-dollar exchange until April 1917 and one of the major factors in transforming the United States into a creditor country.<sup>8</sup> Canada

<sup>8</sup> The Committee reported on December 3, 1919 that the total securities purchased, including Canadian and South American issues, amounted to £216 million, while £406 million were lent to the Treasury. Of these amounts £178 million and £73 million respectively were American securities. German owned securities in England were made subject to this mobilization.

made a special contribution to the support of sterling by lending securities to the British government which were suitable for pledging in New York, and also relieved the sterling exchange by placing refunding issues of Canadian municipalities in New York rather than London. Other currencies were supported by similar means. The French government did not resort to compulsion, but published lists of securities it would borrow or buy, reserving the right to extend the loans or, in case of need, to sell the securities, and by the middle of 1916 it had received 1,200 million francs in such securities. The German government did not approach the people directly by a popular press campaign, but at first requested the banks to induce their clients to sell securities or pledge them abroad with the idea of recalling them after the peace. That is to say, the banks were to urge their clients to embark upon a long run foreign exchange speculation. The motive appealed to illustrates the importance of the concept of normal exchange rates during the war, for only if the exchange rates returned to 'normal' after the war could the transaction prove profitable. The practical results of this suggestion in providing Germany with foreign exchange during the war were not great, for foreign securities when sold abroad by Germans were for the most part exchanged for liquid balances abroad and not used for the purchase of marks with pounds, francs, or dollars. Not until March 1917 did Germany resort to the forcible taking over of foreign securities and even then emphasized the loan aspect of the transaction by undertaking to replace the commandeered securities three years after peace was made with England.

The resources assembled in this way were used by the belligerents in a systematic effort to control the exchanges. Control of the sterling-dollar rate began in August 1915<sup>9</sup> and in January 1916 the dollar rate in London was definitely pegged at  $4.76\frac{7}{16}$ . The actual method of stabilization was the pur-

<sup>9</sup> J. M. Keynes, *A Treatise on Money* (Harcourt, Brace, 1930), I, 19.

chase and sale of British treasury bills in New York and the use of the proceeds to buy sterling.<sup>10</sup> In addition a fund of \$50 million was made available in London by New York bankers to help control daily fluctuations.<sup>11</sup> The Bank of France began to extend its influence in the foreign exchange markets in the summer of 1915 by undertaking to sell exchange to those who could prove their genuine commercial interest at a cheaper price than the market. In August 1915 an exchange control mechanism was set up, but even so it was impossible to prevent the appearance of a 'cours hors cote' lower than the official rate of the Bank.<sup>12</sup> The general decline of the franc in New York was, however, halted and on April 14, 1916 the British and French governments agreed to stabilize the franc. It was under this arrangement that Bank of England credits were obtained against gold, neutral securities, and French treasury bills. In this way a nucleus of relatively stable exchange rates—the sterling-dollar-franc nucleus—was definitely established and endured throughout the rest of the war.

Great efforts were put forth in Germany and Austria-Hungary to keep the exchanges of the Central Powers relatively stable with reference to this nucleus. In Germany exchange control was introduced in the form of Devisencentralen which, like other agencies of exchange control, undertook to distribute the available supply of exchange and to permit no exchange transactions the purpose of which was not known to the authorities and regarded as necessary. This control first took legal form on January 28, 1916 when the Reichsbank and twenty-six elected banking firms of Berlin, Frankfurt, and Hamburg were formed into a foreign ex-

<sup>10</sup> J. P. Morgan & Co., as British fiscal agents in New York, purchased from 1915 to 1919 approximately £840 million of sterling exchange. E. M. Friedman, *International Finance and its Reorganization* (Dutton, 1922), p. 377.

<sup>11</sup> Jaeger, *op. cit.*, pp. 21-2.

<sup>12</sup> Through its own resources and through credits secured in London and New York the Bank of France purchased 18 milliard francs of French exchange during the war. Friedman, *op. cit.*, p. 377.

change monopoly with headquarters in Berlin. The representatives of these firms, together with the sworn brokers and in the presence of the Staatskommissar, met in their respective cities and, after telephone communication with the other centers, fixed the buying and selling rates on the Netherlands, Denmark, Sweden, Norway, Switzerland, Austria-Hungary, Bulgaria, and the United States. The Devisencentralen carried out the foreign exchange and security arbitrage business of the country at these rates, and their authority was early extended to include also supervision of the underlying transactions. All incoming exchange had to be turned over to the consortium, which became the sole seller of drafts on foreign countries. In Austria-Hungary a somewhat different form of Devisencentral organization was set up consisting of two central offices, one in Vienna and one in Budapest. Operating at first on the basis of voluntary cooperation by banks it was a failure, and even when all dealings in foreign exchanges outside these offices were forbidden in the early part of 1917, it proved ineffective.<sup>18</sup>

*Stability of the World's Exchanges, January 1916 to November 1916*

As a consequence of all these measures the structure of the world's exchange rate system was on the whole remarkably stable during 1916. The American, British, French, Italian, and Russian exchanges on Zurich were in November 1916 within 2 per cent of what they had been in January 1916, the German exchange was within 4 per cent, the Dutch and Spanish within 7 per cent, and the Austrian within 10 per cent.

The United States, Swedish, British, Italian, and Russian exchanges on Paris were in November 1916 within 2 per cent of what they had been in January 1916, the Swiss exchange was within 5 per cent, the Dutch within 11 per cent.

<sup>18</sup> Except where otherwise noted, the details of the support and control of the exchanges in continental countries given in this section are taken from Blankart, *op. cit.*, pp. 75-139.

The Swedish, United States, French, Italian, and Russian exchanges on London were in November 1916 within 3 per cent of what they had been in January 1916, and the Spanish and Dutch exchanges within 8 per cent.

The Swedish, British, French, German, Italian, and Russian exchanges on New York were in November 1916 within 2 per cent of what they had been in January 1916, the Argentine exchange was within 5 per cent, and the Spanish within 10 per cent.

These relationships appear from an examination of average monthly rates and also from Chart 1, which indicates that the Japanese, Canadian, Indian, Brazilian, and Austrian exchanges in New York shared in the general stability of rates.

The area of relative exchange stability included the exchanges of many countries which had a strong tendency to rise in London. Since the dollar was pegged to sterling, it also, through the influence of arbitrage, experienced weakness in these exchanges. Opportunities arose for the purchase of sterling exchange with Argentine pesos, pesetas, and other neutral currencies, and with the Japanese yen, the sale of this sterling for dollars and the purchase of gold with these dollars. As a consequence, these exchanges were prevented from rising as much as they would otherwise have done against sterling, and a substantial portion of the gold sent to New York to stabilize sterling and the franc was passed on to these neutral countries. Therefore, the pegging at the center, in conjunction with the continued observance of the requirements of the international gold standard by the United States during the major part of her neutrality, bound the outlying currencies to the central nucleus.

*The Exhaustion of European Resources available for the Support of the Exchanges*

From the opening of the war to April 1, 1917 the Allies purchased \$7 billion of goods from the United States. In payment \$1,600 million of visible and normal invisible items

were imported, together with \$1,100 million in gold. The liquidation of \$500 million of American short term debt abroad, the sale of \$1,400 million of American securities and other assets, collateral loans of \$1,400 million, and unsecured loans of approximately \$1 billion provided the balance.<sup>14</sup> By autumn 1916 the resources available for exchange pegging began to be exhausted. The beginnings of a disintegration of the system of rates maintained at such great cost from January to November 1916 were already apparent in the actual quotations. The exchanges of the Central Powers were breaking away from the sterling-dollar-franc nucleus and the anxieties of the British Treasury reached a peak eloquently described by J. M. Keynes in his *Economic Consequences of the Peace* (p. 273) in these words:

"The financial history of the six months from the end of the summer of 1916 up to the entry of the United States into the war in April, 1917 remains to be written. Very few persons outside the half dozen officials of the British Treasury who lived in daily contact with the immense anxieties and impossible financial requirements of those days can fully realize what steadfastness and courage were needed and how entirely hopeless the task would soon have become without the assistance of the United States Treasury."

### The Fanlike Spread of the Exchanges around the Nucleus after America's Entry into the War

#### *Preservation of the Nucleus*

With the entry of the United States into the war, the whole aspect of foreign exchange pegging was altered by the substitution of advances from the United States Treasury for the nearly exhausted resources of the British and the French. The nucleus of stable exchange rates between Paris, London, and New York was maintained fundamentally through these

<sup>14</sup> Statement of J. P. Morgan & Co., *New York Times*, January 7, 1936, p. 8. The principal collateral loans were loans of \$800 million to England secured by \$1 billion of collateral, and loans to France of \$200 million secured by \$240 million of collateral.

American credits, and the Paris rate was gradually brought into a closer approximation to the pre-war pars.

*The Fanlike Spread of the Exchanges and the Measures taken to Modify It*

The preservation of the central nucleus was not, however, achieved without some sacrifice in general exchange stability. The German and Austrian exchanges continued to move downward with reference to it and constituted more than ever a separate system because this great resource of American credit was not available to support them. Moreover, the tendency of the other neutral exchanges to rise against sterling and the dollar was now accentuated by very heavy purchases in certain neutral countries by the United States for war needs. The shipment of gold to the United States, which had been so great during 1915 and 1916 and the first half of 1917, was shut off, while the forces making for the movement of gold out of the United States to neutral countries not only continued in operation but were greatly strengthened. Like other belligerents, the United States embarked, with her entry into the war, upon a vigorous policy of gold concentration. The drain of gold to neutrals became an impediment to the execution of this policy and caused the gold export embargo of September 1917. This embargo removed the check that had kept the exchanges of the neutrals from rising in London and New York. During 1917 also the military reverses of Italy and the general disintegration of Russia as an Allied power caused a rapid depreciation of the lira and the rouble in terms of dollars, francs, and pounds.

Exchange rates therefore spread like a fan around the central group, the northern European, South American, and Japanese exchanges tending to rise above; the Italian, Russian, and the German and Austrian group falling below.

In order to counteract the tendency of the neutral exchanges to split off from the nucleus, many credit arrangements were entered into, and the extraordinary spectacle was

presented of the great powers of the world demanding credits from many small countries. France borrowed from Spain, Uruguay, Switzerland, Argentina, the Netherlands, Norway, Sweden, and Japan as well as from the United States and Great Britain. England borrowed from Argentina, the Netherlands, and Japan as well as from the United States. The United States borrowed from Spain, India, Argentina, and Bolivia. Russia borrowed from Italy, France, and Japan as well as from Great Britain and the United States. The extraordinary amount and variety of these loans is shown by the accompanying list compiled by Dr. Blankart (*op. cit.*, p. 172).

TYPE OF LOAN	MILLIONS OF SWISS FRANCS
Advances of U.S.A. abroad until April 7, 1917	13,866
Advances of U.S. Treasury to December 1918	42,087
Advances of British Treasury to its Allies to end of July 1918	37,748
Advances of the Banque de France to the Allies to October 2, 1918	3,490
Direct Advances of the French government to its Allies to end of 1917	3,207
Italian Advances to Russia	250
Advances of Japan to its Allies to January 15, 1918	2,781
Advances of Argentina to U.S.A. to May 1918	1,030
Advances of Argentina to France to September 1918	472
Advances of Germany to Austria-Hungary to December 5, 1917	4,608
Advances of Germany and Austria to Italy to end of 1917	4,700
Advances of Germany to Bulgaria to end of 1917	1,350
Advances of Roumania to Austria in September 1918	155
Advances of Neutrals to France to September 1918	570
to Great Britain	600
to Germany (estimated)	800
	117,714

In addition, very large open book credits were extended by neutrals to the belligerents. These credits were often unwillingly granted. In some countries, the Netherlands for example, they were a consequence of the accumulation of balances in the belligerent countries which could be brought home by individual holders only if funded by domestic credit institutions. Often the borrowers did not hesitate to use compulsion in extorting credits as a price for continuing to purchase in neutral markets. The belligerents threatened to interfere with the necessary imports of neutrals unless they gave credits for the import of these goods and even granted

stabilization loans. Such loans were ostensibly arranged upon the basis of the common interest of the parties in a return to normal exchange rates after the war. A series of Swiss and Dutch loans to Germany, Spanish loans to France and the United States, and Dutch loans to Austria were examples of such pressure. Roumanian loans to Austria were an extreme case. They represented in effect a sort of war contribution.<sup>15</sup>

This vast system of public and private credit, of which United States Treasury advances were the core and center, was supplemented by a general tightening of exchange control devices. In France an Exchange Commission was set up on July 6, 1917 in the Ministry of Finance and given oversight over the foreign exchange markets and over the arrangement of credits to support the franc, and on April 2, 1918 a decree prohibiting capital exports from France gave a monopoly of foreign exchange transactions to firms keeping a foreign exchange register. Italy introduced a legal monopoly of the foreign exchange business in 1917 and government exchange control in the spring of 1918.<sup>16</sup> In many countries, especially Germany, Austria, and Italy, these devices were gradually integrated with measures to control imports. American policy was in this respect quite different. In the United States control of the exchanges was carried to an extreme point in order to fulfil a fourfold policy: (1) to cut down unnecessary sales of the Allied exchanges; (2) to cut down unnecessary purchases of neutral exchanges; (3) to prevent the enemy from securing aid through dealing in neutral exchanges; (4) to prevent the process of credit inflation in the United States from meeting a check due to a drain of gold or

<sup>15</sup> Blankart, *op. cit.*, p. 160. Dr. Blankart gives the following further instances. In 1917 Switzerland had to purchase from Germany the lifting of the prohibition of the importation of silk, clocks, and embroidery by giving a credit to Germany of 18 million Swiss francs (*ibid.*, pp. 152 ff.). French credits were extorted from Switzerland under threat of payment by the French of their adverse trade balance in silver under the rules of the Latin Monetary Union. During the later years of the war Germany insisted, as a condition of importing certain goods from Switzerland, that the proceeds of the sale in marks must remain in Germany until the end of the war (*ibid.*, p. 177).

