Federal Reserve Policy

Author(s): A. C. Miller

Source: *The American Economic Review*, Jun., 1921, Vol. 11, No. 2 (Jun., 1921), pp. 177-206

Published by: American Economic Association

Stable URL: https://www.jstor.org/stable/1808655

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at https://about.jstor.org/terms

is collaborating with JSTOR to digitize, preserve and extend access to *The American Economic Review*

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

The
American Economic Review

VOL. XI JUNE, 1921 No. 2

FEDERAL RESERVE POLICY

The acute distress and the economic hardship resulting from the business and price recession movements of the past eight months, which have been experienced in all sections of the country, have drawn attention to the federal reserve system to a degree not hitherto experienced and have made the operations and methods of the federal reserve banks a matter of widespread public interest. The growing appreciation of the fact in the past few months, even in sections of the country where a strong disposition was manifested last autumn to charge the federal reserve system with responsibility for the collapse of prices, that the recent liquidation movement has, in the main, proceeded from world-wide economic causes and is incident to the general economic readjustment made necessary by the profound economic disturbances worked by the war, has done much to clarify the atmosphere and to make the moment favorable for a review and discussion of federal reserve policy and practice. While there is every reason to believe that the first and worst stage of the post-war economic readjustment is near its close, there is enough likelihood of further periods of economic difficulty and strain in the process of completing the general readjustment to make it a matter of great public concern to consider how the federal reserve system may best function in assisting the industry, trade, and business of the country through