<sup>16</sup> *Ibid.*, pp. 84-97.

leading to the formal abandonment of the gold standard. Under the terms of regulations issued in January 1918 no person could engage in a very comprehensive list of transactions in the exchanges without obtaining a registration certificate or specific approval for each particular transaction from the Federal Reserve Board. All holders of registration certificates had to report to the Federal Reserve Board all accounts or securities carried with or for foreign correspondents, and all changes in such accounts and all purchases, sales, and other transactions in the foreign exchanges or securities for or through foreign correspondents. All dealers had to obtain from customers declarations showing the exact purpose of each purchase or sale of foreign exchange. All dealers' books were open to the inspection of the Federal Reserve Board, which had power to prohibit or postpone the consummation of any foreign exchange transaction. The Secretary of the Treasury was given arbitrary powers to prohibit, either through the Board or directly, any such transaction, and this vast fund of information was used to control the shipment of goods, especially to neutrals.<sup>17</sup>

In addition to measures of exchange control, arbitrage operations were undertaken deliberately in order to reduce fluctuations in the exchanges, which were naturally great during a period when transactions were restricted and ordinary speculative operations prevented. In Great Britain these operations were conducted secretly in all markets through the British foreign banking system and through agents. In France they were conducted directly from Paris by the Bank of France, which used the foreign branches of French banks as its agents.

Exchange control was successful in preserving the sterling-dollar-franc nucleus, but not in preventing a considerable appreciation of the neutral exchanges over these central currencies. Nor could it prevent the steady depreciation of certain exchanges in terms of the nucleus, in particular those of the Central Powers. The link between the sterling-dollar-

<sup>17</sup> Beckhart, *op. cit.*, IV, 234-49.

franc system and the system centered about the mark was chiefly the mark-Swiss franc rate. Germany made very great efforts to prevent the mark from falling in the Swiss markets, but these definitely failed in January 1918. Thereafter the two systems of exchange rates became quite distinct.

### The Approach to 'Normal,' November 1918, and the Idea of Par

During the concluding months of the war a stabilization of the Italian lira, similar to that of the franc, was finally achieved by an agreement between the British, French, and Italian treasuries. The lira was stabilized at a discount of 17 per cent from the pre-war parity with the pound sterling. At about the same time the control of the neutral exchanges in New York began to be so complete that their high premiums over the dollar, and consequently over sterling, began to disappear. Furthermore the approaching end of the war induced speculation based upon the hope that exchange rates would soon return to normal. At the time of the Armistice, therefore, the exchange rates of the Netherlands, Spain, the United States, Great Britain and the British Empire, Japan, France, Sweden, Argentina, Brazil, and Italy differed remarkably little, in view of all the circumstances, from those which prevailed before the war. The approximation to the old system of pars was so close that the general public and even informed opinion in the belligerent countries retained unshaken a belief in an early return to 'normal' rates as established by the pre-war international gold standard system. If deviations from parity with the pound sterling are taken as a measure, it is a striking fact that at the close of hostilities the Dutch, Spanish, and Swedish exchanges were less than 10 per cent above parity, the American exchange 2 per cent above, the French exchange 2 per cent below, and the Italian 17 per cent below. If, however, the Swiss franc were taken as a point from which to measure, one would have to say that all these exchanges were depreciated from 2 to 25 per cent.

## CHAPTER 4

### *The International Gold Standard during the War as a System of Pegged Exchanges*

The extraordinary use of credit during the war to preserve the external form of the international gold standard as a traditional system of rates brought out in sharp relief certain aspects of the relationship of foreign lending to international clearance, and greatly magnified the ordinary effects of foreign loans upon the banking systems of both lending and borrowing countries.

#### Loans in Support of the Foreign Exchanges in Their Relation to International Clearance

The history of international lending during the war is in part the history of a conflict, already present before the war, between two principles governing the attitude of lenders toward the use by borrowers of the proceeds of foreign loans. The first is the principle that the proceeds of foreign loans should be used in the lending country to give employment to domestic capital and labor, as exemplified in the foreign loan policies of France and Belgium. The second is the principle of allowing free use of the proceeds by the borrower and relying upon their return to the lending country through the international clearings, as exemplified in British policy.

In a world in which international lenders are few the rigid application of the first principle is a force that comes in conflict with the promotion of a world-wide distribution of goods in international trade, the encouragement of increased production in the borrowing country from which the loans must ultimately be repaid, and, according to free trade doctrine,

the improvement of the standard of living of countries economically interdependent. Before the war it was not allowed to prevail over the second principle. Granting free use of the proceeds to the borrower by the lender was the dominant characteristic of international lending under the international gold standard of pre-war days because it was the practice of the dominant lender. It was British practice until the eve of the war because it was consistent with the particular interest of Great Britain as the country most dependent upon the growth of international trade in general and best equipped to be a world financial center.

Because this was the practice of the dominant lender, the effects of foreign loans, as a time-bridging device filling gaps in the balances of payments of many countries, were diffused throughout the world, and lent general support to the whole system of foreign exchange rates.

*The Attitude of Governments toward the Use of the Proceeds of Foreign Loans*

The assumption by governments of the role of international lenders on a vast scale during the war greatly strengthened all the considerations leading to restrictions on the use of the proceeds of foreign loans. Under war-time conditions, especially in Great Britain, it was no longer safe to rely upon the international clearings to bring home the proceeds of foreign loans. To justify large extensions of credit to foreign powers from public funds, all governments, particularly democratic governments, must be able to point to clearly demonstrable domestic advantages accruing from such advances. For a government to put foreigners in possession of public funds in order to enable them to purchase the goods of other foreigners and thus employ foreign capital and labor gives at no time a domestic advantage clearly or easily demonstrable to the electorate, even when these foreigners are allies or associates in a great war. If, at the same time, the result of such advances is to weaken the exchanges the government is trying

to support against the pressure of purchases abroad required by a life and death struggle, it is natural for such a government to be reluctant to make advances of this kind or even to permit them to be made by private lenders.

It is not surprising therefore that the lending governments usually tried to arrange for the proceeds to be spent within their own borders. A Treasury Minute of November 17, 1914, for example, stated that only under exceptional circumstances were British government credits to the Dominions to be used outside the United Kingdom; and the British agreement with France of April 30, 1915 provided that the French government was to spend in Great Britain one-third of the credits put at its disposal by the British government.

This principle was strongly entrenched in the mind of the American government, which willingly granted credits to its allies for purchases in America but frequently objected to making such advances for the support of the foreign exchanges in general, for the reimbursement of credits previously granted by Great Britain to other allies, or for the financing of purchases in Great Britain, the Empire, or neutral countries.

#### *Modifications of Policy forced by the Requirements of Foreign Exchange Pegging*

There were, however, many modifications of this attitude by both Great Britain and the United States. Great Britain made loans to France and other allies to finance the purchase of goods in the United States and neutral countries. When America entered the war it was agreed that the burden of advances to allied countries to finance purchases of goods in neutral countries should be divided between Great Britain and the United States. A certain number of credits were obtained in the United States for the reimbursement of Great Britain for credits extended to finance purchases in Great Britain and the Empire,<sup>1</sup> though all these credits were in-

<sup>1</sup> These details are taken from Harris, *op. cit.*, pp. 246-59.

consistent with the principle of restricting the use of the proceeds to expenditures in the lending country. So also were the large loans made by both Great Britain and the United States to support the sterling-franc and sterling-dollar rates without direct reference to the purchases of France in Great Britain and of Great Britain in the United States. Table 3

TABLE 3

*Summary of Advances by the United States Treasury to Foreign Governments and Expenditures reported by them April 6, 1917–November 1, 1920 (millions of dollars)*

	GREAT BRITAIN	FRANCE <sup>1</sup>	ITALY <sup>1</sup>
<i>Advances by U.S. Treasury</i>			
Net Cash Advanced	4,196	2,966	1,631
<i>Expenditures Reported</i>			
Exchange and cotton purchases	1,682	806	88
Other commodities and services	4,444	1,595	606
Interest	388	269	58
Maturities	354	290	
Silver	262	6	
Miscellaneous	70	184	116
Reimbursements	19	1,046	784
Total Reported Expenditures	7,219	4,196	1,652
Minus:			
Reimbursements from U.S. credits to other governments	1,854	19	
Dollar payments by U.S. government for foreign currencies	449	1,025	14
Proceeds of rupee credits and gold from India	81		
Total Deductions	2,384	1,044	14
Net Expenditures	4,835	3,151	1,638
Condensed from Exhibit 26, Annual Report of the Secretary of the Treasury, 1920			

<sup>1</sup> Many credits obtained by France and Italy and other borrowers in the United States were for the purpose of reimbursing Great Britain for purchases made by her in America on behalf of these borrowers. Such lending was consistent with the principle of the expenditure of the proceeds of loans in the United States, for it merely eliminated the middleman position of Great Britain by establishing direct obligations between those who had really purchased the goods in the United States and United States lenders. These loans were, however, unwelcome to the United States government precisely because they substituted for a British obligation the obligations of others.

indicates the extent of American deviation from this principle.

These modifications in the declared policies of governments with respect to foreign loans were forced by the major requirements of war finance. It was an imperative physical requirement for waging war that war supplies should be drawn from the entire world. As long as this requirement had to be met it was impossible for the financiers of the war to continue successfully to support the exchanges and at the same time adhere to the principle that the proceeds of foreign loans should be spent at home.

*The Relation of Foreign Lending in War Time to International Clearance, Abstractly Considered*

The interconnections of all types of international lending and their relation to the effort to preserve the international gold standard as a traditional system of rates may be seen from an abstract statement of the effects of certain major types of British and American foreign loan upon the exchanges during the war. The basic reason for these loans was to make it possible for belligerents to purchase the means of waging war without harmful repercussions on the exchanges. Two assumptions are therefore made in this discussion: first, that currently accumulating credits were insufficient to provide payment for essential purchases of goods without forcing down exchange rates; second, that the essential purchases would have been made even at the cost of declining exchange rates.

The cases chosen for illustration are all connected with the provision of British credits to France to enable her to make purchases in England, in America, and in neutral countries.

Case 1: British Loans to Finance French Purchases of British Goods in England. When Great Britain made loans to France to enable her to buy goods in England the direct effect of the credits upon the exchange market was that an increased offer

of francs was met by an increased supply of sterling. There were no repercussions in other exchange markets, but that fact was in itself of great importance to other countries. Had the French purchases been made without the British credits the attempt to pay for them would, under our general assumptions, have weakened the French exchange on London but would not have influenced the sterling-dollar or the franc-dollar rates directly. Therefore between these three countries<sup>2</sup> an opportunity for arbitrage profit would have been opened through the sale of francs for dollars, dollars for pounds, and pounds for francs.<sup>3</sup> Arbitrage operations of this type would have diffused the initial weakness of the franc, at first concentrated in the sterling-franc rate, for they would have set up a tendency for the franc to recover in London but fall in New York, and for the pound to rise in New York. The pound would have appeared to be generally strong, but stronger against francs than against dollars, and the franc generally weak, but weaker in pounds than in dollars. A new triangular relationship would have been in process of formation, a result inconsistent with the policy of maintaining as closely as possible the traditional system of rates of the gold standard. Moreover the new system would not have been stable unless, with the decline in the franc in the other markets, the French purchases in England had been compensated for by some increase in French exports, some attraction of foreign funds to France, a compensating contraction in other French imports, or some similar movement of the French balance of payments into a new equilibrium at the new exchange rates. By the hypothesis of an insistent war-time demand for goods any contraction in imports is ruled out, and the other adjustments made very improbable. Consequently

<sup>2</sup> These three markets, of course, were in practice not the only markets in which arbitrage adjustments were in progress, but these cases are outlined in abstract form to provide the basis for a general argument, not as illustrations of the exact practice of the markets during the war.

<sup>3</sup> The initiative in taking advantage of this opportunity could, of course, have come from any of the three markets or from a fourth market.

the franc's depreciation in London would probably have continued, but its power to pull down the dollar in sympathy would probably not have been prolonged. For any tendency of the dollar to decline in sterling would have had a stimulating effect upon American exports and a contracting effect upon American imports since the peculiar inelasticity assumed with reference to the French powers of adjustment did not apply to America in war time. Depreciation in sterling would indeed have strengthened tendencies already strongly at work in the American balance of payments. These reactions would have checked the decline of the dollar in London and increased its strength in Paris, without influencing directly the sterling-franc rate. The effect would have been that the arbitrage opportunities caused by the original weakness of the franc in London would not have been closed<sup>4</sup> until the franc had depreciated equally in *both* London and New York. The initial weakness of the franc would now have become diffused in a different way, but this would have been a result just as repugnant to the principle of maintaining the traditional system of rates as the initial effects of the French purchases in England had been. Therefore unless that objective was abandoned it would have been necessary, as soon as the franc began to fall in London, for the French to obtain credits in America. They could then have offered dollars for sterling and made payment for their purchases in England without excessive offers of francs in the London market. The consequent strength of the franc in London and of sterling in New York would then have reinforced the tendencies already at work in these two exchanges through arbitrage operations. Consequently the use of these American credits would soon have closed the previous arbitrage opportunities and substituted exactly opposite ones. It would have become profitable to sell dollars for

<sup>4</sup> Strictly speaking, an arbitrage opportunity does not remain open for more than a few minutes, but it may continually be renewed if the underlying forces are continued. The term is used here in the latter sense.

francs, francs for pounds, and pounds for dollars, and this would have continued until the reestablishment of the former equilibrium of rates had rendered further credits unnecessary.

To summarize: The extension of British credits to France to finance the purchase of British goods left the task of pegging the sterling-dollar and the dollar-franc rates exactly what it had been before, but if these credits had not been extended, then (1) the French purchases would have had to be foregone, an eventuality ruled out by hypothesis, or (2) the system of fixed exchange rates between the three currencies would have had to be abandoned and a new system established under which the French could substantially increase their exports, or (3) a continuously unstable system of exchange rates would have come into existence as a result of persistent weakness of the franc, or (4) the old system of rates would have been preserved by American credits, extended, as far as the use of the proceeds was concerned, in direct contradiction to the expressed policy of the American government.

Case 2: British Loans to France to finance French Purchases in the United States. When Great Britain made loans to France to enable her to buy goods in America, sterling was placed in French hands and the first direct effect on the exchange markets was to weaken the pound in New York as expenditures were made in the purchase of goods. These transactions did not directly affect either the sterling-franc or the franc-dollar rates. Therefore, between these three countries an arbitrage profit presented itself, again through the sale of francs for dollars, dollars for pounds, and pounds for francs. Arbitrage operations of this type diffused the initial weakness of the pound, at first concentrated in the sterling-dollar rate, for they set up a tendency for the pound to recover in New York but to fall in Paris, and for the dollar to rise in Paris. A new triangular pattern tended to be estab-

lished on this basis; that is, the franc tended to be 'dragged down by' or to decline 'in sympathy with' the pound. But the establishment of a new relationship between the three rates was not, in this case any more than in Case 1, consistent with the policy of maintaining as closely as possible the traditional system of rates of the gold standard. Therefore, in order not to abandon that objective, both France and England had to obtain credits in America. As a result sterling was strengthened in New York from three sources—from the proceeds of their American credits offered by the French to repay part of their sterling debt to England, from the increased supply of dollars available to the English from their American credits, and from the demand for sterling incident to arbitrage operations. The resulting rise of sterling did not have to proceed far before it closed the previously existing arbitrage opportunities, but it had to be carried far enough to open exactly opposite arbitrage opportunities before the old system of rates could be reestablished by sales of dollars for francs, francs for pounds, and pounds for dollars.

Had French purchases in America been made without British credits, the attempt to pay for them would have weakened the franc in New York. This weakness of the franc would have opened arbitrage opportunities to sell dollars for francs, francs for sterling, and sterling for dollars, and would have set up a tendency to establish a new system of rates in the manner described above. Weakness in New York would now have spread from the franc to the pound rather than in the opposite direction, but the new relationships would probably not have been stable, and the balance of payments adjustments would, in the manner described under Case 1, probably have produced in the end an equal and persistent weakness of the franc in both sterling and dollars. To prevent this, American credits would have had to be extended to France to cover French purchases in America.

To summarize: The consequences of British loans to France to purchase goods in the United States were to in-

crease the pressure for American loans to England by making the task of pegging the dollar-sterling rate more difficult, and to increase the pressure for American loans to France through the reflection in the franc exchange of the weakness of the pound. The increase in loans to England from America on this account would have made her a principal in a system of debts involving a British debt to America and a French debt to England in which Great Britain was an intermediary.

Had British credits not been forthcoming three possibilities would have been present:

- 1) for French purchases in the United States not to have been made at all—an eventuality ruled out by hypothesis;
- 2) for the traditional system of exchange rates to be abandoned as a consequence of attempts to pay for these French purchases;
- 3) for America to make loans to France in strict accordance with the stated policy of the government.

Case 3: British Loans to France to finance French Purchases in Neutral Countries. When Great Britain lent sterling to France to enable her to buy goods in neutral countries the first direct effect on the exchange market was to weaken the pound in neutral markets through the offer of sterling in those markets by the French. This transaction did not directly affect the franc-neutral exchange rates or the sterling-franc rate. It therefore opened an arbitrage opportunity for the sale of francs for neutral exchanges, of neutral exchanges for pounds, and of pounds for francs. The initial weakness of sterling, therefore, at first concentrated in the sterling-neutral markets, tended to be diffused by these arbitrage operations, for they set up a tendency for the pound to recover in neutral markets, but to weaken in Paris, and for the franc to weaken in neutral markets. In the manner described it set up a tendency toward a new relationship between the pound, the franc, and neutral exchanges, with the franc and the pound both depreciated in neutral markets, though in unequal degree. If that occurred it was impossible for the dollar, though its

relations to other currencies were not affected in any way by the original transaction, to maintain stable exchange rates in neutral countries, in sterling, and in francs. The original weakness of sterling in neutral currencies would not have affected the sterling-dollar rate directly, any more than it affected the sterling-franc rate, and arbitrage opportunities would have arisen which would have tended to make the dollar move with the franc through the sale of neutral currencies for sterling, the sale of sterling for dollars, and the sale of dollars for neutral currencies. In order to prevent these deviations from the old system of rates, American credits to England would have been necessary, and in addition credits from neutral countries to support the whole sterling, franc, dollar group.

Had British credits not been given, but the French purchases in neutral markets nevertheless been made, the consequences would have been the same, except that the first deviations from the old system of rates would have been a weakness in the franc and would have been concentrated in the franc-neutral markets, and that this weakness would have spread from the franc to the pound, rather than vice versa. The tendency of the dollar would have been to move with the pound, and ultimately balance of payments adjustments, assuming an insistent French demand for goods in neutral markets, would probably have forced the new system of rates to resolve itself into a common depreciation of the franc in terms of the dollar, the pound, and the neutral exchanges.

To summarize: The consequences of British loans to France to finance French purchases in neutral countries were to increase the pressure on America for loans to support the sterling exchange, and at the same time to widen the geographical distribution of war-time international lending by increasing the pressure for American borrowing from neutrals.

Had British credits not been extended the three possibilities would have been:

- 1) for the French purchases in neutral countries not to have been made at all—an eventuality ruled out by hypothesis;
- 2) for a new system of exchange rates to have been established tending ultimately toward a general weakness of the franc in all markets;
- 3) for American and neutral loans to be made to support the exchanges in the same manner as if the British credits had been extended, but differently distributed. Such American loans to support the exchanges would have been in contradiction to the policy of the government as far as the use of the proceeds was concerned.

The discussion of the three types of British loan to France has revealed one situation in which no additional pressure was brought upon America to make foreign loans, one in which America was placed under pressure to lend to finance purchases in her own market, and four situations in which pressure was placed upon America to make loans to England or France to stabilize the exchanges without *direct* reference to American exports. If British credits were not forthcoming to finance French purchases in England, then the repercussions in the exchanges shifted the burden of financing these purchases to America. If British credits were granted to finance French purchases in America, then the repercussions in the exchanges placed America under pressure to make loans to support the sterling exchange, to relieve England of the burden she had assumed, and to make her an intermediary in the transfer of American credit basically extended to finance American exports. If British credits were forthcoming to finance French purchases in neutral countries, the repercussions in the exchanges placed America under pressure to extend credits to England to support sterling, and if they were not forthcoming, America was placed under pressure to make loans to France to support the franc.

These three cases are sufficient to illustrate the difficulties of maintaining at one and the same time a free movement of goods in the world's commerce, a stable system of exchange

rates, and a policy of restricting the use of the proceeds of foreign loans to purchases of goods in the markets of the lender. The world-wide geographical distribution of goods entering into international trade influences the exchange rates in a host of different ways and thus gives the signals that show that credit is needed to bridge the gaps in the exchange of goods. Under an international gold standard system the whole functioning of the world credit structure responds to these signals through the intricate mechanisms of banking adjustment described in these studies. The credit that is forthcoming is mobile and finds its way by devious channels to the original source of temporary lack of balance, whose far-reaching repercussions are expressed in forms not easily traceable. If the international credit required for the free flow of goods in every direction is not made available, the alternatives mentioned must be faced—either some of the goods cannot move or the system of stable exchange rates cannot be maintained. If the principle is rigidly applied, that foreign loans shall be made only when the disturbances in the exchanges that indicate they are needed happen to be directly connected in the first instance with the trade of the credit giver, then the free flow of goods is directly impeded. Gaps in the international distribution of goods that do not arise from the trade of the relatively few creditor countries are not bridged by credit, and the resulting disturbances in the exchanges are not prevented.

During the war the double necessity of enabling goods to move and maintaining a stable system of exchange rates as far as possible was stronger than the principle of restricting the use of the proceeds of loans to purchases in the lending country. It is impossible of course to disentangle the effects of these loans upon the exchanges during the war by an examination of the quotations. The operations in support of the exchanges were directed to resist pressures wherever they appeared, including those resulting from the international lending itself. Because loans were made available to meet these

pressures, in spite of the desire of governments to restrict their lending to a narrower basis, the effects of foreign loans, as a time-bridging device filling the gaps in the balances of payments in many countries, were diffused throughout the world and lent support to a whole system of exchange rates. They also influenced, in a manner to be described in the next section, both the demand for and supply of bank credit in all the countries adhering to this system of rates.

### The Support of the Foreign Exchanges during the War in its Relation to the Supply of and Demand for Bank Credit

The effort to maintain the international gold standard as a traditional system of rates had certain close connections with the effort to preserve the gold standard as a domestic institution. These connections are found in the complicated influence that foreign exchange pegging exercised over the development of the banking position both in countries with weak and in those with strong exchanges. In discussing these connections a sharp distinction has always to be borne in mind between the effects of the accumulation of the resources used in pegging upon the supply of bank credit and the effects of the success of pegging upon the demand for it.

#### *Effects of the Accumulation and Use of the Resources employed in Pegging on the Supply of Bank Credit*

As a general rule making payment for imports decreases deposits and receiving payment for exports increases deposits, but this rule, like so many others, is subject to certain important exceptions.

When a country makes payment for its imports in a foreign currency, its banks give up foreign assets and cancel part of their own deposits by charging the importers' accounts, while in the country receiving payment there is a transfer of deposits from foreign to domestic control through charges to the accounts of foreign banks and credits to exporters.

When a country receives payment for its exports in a foreign currency, its banks add to their foreign assets and increase their deposits by crediting the accounts of exporters, while in the country making payment there is a transfer of deposits from domestic to foreign control, through charges to the accounts of importers and credits to foreign banks.

The settlement of any *single* transaction therefore involves a change in the amount of deposits in only *one* country, either a decline in deposits in the importing country or an increase in deposits in the exporting country. What is true of a single import or a single export considered in isolation is true of the total of imports and exports whose settlement involves changes in the mutual indebtedness of the banking systems of the countries concerned. For the bulk of imports and exports, however, the interbank deposits cancel out, the settlement results merely in credits to exporters and debits to importers in each country, and the general rule applies. When balances of international payments are in relatively stable equilibrium, the few interbank deposits that do not cancel out act as balancing items,<sup>5</sup> appearing first on one side of the international accounts and then on the other. These deposits form part of the mobile international loan fund often referred to in other parts of these studies. When the balancing item takes the form of a reduction in the foreign assets of the banks of the importing country this fund is reduced. When it takes the form of an increase in the foreign assets of the banks of the exporting country this fund is increased. When, as before the war, the balancing items are not all on one side of the account and are reasonable in amount, fluctuations in the size and distribution of this international loan fund and its wise administration can provide an admirable instrument for promoting stability in the exchanges.

When, however, a country finds that its imports tend per-

<sup>5</sup> In statements of the international balance of payments increases in deposits due foreigners and decreases in balances held abroad are exports, and the opposite changes in balances are imports.

sistently to exceed its exports, the balances owed by its own banks to foreign banks tend to grow and the deposits of banks in foreign countries tend to expand. A point is soon reached at which foreign owned deposits in the importing country substantially exceed the amounts necessary for purposes of clearing or other customary needs, and pressure for their remittance home appears. Payment for part of the country's imports then takes the form of a net loss of foreign assets and a net cancellation of domestic deposits, and consequently in the exporter's country a net increase in foreign assets and in domestic deposits is replaced by a transfer of deposits from foreign to domestic control. Interbank deposits no longer move in the direction required to promote stability of the exchanges, but in the opposite direction. Payment for imports under these conditions involves a contraction in the credit superstructure of the importing country, and is a deflationary influence. It also results in pressure on the exchanges as the banks in the importing country attempt to find some means of replenishing their dwindling deposits abroad. The whole mechanism of the adjustment of balances of payments not in stable equilibrium comes into play at this point. If the needed exports from the importing country are provided in the form of gold the contraction in the credit superstructure already taking place, will, for reasons to be discussed, probably not be checked, and an added deflationary force, a contraction of the credit base, may be added to it.

After the exchange deadlock largely caused by the calling in of their foreign assets at the beginning of the war was broken, Great Britain and the Allied Powers were countries in this position. Their banking systems were under great pressure to provide ever increasing credit facilities to their war industries and their governments. The deflationary influence of continued payment for imports upon the superstructure of credit could therefore at most be an offset against a pressure for expansion. To allow the exchanges to depreciate was contrary to the entire effort of war finance to preserve confidence and to buy necessary imports as cheaply as pos-

sible. To decrease imports and increase exports was to make the conduct of the war more difficult. Goods and services bought abroad were essential to the economic life and military success of all belligerents. To divert home resources to the production of exportable goods to pay for imports would have weakened their military power. The continued flow of imports to the Allied Powers, while imports to the Central Powers were seriously impeded, might easily become a decisive factor in the whole struggle. Since neither deflation nor depreciating exchanges were a remedy for their problems, Great Britain and the Allies turned to the replenishment of foreign balances and the building up of domestic bank deposits by finding exportable commodities that would not weaken their material strength, to holding down the unavoidable increase in imports by *selecting* and controlling them, and to foreign borrowing. The two great exportable goods used for the replenishment of foreign balances were gold and securities. The mobilization and export of securities performed not only this function but also that of building up domestic deposits in exactly the same way as any export commodity. The influence of foreign credits and gold exports upon foreign balances and domestic deposits, however, is more complex and requires separate analysis.

#### EFFECTS OF GOLD EXPORTS ON THE CREDIT BASE AND CREDIT SUPERSTRUCTURE

Gold exports and imports have, under certain circumstances, a limited power to induce or create transactions that appear on the opposite side of the international balance of payments. In this they are not unique, but when they are functionally related to important capital movements they become part of a transaction that affects the credit base and credit superstructure differently from ordinary exports and imports of goods. Moreover the majority of gold exports and imports are made by banks acting as principals in the transaction, and this also results in effects on the credit base and credit superstructure which differ from those of ordinary exports and imports.

When gold is exported by private hoarders or by producers and sold for foreign currencies the gold appears as an export and the increase in foreign balances as an import on the country's statement of its international balance of payments. If these balances are retained or are used to buy securities or other foreign assets a functional connection is established between gold exports and certain particular imports, and the gold shipment is part of a transaction that swells both sides of the international account but does not affect the bank deposits of the gold exporting country. If the gold exporters bring home their foreign balances by selling them to banks in their own country, then both the domestic deposits and foreign balances of these banks increase. The banks may retain their increased foreign balances, employ them, or sell them to importers. To the extent that they retain or employ them abroad the functional connection between the gold exports and a corresponding amount of the country's imports is maintained and the increase in domestic deposits continues. To the extent that they sell them to importers the banks' domestic deposits and foreign assets are reduced. If they sell all the new foreign balances to importers, then the gold exports of the hoarders and producers have, like other exports, made possible a corresponding amount of imports without reducing the foreign currencies held by the banks, domestic deposits, or bank reserves.

When gold is exported by banks as an arbitrage transaction a different result follows. No functional connection between gold exports and particular imports is possible, for remittance home of the proceeds is essential to the completion of the transaction. Since the banks have now entered the transaction as principals, the behavior of the credit base and credit superstructure is also different. The sale of the gold in the first instance reduces bank reserves and increases the banks' foreign balances, but no one's account is credited since the banks are themselves the exporters. Remittance home is accomplished by the sale of the foreign exchange to domestic

importers whose bank accounts are debited. Like the gold exports of hoarders or producers who have brought home the proceeds of their shipments, gold arbitrage exports have offset a corresponding amount of imports without affecting the foreign assets of the banks of the exporting country. But they have not left either the credit base or credit superstructure unchanged. The final result has been that both bank reserves and domestic deposits have been reduced.

From the viewpoint of a gold importing country, of course, gold is an import which, like all other imports, has to be paid for. If, as was true of many gold imports into England during and after 1933, it is bought by individuals and held by them in domestic hoards, domestic bank deposits are reduced. This is also true when the government is the purchaser, provided the government pays in ordinary commercial bank funds and holds the gold in treasury vaults or in inactive accounts in a central bank. In either case it is correct to speak of the gold as being, from a banking point of view, 'sterilized.'<sup>6</sup> If the sellers, for example foreign hoarders or foreign producers, or the foreign banks to whom the original sellers transfer their deposits, do not remit the proceeds home, there is simply a transfer of deposits from domestic to foreign control. In the statement of the international balance of payments the gold is an import and the increase in balances due foreigners an export. If the new balances are employed in the purchase of securities or other assets, the deposits are passed on to the sellers of these assets, which are then recorded as exports. A functional connection has been established between gold imports and certain particular exports, and the gold import is part of a transaction that swells both sides of the international account but does not affect the bank deposits of the gold importing country. If the gold sellers do remit the proceeds home, making payment for gold imports reduces domestic deposits and the foreign exchange held by the banks

<sup>6</sup> The only real sterilization policy is the sale of imported gold, not to banks, but to customers of banks (cf. Swedish policy during the war).

in exactly the same way as making payment for any other import. Gold imports offset a corresponding amount of exports in the international balance of payments, without affecting either the foreign currencies held by the banks, domestic deposits, or bank reserves. These effects are exactly the opposite of those that follow the export of gold by hoarders and producers.

If, however, imported gold is bought by banks from foreign hoarders, producers, or other sellers, a different result follows. If the sellers do not remit the proceeds home both the deposits and the reserves of the banks of the gold importing country are increased. No one's account is debited, as in the case of purchases by individuals or governments drawing on ordinary commercial banking funds. Instead of a transfer of deposits there is a creation of new deposits. The gold import becomes part of a transaction that increases both sides of the international balance of payments, but does not leave deposits unchanged.<sup>7</sup> If the proceeds of the sale of gold are not retained in the gold importing country but are remitted home to the sellers, then the newly created deposits are canceled and the foreign exchange holdings of the banks are reduced. The purchase of the gold and the remittance of the proceeds combine to increase the reserves of the banks, and decrease their foreign assets, deposits remaining unchanged. This cancels the increase in foreign balances resulting from a corresponding amount of exports, but does not cancel the increase in deposits due to such exports. In the international balance of payments gold imports offset a corresponding amount of exports, but the banking effects are not offsetting. The final result is an increase in reserves and deposits, foreign exchange remaining the same. These are precisely the effects that follow when gold is imported as an arbitrage transaction.

The purchase of gold abroad by banks as an ordinary gold

<sup>7</sup> Such a relationship between gold imports and the purchase of American securities by foreigners was a subordinate feature of the American balance of payments after 1935.

arbitrage transaction is not functionally related to any item in the export side of the international balance of payments. It constitutes payment for current exports instead of being part of a transaction that may swell both sides of the international trading account because payment in foreign currencies is essential to the completion of the transaction. To pay for the gold the foreign exchange holdings of the banks are reduced, but no one's account is debited, for the banks are themselves the importers. The banks' foreign exchange is replenished by purchases from exporters whose transactions are quite independent of the gold arbitrage operation. The final result of the two parts of the operation is a net increase in domestic deposits and reserves, while foreign assets remain unchanged; that is, the exact opposite of the final results of gold exports as an arbitrage operation.

Since these are the usual effects of gold arbitrage, it is often asserted that gold exports decrease deposits and gold imports increase them, but this statement is elliptical and therefore often misleading. It is indeed something of a paradox, for other kinds of exports and imports are admitted freely to have the opposite result. The paradox arises because it is easy to fail to distinguish between the two parts of the completed arbitrage transaction. Strictly speaking, the offsetting of ordinary exports and imports in the international trade balance by gold bought and sold by banks has the effect of fixing permanently in the credit superstructure a portion of the reduction in deposits resulting from imports and a portion of the increase in deposits created by exports. These results follow solely because gold is an imported or exported commodity that is bought and sold by banks and not by customers of banks.<sup>3</sup>

During the war Empire gold was sold to the Bank of Eng-

<sup>3</sup> Gold shipped by governments and central banks for special purposes may have the banking effects of an ordinary arbitrage transaction or of a purchase from foreign hoarders who invest the proceeds in the importing country, depending on the purposes of the shipments.

land for its own account or for the Treasury, and reexported to other countries. The effects of the purchase were to increase bank reserves and to fix in the British banking system deposits created by exports to the gold producing countries, so far as these exports were not made by banks acting as principals. Among the exports to the Empire were large increases in Empire balances in London and reductions in Empire debt to England, which illustrate the capacity of non-arbitrage gold imports to induce to some degree offsetting exports of certain types. To the extent, however, that Empire indebtedness to London banks was reduced, the gold imports from the Empire did not cause a corresponding increase in English deposits, and consequently did not fully offset the deflationary effects of the reexport of the Empire gold. The import and reexport of Empire gold made it possible for Great Britain to conserve foreign assets outside the Empire (in this connection 'the Empire' stands chiefly for South Africa and Australia) and to import goods from countries outside the Empire without any reduction in bank reserves, and with only a moderate reduction in deposits, by the use of exports to the Empire. Other gold shipped by Great Britain and other belligerents in support of the exchanges built up foreign balances but diminished reserves and did not offset the deflationary effects of imports upon the credit superstructure.

#### EFFECTS OF FOREIGN CREDITS ON THE CREDIT SUPERSTRUCTURE

Gold and securities were not available in sufficient amounts to maintain the sterling-dollar-franc foreign exchange nucleus. They had from the outset to be supplemented in ever increasing degree by credit. Credits accumulated abroad in whatever form serve to increase the bank deposits of the borrowing country. Import credits postpone the reduction of bank deposits required by payment for imports. Export credits anticipate the additions to domestic deposits created by receiving payment for exports. Foreign credits therefore

tend to prevent deflationary pressure in a country whose imports (exclusive of changes in balances) are regularly larger than its exports.

**Credits in the Form of Bank Balances.** The simplest form of obtaining credit abroad is to retain balances accumulating under the control of foreigners as a result of their exports. There is a certain flexibility in the relations between the banking systems of countries with large international transactions that makes possible modification, within limits, of the ordinary effects of payment for goods shipped in international trade. For, as already indicated, though payment for imports *always* reduces bank deposits under domestic control, such payment *may* be accompanied by either a reduction in foreign assets or an increase in deposits under foreign control. Similarly, though receiving payment for exports *always* increases bank deposits under domestic control, it *may* be accompanied by either an increase in foreign assets or a decrease in deposits under foreign control. The increase in deposits under foreign control therefore is, within limits, a means open to a country attempting to support its exchanges to offset the reduction of bank deposits and the loss of foreign assets resulting from an adverse balance of payments. This means was used by England during the war. Because of difficulties in remitting home, the expectation of a post-war return to 'normal' exchange rates, and special inducements offered by British banks, foreign balances accumulated in London far in excess of the need for them (cf. Ch. 7).

**Other Credits.** The accumulation of balances in this way was, of course, but a small part of the total accumulation of credit used to support the exchanges during the war. A vast network of new international indebtedness, in the form of open book credit, bank loans, government advances, sale of treasury bills abroad, and long term capital imports was built up. In all these various forms it was essentially export credit, which anticipated for longer or shorter periods the ultimate build-

ing up of the domestic bank deposits and foreign assets of the banking systems of the borrowing countries through the shipment of goods and the rendering of services. Because these were the effects of retaining foreign-owned balances and obtaining foreign credits, it was possible for belligerent countries that had borrowed heavily in foreign markets to import vast quantities of goods without reducing their own domestic bank deposits. The actual payment for these imports did reduce the foreign assets and deposits of these banking systems, but they had previously been built up by various forms of credit. The use of the proceeds of foreign credits to pay for imports resulted in debits and credits of equal amount on the books of the importing countries.<sup>9</sup> In contrast, the failure of the Central Powers to obtain sufficiently large credits in the Netherlands, Denmark, and Sweden meant that their imports from these countries, having to be paid for in cash, had a deflationary effect in Germany and Austria-Hungary.

One further effect of foreign borrowing upon the credit superstructure should be noted. The building up of outstanding foreign credits required the maintenance of more balances by the borrowing countries in the lending countries. American foreign lending thus created a new requirement for the maintenance of *necessary* balances in New York. As a by-product of the use of credit to support the exchanges during the war there grew up, in addition to the great sterling international loan fund, a second international loan fund in dollars in New York.

#### EFFECTS OF PEGGING ON THE SUPPLY OF BANK CREDIT, SUMMARY

The accumulation and use of resources to support the exchanges added to the difficulties of maintaining the outward aspect of the gold standard as a domestic institution in those

<sup>9</sup> Kirkaldy, *op. cit.*, p. 71: "When a loan is floated in the United States of America and the credit to be created in America is drawn against to pay for exports from the States to the United Kingdom, debits and credits of equal amounts will be created on the books of banks in the United Kingdom."

countries whose exchanges were being supported. For it reduced the credit base in those countries, and at the same time prevented the credit superstructure from being diminished by payments for imports. The use of credit to support the exchanges may, on the latter account, be described as inflationary. Under war conditions, however, exchange pegging prevented the adoption of other courses of action which would probably have been even more inflationary in their effects. In the absence of foreign credits the goods essential for war would have had to be obtained in part from additional drafts on domestic production, in part through the diversion of banking resources to financing the production of goods for export, and in part through the purchase of imports at continually rising cost because of a depreciating exchange. These were the means to which the Central Powers had to resort. In Great Britain it is almost certain that the tendency toward domestic bank credit inflation that would have resulted from such a course would have been greater than the inflationary influence actually experienced through the acquisition of foreign credits. In this sense it may be said that the accumulation of foreign resources in support of the foreign exchanges actually did, on balance, release the banking system of burdens it would otherwise have had to bear. Foreign credits, moreover, when extended to the British government and used by it to import goods that were subsequently sold to the public, provided an admirable means for the transfer of purchasing power from the public to the government.

Gold imports into countries whose exchanges were strong had the inflationary effect of fixing in the credit superstructure deposits resulting from a corresponding volume of exports. Whether, aside from this, the receipt of gold, the purchase of securities, and the provision of foreign credits by such countries was an inflationary process depended upon the use made of such gold as reserve, the *sources* of the purchasing power used to buy the securities, and the manner in which the credits were granted.

*Effects of Pegging on the Demand for Credit*

Any judgment concerning the total effect of the process of exchange pegging must take account not only of these factors but also of the indirect influence of pegging upon the demand for bank credit. The successes achieved in maintaining a substantial nucleus of relatively stable exchange rates not deviating far from the pre-war system of mint pars greatly influenced the international distribution of the demand for bank credit. They reduced the inflationary pressure of financing the war in some countries and increased it in others. This they did through their influence on prices.

It is, of course, true that the effort to peg the exchanges during the war failed to hold price levels together because other forces were too great. When in peace-time special influences affecting the price levels of particular countries force them out of relation to world prices, as in countries dependent on a single crop or those subject to domestic political upheaval or a deliberate inflationary policy, the gold standard as a pegging device breaks down. During the war the importance of supporting the exchanges was regarded as so great that the effort to peg the exchanges was continued even after large differences between relative price levels and exchange rates came into existence. There is no doubt, however, that the price levels of countries whose exchanges were kept stable were held more closely together than internal inflationary forces of unequal strength would otherwise have allowed. All prices are part of a general system and those directly affected by exchange rates influence those which are not. The preservation of the sterling-dollar-franc nucleus introduced into the economy of the allied countries a volume of imports whose cost was less than it would have been had the exchanges not been pegged.<sup>10</sup> Yet owing to the elaborate system

<sup>10</sup> The extent of this advantage is difficult to measure. Professor Harris has shown that import prices do not adjust themselves completely to exchange depreciation, citing particularly the small rise in import prices in Great Britain

of import controls adopted by the government as part of the technique of pegging, it did not cause a rush of imports other than those needed for war purposes. On the other hand, it discouraged exports and consequently reduced the scarcity of goods within the allied countries which was at certain times responsible in part for the tendency of their price levels to rise.<sup>11</sup> Exchange control therefore constituted on the whole a check to rising prices in the allied countries. It consequently reduced the demands for credit upon their banking systems. At the same time, the effective demand for American and neutral exportable goods was increased by the pegging of the exchanges and this introduced an element tending toward inflation in the United States and other neutral countries. In this way part of the burden of financing the war was transferred from the banking systems of the Allies to the banking systems of the United States and in less degree to those of the smaller neutrals by the mere fact of relatively stable exchanges. This was, however, accomplished at the cost of an increase in the internal dispersion of prices which left a legacy requiring internal readjustment in the post-war period. The pegging of the sterling-dollar rate made it possible to introduce a large volume of relatively cheap imports into England and therefore altered the distribution of purchasing power within England. It helped to provide a relatively intense demand for certain classes of commodities in the United States and thereby altered the distribution of purchasing power in the United States. It was not neutral in relation to the formation of the internal price structure of

after September 1931. The greater the inelasticity of the supply of imported commodities, the more important the market of the country with a depreciated exchange to the producers of imported goods, and the more elastic the demand of that country for imports, the less complete is this adjustment likely to be. Cf. S. E. Harris, *Exchange Depreciation* (Harvard University Press, 1936), pp. 70-4. During the war, however, the conditions leading to a relatively restricted rise in import prices if the sterling exchange depreciated were not present to the same degree as after September 1931.

<sup>11</sup> Cf. S. E. Harris, *Monetary Problems of the British Empire* (Macmillan, 1931), pp. 162 ff.

the two countries. Such effects are always present under the international gold standard system and through them in part the tendency of that system to bring the prices of all countries to a common basis works itself out. When, as in the war, strong tendencies are present leading toward unequal degrees of inflation arising from domestic causes and the exchanges remain stable, their very stability introduces a dispersion of prices within the various countries. It is the same phenomenon that occurs when the exchanges are allowed to move rapidly while there is no great tendency for inflation or deflation within the various countries.<sup>12</sup>

<sup>12</sup> Miss Dulles has admirably presented evidence bearing on this point drawn from the behavior of internal prices in France after the war; *op. cit.*, pp. 301-13. This point also has a direct bearing upon the American monetary experiments of 1933-34.

## CHAPTER 5

### *The Gold Standard as a Domestic Institution during the War*

During the war exchange pegging contributed to check the movement of national price levels away from the positions they occupied in 1914 relative to one another, and thereby it redistributed the burdens of war financing and produced a more even distribution of war-time inflation throughout the world. The task of preserving the outward forms of the gold standard as a domestic institution was to that extent made easier in both belligerent and neutral countries. It was, however, made more difficult by the modifications in the actual physical redistribution of gold that exchange pegging made necessary.

#### The Physical Redistribution of Gold

The combined effect of the four currents of war-time gold distribution (cf. Ch. 2) was to leave the banking systems of most countries in possession of undiminished or increased supplies of gold, and at the same time to divide both belligerent and neutral countries into five definite groups as far as the behavior of their gold reserves was concerned. This is shown in Table 4 in which the percentage changes in the amount of gold held by the central banks and treasuries of thirteen countries are grouped as follows:

- 1) the principal financiers of the war
- 2) neutral countries not adopting successful gold repulsion policies and Japan
- 3) neutral countries in which special impediments to gold accumulation existed

TABLE 4

*Gold Reserves of Selected Countries  
Percentage Change during the War*

COUNTRIES BY GROUPS	CURRENCY (millions)	DECEMBER		PERCENTAGE INCREASE
		1913	1918	
I				
United Kingdom	Pound			
Bank of England		35	80	109
Bank of England plus Currency Note Reserve		35	108.5	210
United States	Dollar			
Monetary Gold Stock		1,924	3,081	60
Germany	Mark			
Reichsbank		1,170	2,262	93
II				
Netherlands	Guilder			
Netherlands Bank		151	689	356
Spain	Peseta			
Bank of Spain		472	2,223	371
Japan	Yen			
Bank of Japan		285	733	157
Government plus Bank of Japan		376	1,588	322
III				
Sweden	Krona			
Bank of Sweden		102	286	180
Switzerland	Franc	170	415	144
Argentina	Peso			
Caja de Conversion				
In Argentina		233	279	20
In Argentina and in legations abroad		233	379	63
Caja de Conversion plus Banks		295	433	47
IV				
France	Franc			
Bank of France				
In France		3,517	3,441	-2
In France and abroad		3,517	5,478	56
Italy	Lira			
Three Banks of Issue and the Treasury				
In Italy		1,493	1,054	-29
In Italy and abroad		1,493	1,642	10
Russia	Rouble			
In Russia				-19 <sup>1</sup>
In Russia and abroad				125 <sup>1</sup>
V				
Austria-Hungary	Krone	1,241	262	-79

SOURCE: League of Nations, *Memorandum on Currency and Central Banks, 1913-1925* II, 34 ff.

<sup>1</sup> July 1914-Oct. 1917; calculated from Table 6.

- 4) continental belligerents successful in preventing substantial dissipation of gold reserves
- 5) continental belligerents unable to preserve gold reserves.

Changes in the physical quantities of gold held, in combination with very unequal rates of inflation, broke down in many countries the pre-war relationship between gold and the volume of notes and deposits. In some neutral countries the accumulation of gold resulted in a very high set of reserve ratios, while in some belligerent countries reserve ratios were so reduced as to lose touch completely with pre-war norms. Even in the latter, however, gold retained its place in the banking and monetary system as evidence of the soundness of central banks, as a symbol of national prestige, and as a promise of a post-war return to normal. The general importance still attributed to gold reserves in these respects is attested in a letter written to President Wilson by Secretary of State Lansing on September 6, 1915, and published in the *New York Times* of January 11, 1935. In discussing the means available to European countries for the payment of purchases in America, Mr. Lansing wrote:

"It is estimated that the European banks have about three and a half billions of dollars in gold in their vaults. To withdraw any considerable amount would disastrously affect the credit of the European nations, and the consequence would be a general state of bankruptcy."

Dr. Blankart has presented the figures of the note issues, gold reserves, and the ratios of gold reserves to note issues in the major countries during the war. Since these figures are all expressed in Swiss francs at pre-war gold parity, they make possible direct comparisons between the various countries, and provide the basic statistical background for a brief review of the attitude of individual countries during the war toward the gold standard. Such a review serves to break down Mr. Lansing's generalization into its component parts and to emphasize the vitality of the concepts of gold as standard and gold as reserve during the war.

### The Psychological Importance of Gold in Countries in which Gold Reserves Steadily Declined

The gold reserve ratios of all the major continental belligerents declined steadily and persistently, but none except Austria-Hungary and Russia after the revolution of 1917 was forced to abandon completely the facade of a gold standard.

#### *France*

In spite of the vigorous efforts made to concentrate, preserve, and increase the country's stock, gold continued to represent a continually decreasing percentage of the note issue of the Bank of France. The legal limit of note issue was repeatedly increased. By secret agreements made in 1911 the Bank of France had undertaken, in case of a French mobilization, to advance to the state 2,900 million francs, provided the law was simultaneously altered to permit an expansion of note issue of a like amount and to relieve the Bank of its obligation to redeem its notes in gold. These agreements were approved by the law of August 5, 1914, which raised the pre-war legal limit from 6,800 million to 12,000 million francs, and empowered the government to increase it still further by decree. Within two months the new limit was reached, and decrees of this sort became a regular feature of French finance until this delegated power was withdrawn by the law of March 5, 1919.<sup>1</sup>

The persistent decline in the ratio of gold, even including gold pledged abroad, to notes at the Bank of France from 59.7 to 17.7 per cent during the war (Table 5) caused grave concern in France. It was regarded as a threat to the safety of the French banking system and a blow to French prestige, even though in a technical sense the ratio had lost all significance. As early as 1915 the Bank of France declared in its annual report that further demands for gold would endanger the safety of the French banking system. Therefore when gold

<sup>1</sup> Jèze and Truchy, *op. cit.*, pp. 229, 238.

had to be shipped to England in connection with the stabilization of the franc in 1916 great care was taken to assure the public that there was really no diminution in French gold reserves. In speaking of this transaction M. Ribot said:

"England is anxious to augment her reserves of gold in order to *maintain* her gold standard and to increase her credits in the United States. The Bank of France, even in the present phase of the war has a gold reserve in excess of 4,000,000,000 francs. Con-

TABLE 5

*Bank of France, Gold Reserves, Note Issue, and Advances 1914-1918 (millions of Swiss francs at par)*

	JULY 1914	1914	END OF YEAR		1917	OCT. 1918
			1915	1916		
	GOLD RESERVES AND NOTE ISSUE					
Note circulation	6,912	10,042	13,309	16,679	22,337	30,782
Gold at home	4,104	4,158	5,015	3,489	3,315	3,406
Gold abroad				592	2,037	2,037
Gold reserve as percent- age of note circulation						
excl. gold abroad	59.7	41.4	37.6	20.9	14.4	11.1
incl. gold abroad				24.4	23.9	17.7
	ADVANCES AGAINST WHICH NOTES WERE ISSUED					
Advances of Bank of France to:						
French government	200	4,103	5,701	7,600	12,700	19,000
Allied governments			630	1,800	3,220	3,490
Total government ad- vances for which notes were issued	200	4,103	6,331	8,400	15,920	22,490

SOURCE: Blankart, *op. cit.*, pp. 20-21

sequently, we are now in a position to promise England a considerable sum drawn from our own abundance; we shall put this gold at the disposition of the British Treasury, and the Treasury will open a credit in our favor in London in pounds sterling. The gold lent by us will reenter the coffers of the Bank of France after the war."<sup>2</sup>

As late as the dark days of 1918 M. Clemenceau made an impassioned appeal for the preservation of the gold reserves of France.

<sup>2</sup> Blankart, *op. cit.*, p. 157 (our italics). M. Ribot was speaking of the results of a conference with Messrs. Asquith and McKenna on August 24, 1916.

TABLE 6

*Gold Reserves and Note Issue of Continental Countries and Japan, 1914-1918 (millions of Swiss francs at par)*

	JULY		END OF YEAR		1917	AUG. 1918	OCT. 1918
	1914 <sup>1</sup>	1914	1915	1916			
GERMANY							
Reichsbank Notes	2,364	6,231	8,647	10,068	14,335	20,577	
Notes of the private issuing banks	193	165	189	195	201	266	
Reichskassenscheine in circulation	255	245	402	441	347 <sup>2</sup>	435 <sup>3</sup>	
Darlehenskassenscheine in circulation		551	1,200	3,696	6,313 <sup>2</sup>	11,576	
Total paper circulation	2,812	7,192	10,438	14,400	21,196	32,854	
Reichsbank gold reserve	1,566	2,565	2,856	3,151	3,008	3,144	
Reserve, private issuing banks (incl. small amount of silver)	89	84	89	98	104	87	
Total gold reserve	1,655	2,649	2,945	3,249	3,112	3,231	
Gold reserve as percentage of note circulation	58.8	36.1	27.2	22.6	14.7	9.8	
ITALY							
Notes of the 3 Banks of Issue	2,265	2,936	3,968	5,013	8,424		
Biglietti dello Stato	310	700	1,082	1,500	1,500		
Total paper circulation	2,575	3,636	5,050	6,513	9,924		
Gold reserve of the 3 banks of issue	1,530	1,550	1,527	1,328	1,267		
Gold reserve as percentage of note circulation	59.4	42.6	30.2	20.3	12.7		
RUSSIA							
Note circulation	4,357	7,526	14,147	22,566	46,107 <sup>4</sup>	182,000	
Gold at home	4,269	3,929	4,298	3,923	3,456 <sup>4</sup>	3,000	
Gold abroad		384	720	5,735	6,157 <sup>4</sup>		
Gold reserve as percentage of note circulation	97.7	52.0	30.3	17.3	7.4 <sup>4</sup>	1.9	
excl. gold abroad		57.2	35.5	42.9	29.8 <sup>4</sup>		
incl. gold abroad							

SPAIN

Bank of Spain Notes	1,939	1,965	2,100	2,360	2,783	2,954
Gold stock	545	572	867	1,251	1,967	2,185
Gold reserve as percentage of note circulation	28.1	29.1	41.3	53.0	70.6	74.0

NETHERLANDS

Netherlands Bank Notes	890	984	1,200	1,577	1,852	1,971
Gold stock	337	433	893	1,222	1,455	1,478
Gold reserve as percentage of note circulation	38.9	44.0	74.4	77.5	78.5	74.9

JAPAN

Bank of Japan Notes	1,099	933	1,109	1,550	1,690	1,687 <sup>6</sup>
Gold stock	578	562	640	1,058	1,529	1,661 <sup>6</sup>
Gold reserve as percentage of note circulation	52.6	56.4	57.7	68.3	94.2	98.4 <sup>6</sup>

SWEDEN

Swedish Riksbank Notes	317	422	456	581	796	957
Gold stock	144	150	174	256	338	366
Gold reserve as percentage of note circulation	45.4	35.5	38.1	44.0	42.4	38.2

SWITZERLAND

Swiss National Bank Notes	409	456	466	537	702	892
Bundeskassenscheine		27	1	0.3	0.1	
Darlehenskassenscheine		8	35	24	7	25
Total paper circulation	409	491	502	561.3	709.1	917
Gold supply, incl. War Reserve	192	238	250	345	357	381
Gold reserve as percentage of note circulation	46.8	48.4	49.8	61.4	50.3	41.5

source: Blankart, *op. cit.*, pp. 21-5

<sup>1</sup> Germany and Switzerland, July 23, 1914; Japan, end of December 1913.

<sup>2</sup> February 8, 1918.

<sup>4</sup> End of October, 1917.

<sup>3</sup> October 15, 1918.

<sup>5</sup> End of July, 1918.

*Germany and other Continental Belligerents*

In Germany the greatest importance was attached to the preservation of the gold reserves of the Reichsbank. These were steadily increased during the first half of the war and maintained approximately stationary thereafter. This was, however, accomplished only by measures that deprived the reserve ratio of any real economic function in the banking system. From the very outbreak of the war the old relationships of the German note issue to gold were broken and means of pyramiding the amount of notes issued against a given amount of gold were quickly devised. The Reichsbank law was changed to permit the Reichsbank to accept single name commercial paper as part of its two-thirds reserve of paper against notes. It was also provided that *Reichskassenscheine* and *Darlehenskassenscheine* be counted as gold reserve, and the four private note issuing banks were authorized to use Reichsbank notes as gold reserve. The course of note inflation and the rapidly diminishing gold reserve ratio are shown in Table 6. In Italy and Russia the same motives were at work. Both countries were able to prevent substantial dissipation of their gold reserves during the greater part of the war (Table 6). Until the revolution of 1917, Russia was even able to increase her total reserves, if in her case, as in that of France, gold held abroad is included in the figures. In Austria-Hungary alone of the major belligerents the gold reserve could not be preserved even as a confidence inspiring factor, owing to the transfer of most of the gold reserves of the Austro-Hungarian Bank to Germany in exchange for the latter's cooperation in supporting the Austro-Hungarian as well as the mark exchange.

#### Increase in Gold Reserves in Neutral Countries and Japan

In many neutral countries, on the other hand, the physical increase in gold that resulted from the forces of war-time gold

distribution was more than sufficient to keep pace with the concurrent expansion of credit (Table 6). This was true of Spain, the Netherlands, and Argentina, as well as of Japan (cf. Ch. 14), whose economy was affected by the war in many ways like those of neutral countries. Sweden, which took definite steps to prohibit imported gold from affecting its banking system, and Switzerland, which was forced by the other countries of the Latin Monetary Union to accept payment for part of its export surpluses in silver and to meet a large demand for gold for the arts, were exceptions. In both countries the reserve ratios of the war years did not change greatly. Gold was maintained in its traditional place in their banking systems, at least in outward seeming.

### The Gold Standard as a Domestic Institution in Great Britain

It was of particular importance for the whole cause of the Allies that confidence in the stability and strength of the British banking system should be completely maintained. The almost universal belief that the gold standard still existed in Great Britain contributed powerfully to this feeling. The persistence of this belief is not surprising, for the British banking system was able to preserve the appearance of continuity of practice and stability through a combination of factors which was not, perhaps could not, have been present in other belligerent countries in the same degree. Exchange pegging and price control reduced the demand for bank credit in England as in other countries, but no other country used the taxing power so ruthlessly or occupied so strategic a position in the world-wide race for gold. The British people transferred real resources to the government through taxes and genuine lending from savings to a degree unequalled by other peoples, and thereby relieved the government of the necessity of forcing these transfers through inflation. The British financial authorities used the available gold reserves with great skill so as to contribute in maximum degree to

the expansion of credit with a minimum of violence to the traditional system of reserve ratios. At no time during the war was there a premium on gold in England in the sense of a distinction between gold and paper prices, such as appeared in the United States during the greenback period.<sup>3</sup> No official action was taken which recognized or implied that Great Britain was 'off' the gold standard. The exchanges were pegged. Above all, the familiar accounting landmarks in the banking system continued to give an appearance of solidity in accordance with long established tradition.

*The Reserves of the Bank of England and its Proportion*

The first and most important of these accounting landmarks, from a psychological point of view, were the gold reserves of the Bank of England and its proportion.

It is not the intention of these studies to follow Professor Harris and other investigators into the difficult realm of speculative interpretation of the war-time changes in the Bank of England's published statements. We shall merely indicate briefly the manner in which the general aspect of that statement was prevented, not indeed from showing serious strains under the burden of war finance, but from giving any evidence of an actual or potential loss of its traditional character.

The crisis of 1914, to recapitulate briefly, more than tripled the Bank of England's 'other deposits' and reduced its reserves, and consequently reduced the proportion in the Banking Department from 52 to 18 per cent between July 22 and August 26, 1914. The measures devised to meet the crisis included, however, effective means for replenishing the reserves and restoring the proportion. The device of issuing Currency Notes relieved the Bank of England of the obligation of issuing its own notes to meet the needs of additional circulation and therefore removed a pressure upon the gold stock of the Bank which would have made adherence to the conditions of

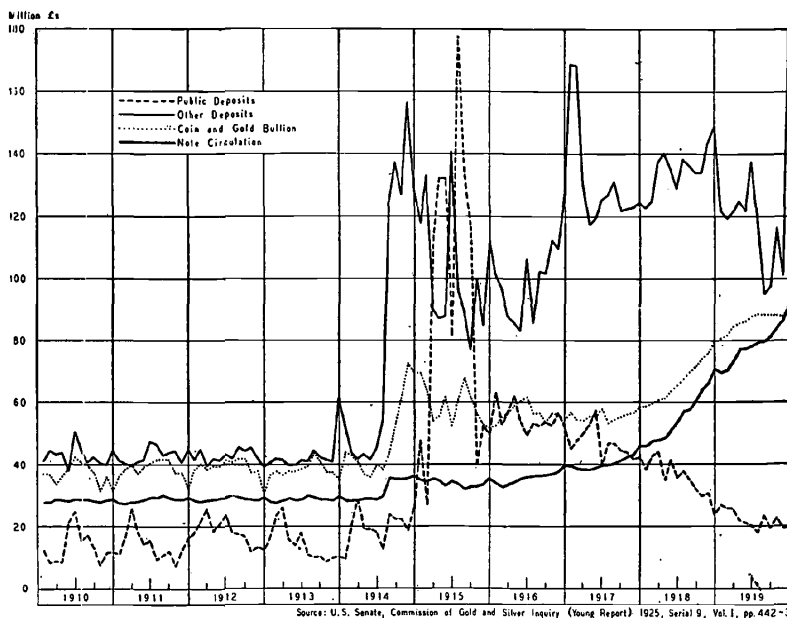
<sup>3</sup> Cf. Harris, *op. cit.*, pp. 308 ff., for a discussion of the reasons why such a premium did not appear.

the Peel Act and the preservation throughout the war of the familiar appearance of the statement of the Issue Department impossible. At the same time the transfer of gold from the joint stock banks already mentioned helped to build up the reserves of the Banking Department so that the proportion reached 34 per cent on November 18, 1914.

In the first quarter of 1915, however, the proportion again fell, reaching 18 per cent on March 31. The emergency ad-

CHART 2

*Bank of England, Note Circulation, Coin and Bullion, Other Deposits and Public Deposits, 1913-1919*



vances of the crisis were substantially reduced, but the consequent reduction in 'other deposits' was offset by a large increase in 'public deposits' as a result of the receipt by the government of the proceeds of large popular war loans. At the same time shipments of gold to support the exchanges and

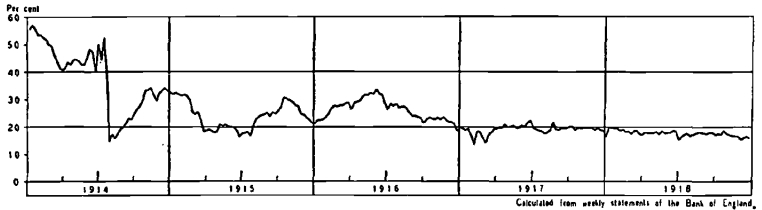
the setting aside of a gold reserve against Currency Notes<sup>4</sup> made such drafts on current gold accumulations that the Bank's gold reserve was drawn down.

In the summer of 1915 the reserve was again replenished, and the proportion rose to 30 per cent. In the autumn the techniques for preventing wide fluctuations in the government's deposits at the Bank were perfected and 'public deposits' declined very sharply. The proportion, however, was reduced to 22 per cent at the close of the year by a renewed outflow of gold.

The reserve was for the third time replenished early in 1916 and as deposits declined the proportion was raised to 32 per cent by June 14. Once again, however, exports to support

### CHART 3

*Bank of England, Ratio of Notes and Coin in the Banking Department to Deposits, 1913-1918, weekly*



the exchanges were required. The government was making great demands upon the banks and late in December 'other deposits' were sharply increased by open market operations. The proportion gradually fell and at the end of the year was only 18½ per cent.

These declines in the gold reserves of the Bank of England because of shipments in support of the exchanges caused alarm, and voices were raised in protest, proclaiming that the gold standard was in peril. It was even understood that one of

<sup>4</sup>The first deposit of gold in the Currency Note Account was made on September 9, 1914. The amount was increased to £28,500,000 by May 12, 1915 and remained unchanged thereafter. Kirkaldy, *op. cit.*, p. 26, and p. 125, note.

the reasons for the rise in Bank rate from 5 to 6 per cent on July 12, 1916 was to discourage an outflow of gold, though at that time the bullion market was not functioning, and England's gold was, in the quaint phrase of the Cunliffe Committee, being 'protected' by the submarine menace.

After America's entry into the war these periodic drafts upon the Bank of England's gold reserve were not repeated. The proportion was in fact stabilized at something under 20 per cent by additions to the reserve in rough proportion to the increase in 'total deposits.' The growth of deposits, however, was very slight because a rise in 'other deposits' was offset by continued reduction in 'public deposits.' These changes are readily traceable in Chart 2, showing the chief items in the Bank of England statement, and Chart 3, showing the proportion in the Banking Department during the war. The influence of gold exports upon the proportion of the Bank of England is greatly magnified by the maintenance of virtually a 100 per cent gold reserve in the Issue Department. At the close of 1918 metallic reserves were 32.6 per cent of notes and other sight liabilities compared with 34.6 per cent at the end of 1913, while the proportion had been cut in half. Yet there was little to alarm the average Englishman in the aspect of the Bank statement or to raise fears in his mind concerning the safety of the Bank, once he had become accustomed to a stable proportion of 20 per cent instead of a stable proportion of from 40 to 50 per cent.

*Building an increased Credit Superstructure on the increased Credit Base*

In these ways the Bank of England was able during the war to permit a rapid expansion in its 'other deposits,' which included, probably as its main constituent, the growing balances of the joint stock banks, without presenting a statement destructive of confidence in its own strength and 'soundness.'

The expansion of the joint stock bank balances at the Bank of England was the result of a combination of factors, nearly

all of which contributed in greater or less degree to building up their own deposits as well as to the preservation or increase of their reserves. Among these were, of course, the Bank's own purchases of securities, its advances, including advances to the government, and gold deposited with it, with the exception of gold already held by the joint stock banks as part of their reserves at the outbreak of the war.

The relationship between government borrowing at the Bank of England and the growth of bank credit was controlled by the development of a complicated technique of central bank administration of government funds. This technique played a major role in the history of credit control in England, not only during but also after the war, and merits the most careful consideration. During the war itself, the creation *and turnover* of government deposits at the Bank bore a threefold relation to the reserve position of the joint stock banks:

- 1) The Turnover of Bank of England Balances created by Advances to the Government. Balances obtained by the government by borrowing at the Bank of England were paid out by the government to its creditors and deposited by them in the joint stock banks. This operation increased the deposit liabilities and the balances at the Bank of England of the joint stock banks in equal amount. It made available Bank of England funds which the joint stock banks could use as the basis for making advances to the Treasury or for buying government securities. When they did so, Bank of England funds were again made available to the government and joint stock bank reserves were reduced. Fresh government expenditures, however, again replenished the reserves of the joint stock banks and again increased their deposits. The *turnover* of Bank of England balances created by advances to the government therefore resulted in the provision of new reserves for the joint stock banks and the building up of their holdings of government securities and their deposits from the public. This process could be continued until the impetus of the

original Bank of England advance to the government was exhausted by the reestablishment of the customary reserve ratios of the joint stock banks.

2) The Turnover of Bank of England Balances used to Purchase Currency Notes. The transfer of joint stock bank balances at the Bank of England to the government through the Currency Notes Account and their subsequent expenditure by the government had the effect of providing the country with hand to hand circulation without making any drafts upon the reserves of the banks. The steps in this process were very simple. The joint stock banks, upon feeling a demand for currency from the public or themselves experiencing increased requirements for till money owing to the expansion of credit, the increase in business activity, and the rise in prices, purchased Currency Notes from the government by having their accounts at the Bank of England debited. The Currency Notes Reserve Account was credited and the government replaced the Bank of England balances in that account with their own securities. The government then expended these balances and, as before, they returned to the joint stock banks through the deposits of government creditors. When Currency Notes were purchased to meet a demand from the public, this *turnover* of deposits on the books of the Bank of England had no net effect upon the reserves and deposits of the joint stock banks, but relieved them from a deflationary pressure they would otherwise have been subjected to. While the deposits of the government creditors were built up the deposits of those who had withdrawn currency for hand to hand circulation were reduced. At the same time joint stock bank reserves at the Bank of England remained intact, having been drawn down to purchase Currency Notes and replenished by the deposits of checks drawn by the government. The process created therefore an increase in the public debt in the form of government paper money outstanding in the hands of the public without trenching at all upon commercial banking reserves, or, except in the case

of an increase in till money, expanding bank credit. This process rendered unnecessary the original plan for the issue of Currency Notes to the banks under the form of advances of not more than 20 per cent of their capital and surplus and bearing 2 per cent interest. When the Currency Notes purchased were held as till money by the joint stock banks both the cash component of their reserves and their deposits were increased.

3) The Turnover of Bank of England Balances lent to the Government through Special Deposits. Beginning in March 1916 the Bank of England offered to 'borrow' from the joint stock banks some of the foreign balances that were accumulating with them as part of the process of supporting the exchanges. This transaction took the form of three day loans to the Bank, which were given the name of 'special deposits,' and these special deposits were re-lent by the Bank to the government. The method by which this double operation was dealt with in the accounts of the Bank of England has not been made public. The 'special deposits' did not appear as such in the published statements of the Bank, nor were the corresponding loans to the government separately recorded. These loans may have been included in the annual statement of the Bank under the heading 'exchequer bills purchased,' or the whole transaction may simply have been carried in a memorandum account.<sup>5</sup> Whatever the accounting treatment, the 'lending' of foreign balances by the joint stock banks to the government through the Bank of England as intermediary must have been an operation that in the first instance reduced 'other deposits' at the Bank, while the subsequent expendi-

<sup>5</sup> These suggestions are made in Harris, *op. cit.*, p. 54, and Kirkaldy, *op. cit.*, p. 44. Professor Harris has made the following estimate in millions of pounds sterling (*op. cit.*, pp. 56-7) of the amount of the special deposits:

		1919		1919		1919	
Jan. 5, 1916	0	April 12	199	June 30	469	Sept. 13	157
1917	65	May 3	212	July 12	635	Sept. 20	201
1918	125	May 31	196	July 19	485	Oct. 11	149
1919	182	June 7	308	July 26	319	Oct. 18	92
		June 14	383	Aug. 2	206	Oct. 25	14
		June 21	435	Sept. 6	178	Nov. 1	14

ture of the Bank of England funds so received by the government must have increased 'other deposits' again. The final outcome was as if the joint stock banks had purchased securities directly from the government, and the government had spent the proceeds. It was a *turnover* of Bank of England funds that had the effect of keeping joint stock bank reserves with the Bank of England unchanged while at the same time building up joint stock bank deposits. The increase in the deposits of government creditors in the joint stock banks, however, was not offset, as in the case of the issue of Currency Notes to the public by a reduction in the deposits of other customers. It was offset by a new asset, namely 'special deposits at the Bank of England.' This asset was treated by the joint stock banks either as 'cash' or as 'money at call and short notice,' and therefore it did increase their actual reserves and permitted a still further secondary expansion of bank credit.<sup>6</sup>

These three operations had one feature in common. They placed the government in control of deposits at the Bank of England which were thereupon converted into deposits with the joint stock and other banks by being spent by the government. But in other respects their results were different.

The first operation *increased* the balances of joint stock banks at the Bank of England and *increased* their deposits. It was an inflationary operation increasing the credit base and the credit superstructure in equal amount.

The second *maintained* the balances of the joint stock banks at the Bank of England and *maintained* their deposits by relieving them of the burden of providing hand to hand circulation to the public. When new Currency Notes were

<sup>6</sup> Kirkaldy points out that during 1916 the cash items of the joint stock banks increased £95 million, whereas their balances in the Bank of England increased only £14 million and probably their additional reserves of Currency Notes increased not over £20 million. This leaves about a £61 million increase in cash to be explained. At the same time, in the government accounts, Ways and Means Advances increased more rapidly than government securities in the Bank of England. The conclusion follows that the joint stock banks considered as cash the loans they had made of spare balances to the government through the Bank of England. Harris, *op. cit.*, p. 52; Kirkaldy, *op. cit.*, pp. 83 ff.

added to till money this operation *increased* both the cash and deposits of the joint stock banks. It was an inflationary operation because it removed a very important check upon the expansibility of the banking system.<sup>7</sup>

The third *maintained* the balances of the joint stock banks at the Bank of England and *increased* their deposits. It also increased either their cash or their secondary reserves, depending on whether 'special deposits' at the Bank of England were

TABLE 7

*Joint Stock Banks of England and Wales (except Bank of England), Reserves and Deposits, 1913-1918*<sup>1</sup> (millions of pounds)

	1913	1914	1915	1916	1917	1918
1 Deposits and current accounts	809.4	895.6	992.6	1,154.9	1,365.3	1,583.4
2 Cash and at Bank of England	115.8	169.9	179.0	248.0	238.5	270.1
3 Money at call and short notice	120.1	106.2	83.5	121.5	189.4	211.1
4 Percentage line 2 is of 1	14.3	19.0	18.0	21.5	17.5	17.2
5 Percentage lines 2 plus 3 is of 1	29.2	30.8	26.5	32.0	31.3	30.4

SOURCE: *The Economist*, Vol. 78, 80, 82, 84, 86, 88, Banking Supplement, May 1914-19

<sup>1</sup> Most of these figures are as of Dec. 31, though a few balance sheets, of relatively minor importance, are included as of other dates during the year.

treated as 'cash' or as 'money on call or short notice.' It had therefore an inflationary effect similar to the first.

There was one other means by which the joint stock banks were able to increase their reserves. This was by an increase in the float which accompanied a rising level of prices and great activity of business.

<sup>7</sup> Cf. the excellent treatment of the difference in the American banking system between the *legal* powers of expansion permitted by the Federal Reserve Act and the practical limits imposed by the necessity of providing an increased note circulation when bank credit is expanding in Rufener, *Money and Banking* (Houghton, Mifflin, 1934), pp. 562 ff. The American example is the most suitable for the exposition of this point because the legal reserve requirements permit a certain definiteness in the calculation impossible under the British customary system.

In these ways the reserves of the British banks kept pace (as shown in Table 7) with the demands made upon them by the requirements of war finance, and their deposits were increased seven times as fast as during the average pre-war years without undue change in their customary reserve ratios. Another of the great accounting symbols of a banking system sound in accordance with long established tradition was thus preserved in England during the war.

### *The Ratio System of the Joint Stock Banks*

For a decade before the war the joint stock banks had maintained their 'cash' plus 'money at call and short notice' at

TABLE 8

*Joint Stock Banks of England and Wales (except Bank of England), Principal Assets as Percentages of Total Deposits, 1913-1919 (millions of pounds)*

	1913	1914	1915	1916	1917	1918	1919
1 Deposits	809.4	895.6	992.6	1,154.9	1,365.3	1,583.4	1,874.2
2 Discounts and advances	539.8	553.5	503.6	542.8	685.7	834.7	1,129.6
3 Percentage line 2 is of 1	66.7	61.8	50.7	47.0	50.2	52.7	60.3
4 Cash and money at call and short notice	236.0	276.0	262.5	369.5	427.9	481.2	452.8
5 Percentage line 4 is of 1	29.2	30.8	26.5	32.0	31.3	30.4	24.2
6 Investments	121.2	146.5	310.8	323.0	339.7	347.2	398.6
7 Percentage line 6 is of 1	15.0	16.4	31.3	28.0	24.9	21.9	21.3

SOURCE: *The Economist*, Vol. 110 (1930), Banking Supplement, May 10, p. 18

close to 28 per cent of their 'total deposits.' They had an unusually strong reserve position in 1913 when this ratio was 29.15 per cent. All through the war, except during 1915, it was even higher; over 30 per cent. In 1915 it was 26.5 per cent, only slightly below the average for the pre-war decade and above that of the decade preceding. Moreover, the 1915

decline was caused not by a drop in primary reserves but wholly by a drop in secondary reserves, 'money at call and short notice.' It was a reflection of the response of the joint stock banks to the government's demand for accommodation through the purchase of government securities (Chart 46). For the same reason certain of the other customary ratios of the joint stock banks changed radically in 1915. The ratio of 'investments' to 'total deposits' rose from 16.4 per cent in 1914 to 31.3 per cent in 1915, while that of 'discounts and

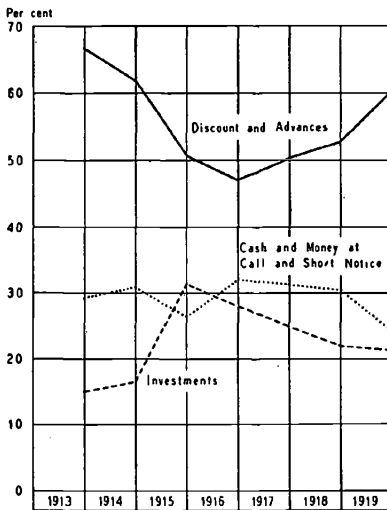


CHART 4

*Joint Stock Banks of England and Wales  
Principal Assets as Percentages of Total Deposits, 1913-1919*

advances' to 'total deposits' fell from 61.8 to 50.7 per cent. During the ensuing years of the war these two ratios began moving back to their pre-war magnitudes. Many changes in government financing contributed to this result. The short term debt was built up and treasury bills came in increasing amounts to the joint stock banks through the discount market. A better system of distributing government securities to investors was developed. Bank funds were liberally used to assist purchasers of government bonds, and government bonds became an increasingly important type of collateral for bank

advances. The tendency to restore the pre-war ratio system was accelerated after the actual close of hostilities. By 1919 published statements of the joint stock banks showed the results of war finance in a great increase in all the major items. As far as the distribution of assets is concerned, they did not differ very greatly from the statements of pre-war years. Before the war the relative rigidity of this system of ratios was important in increasing the control of the Bank of England over credit. It was at the heart of the stable credit conditions in Great Britain which contributed so much to the 'perfection' of the international gold standard system of pre-war days.

The war-time disturbances in the ratio system of the British joint stock banks and the tendency toward a return to the pre-war 'normal' after the first shocks of the war were met are shown in Table 8 and Chart 4.

#### The Gold Standard as a Domestic Institution in the United States

The gold standard in America proved to be a flexible and expandible instrument under the extraordinary conditions prevailing during the war. From June 30, 1914 to June 30, 1918, American banks increased their cash assets (cash and due from banks) 133 per cent and their deposits 152 per cent. Commodity prices meanwhile more than doubled. For a country on the gold standard to increase its total deposits one and one half times and to double its commodity prices in four years is truly remarkable. Yet no question ever arose in the public mind that the American gold standard "in its full integrity . . . was ever in danger" (cf. Ch. 2, note 1). In America, alone among the major financiers of the war, the joint process of gold accumulation and concentration more than kept pace with the war-time increase in the credit superstructure. There was never a shortage of reserves to meet the requirements of law and of tradition.

*Surplus Gold in the United States*

The three reasons for this abundance of reserves were:

- 1) the outbreak of the war at a moment when the Federal Reserve Act had just reduced the legal reserves required of the commercial banks of America by probably as much as \$400 million<sup>8</sup>
- 2) the command of the United States over the gold of the belligerent world, in combination with the defenses introduced against losses to the neutral world, which increased the monetary gold stock of the country 160 per cent
- 3) the passage of amendments to the Federal Reserve Act in June 1917, which increased the amount of notes and deposits that could be legally created upon a given amount of gold.

During the entire war both the gold reserves and the deposits of the Federal Reserve banks grew rapidly, and it was characteristic of the Federal Reserve banks to have an 'excess' gold reserve over requirements as shown in the accompanying table.

*Ratio of Total Cash Reserves to Net Deposit and Federal Reserve Note Liability Combined of the Twelve Federal Reserve Banks*

1914	PER CENT	1916	PER CENT	1917	PER CENT	1918	PER CENT
Dec. 31	95.5	March 31	73.9	March 30	86.2	March 29	62.7
1915		June 30	71.2	June 29	72.4	June 28	61.7
March 26	89.3	Sept. 29	68.9	Sept. 28	76.4	Sept. 27	51.6
July 25	93.8	Dec. 29	66.2	Dec. 28	61.3	Dec. 27	50.6
Sept. 24	89.7						
Dec. 30	86.7						

The steady decline in this ratio does not measure the decline in the cash basis of bank credit in the United States until nearly the end of the war. These were the years of the building up of the Federal Reserve system. Member bank deposits with the Reserve banks were becoming a rapidly increasing proportion of total bank reserves, and the deposits of member banks were simultaneously becoming a rapidly increasing proportion of the bank deposits of the whole country (Chart 37). By 1918, however, the growth of the member bank re-

<sup>8</sup> Beckhart, *op. cit.*, II. 26.

erves and deposits exhibited the same characteristics as that of the reserves and deposits of all the banks of the country and was the dominant influence in that growth. For that reason the power of the banking system to expand in consonance with the requirements of the gold standard is reflected accurately in the reserve position of the Federal Reserve banks from that time on. The presence, therefore, on November 29, 1918, of an 'excess' gold supply above legal requirements of \$509 million in the hands of the Federal Reserve banks may be considered as the most striking visible proof of the exuberant capacity of the gold standard as a domestic institution in the United States to live and flourish in an inflationary environment.

*Building an increased Credit Superstructure on the increased Credit Base*

The deposits of member banks with the Federal Reserve banks, like those of the joint stock banks with the Bank of England, were built up by the deposit of gold and by the purchase of securities by the central bank. They were not, however, expanded as a result of the turnover of balances created at the Federal Reserve banks by advances to the government. Nor were the American banks relieved of the drain upon them created by supplying hand to hand currency. The issue of Federal Reserve Notes to the public continued to cause an equal reduction in member bank reserves and deposits. On the other hand, the American banks had direct access to central bank credit through the rediscount of commercial paper, largely secured by government bonds, and through borrowing on their own notes secured by government bonds. This access was made progressively easier by changes in banking law and in the interpretation of banking law under the ever increasing demands of war finance.

In these ways American banks were able to maintain without difficulty the increasing legal reserves required of them by an increasing deposit liability. The contribution of the fiscal

operations of the government to the growth in this deposit liability was both vast in amount and original in technique.

On December 1, 1917 the credit resources of the Federal Reserve system—Federal Reserve banks and member banks together—employed by the government are estimated to have been \$2,563 million and on December 1, 1918, \$5,736 million.<sup>9</sup> This was accomplished partly through direct investments by the banks in government securities and partly by loans to customers against government securities as collateral. The deposit liability standing over against this great direct and indirect investment of bank credit in government securities forms part of, but does not measure completely, the contribution of government fiscal operations to the increase in bank deposits.

It was the aim of the United States Treasury Department to prevent government borrowing operations and the administration of government funds from disturbing the money markets. For this purpose the Treasury endeavored to transfer the fluctuations in its cash balances from the Federal Reserve banks to the commercial banks. A new system of depository banks therefore was created. Government deposits were built up in these banks through the redeposit in them of the proceeds of government securities, paid for by subscribers in cash. Depository banks, moreover, were allowed to pay for their own subscriptions and for those made on behalf of their clients *by credit on their books*. No reserves were required against government deposits thus created. This procedure made it easy for banks subscribing to government bonds to create entirely new deposits against these bonds, and thus to place the government in possession of bank funds created *ad hoc* and not transferred to the government from already existing deposits. These new deposits were put into circulation by being transferred to the government's account at the Federal Reserve banks and checked out by the government to meet its expenses. They reappeared in the banking system

<sup>9</sup> Beckhart, *op. cit.*, IV, 319. The estimate is the writer's.

as ordinary deposits of the government's creditors. They were thereby transformed from deposit credit requiring no reserve to deposit credit requiring reserve, and at this point a basic connection between government fiscal operations and the gold concentration policy was established. When and to the extent that it was used in this manner, the special depository system was an effective, simple, and inconspicuous inflationary device through which the growth of the public debt in America contributed to the increase in American bank deposits.

The successive stages in the expansion of the credit superstructure in the United States during the war are shown in Appendix Table 1. From June 30, 1915 to June 30, 1917, when America was well established as a supplier of the warring nations and gold was flowing into the country the expansion of investments kept pace with that of deposits, but the expansion of loans and discounts did not. The effect of gold imports in fixing in the credit superstructure a large volume of deposits created by exports is clearly apparent in the decline of loans and discounts as a proportion of deposits. From June 30, 1917 to June 30, 1919, which included most of America's active participation in the war, total loans and investments again approached their pre-war relationships to deposits, but investments grew much more rapidly than loans, largely owing to the progressive application of a quota system under which the banks were obliged regularly to place a fixed proportion of their deposits in government certificates of indebtedness. Loans and discounts consequently declined still further as a proportion of individual deposits.<sup>10</sup> The granting of government loans to Great Britain and the Allied Powers was responsible for a large part of the growth of the American public debt, and therefore for the quota system imposed on the banks as part of the marketing machinery for

<sup>10</sup> From 1914 to 1919 deposits other than inter-bank deposits increased 81.6 per cent, and loans plus investments increased 79 per cent, but investments increased 118 per cent and loans only 62.9 per cent.

American government issues. The support of the exchanges, therefore, by gold imports before and by government loans after America entered the war, contributed substantially not only to the increase in total American bank deposits, but also to the change in the ratios between loans, investments, and deposits of American banks.

## CHAPTER 6

### *The General Significance of the Effort to Preserve Gold Standard Forms in War Time*

The fundamental social and economic function of and justification for the gold standard is that it facilitates the domestic and international exchange of goods. The great effort put forth during the war to preserve as far as possible the external forms of the gold standard was an effort to make the gold standard do in war what it had done in peace. The traditional means of gold standard adjustment were employed on a scale never before witnessed, but because the domestic exchange of goods in belligerent countries was dominated by the necessity of diverting productive powers to making war supplies and maintaining military forces, and the international exchange of goods was dominated by the overwhelming need of belligerents for imports, these means had to be used with an almost total disregard of long run consequences.

#### The Use of Gold

Confidence in the 'soundness' of money and in the stability of domestic credit was essential to facilitate the domestic exchange of goods. To preserve this confidence and to promote this stability, gold was concentrated in the hands of governments and central banks in order to increase, or to prevent the dissipation of, gold reserves. At the same time, gold reserve requirements were not allowed to interfere with the degree of inflation necessary to force the application of human and material resources into the channels required by war. In the building of the credit superstructure upon the available credit base long run considerations of the effects of domestic

inflation were swept aside. The dangers that such inflation entailed were merely masked in varying degree by conserving or building up visible gold supplies.

The maintenance of stable exchanges was essential to facilitate the international exchange of goods. To support the exchanges, gold was used to an unprecedented extent as a means of international payment for goods. The refined technique by which it had served as one of the marginal balancing items in international settlements was modified or abandoned. The long run relationships previously existing between the international distribution of gold and the varying rates of growth of the banking systems of the world were superseded by a new international concentration of gold holdings. For the same reasons, the considerations that had long governed the distribution of international credit were disregarded.

### The Use of International Credit

The use of international credit during the war was, on the whole, inflationary in its direct effects upon the world's banking systems. It was part of the grand total of war-time inflation. Through a complicated interaction of prices arising from international trade between countries whose exchanges were pegged but which were subject to very unequal inflationary pressure at home, this total war-time inflation was distributed more evenly through the world than it would have been had the exchanges been free. The use of international credit to support a nucleus of stable exchanges therefore contributed indirectly to the international spread of war-time inflation as well as to its total amount. Furthermore, during the war foreign lending was not, in a true sense, a time-bridging credit operation, for foreign loans were made without primary consideration for the requirements of repayment.

Before the war foreign lending was, in the main, carried out under expert banking direction and with detailed consideration of the prospects and means of repayment. Foreign loans were a means of financing the production and exchange

of goods through an international distribution of accumulated savings and of bank credit granted in accordance with banking principles. They were therefore not inflationary in the lending countries. They expanded the superstructure of bank credit in the borrowing countries and thereby enabled them to import goods without a decline in bank assets and bank deposits. This new bank credit was utilized to finance an increase in production from which an increase in exports was expected that would create bank deposits and bank assets with which to repay the loans. The expansion of bank credit in the borrowing countries through loans was merely an anticipation of its expansion through exports. Under these conditions foreign lending performed the economic function of facilitating long term growth in international trade without inflation and without sacrifice of the stability of the exchanges. During the war there was no room for the forward looking banking point of view. It could not dominate international lending. To a large extent the resources from which foreign loans were made were drawn from domestic credit inflation, particularly in the United States, instead of from past savings. In the borrowing countries these loans expanded both the credit superstructure and production. But they expanded production in a way that accentuated certain pre-war trends of economic strain and undermined the basic balance of the world's exchanges of goods. These loans, therefore, were not productive of the means of repayment. They could not, under the circumstances, take into account the imperative but delayed requirement of all truly time-bridging international financial operations, namely, the long run assimilation of their repayment and service into the economic balance of the unknown future.

### Carrying forward Unsolved Economic Problems

The maintenance of some of the external forms of the gold standard during the war facilitated the domestic and international exchange of goods and inspired confidence in banks

and in money. Because it accomplished these objectives only by disregarding the long run consequences of the means employed, certain grave problems were left over for the post-war period. Many were still unsolved in 1925, but this fact was masked by the seemly and comfortable facade of the gold standard. Indeed a somewhat unexpected similarity may be noted between the gold standard of 1925-28 and of 1914-18. As was true during the war, a force of unusual strength tended to compel the extension of a large volume of international credit. The productive capacity of the United States and other countries had become adjusted to an export market first created by the war and then restricted by many post-war readjustments. Though not as powerful as the need of importers during the war, this need of exporters for markets was a strong motive for the use of the methods of financial adjustment characteristic of the gold standard after 1925 in a way appropriate to the needs of the moment but not to the slow and even development of a balanced international economy. The capacity and willingness of the American banking system to respond to that need translated this motive into action. The international exchange of goods was facilitated from 1925 to 1928 as it had been from 1914 to 1918. Confidence was maintained. When, however, in 1928 a combination of causes cut off the supply of loans from the United States, which had served the requirements of American export trade, the inflationary process to which these loans had contributed was brought to an end and underlying economic weaknesses disclosed. The results were similar to those which followed the war itself.<sup>1</sup>

For the interpreter of the international gold standard both the similarities of and the contrasts between these two periods are of the utmost significance. They demonstrate that financial adjustments which, when utilized as part of a world-wide credit and banking system operating in a gradually develop-

<sup>1</sup> This comparison is drawn fully in Ch. 21, Carrying forward Unsolved Economic Problems—General Comparison with the War-Time System.

ing economic environment and under centralized control by a country with a fundamentally strong basic pull on all other exchanges, give both flexibility and stability to the world, cannot be used with the same results under different conditions no matter how compelling the economic pressure. They suggest that the fundamental problem of reestablishing the gold standard after the war was to adjust a changed institutional financial structure to a changed economic environment. It is because of the profound influence of the war upon both that we have not called 1914-19 a period of 'Suspension and Modification,' but rather a period of 'Breakdown.'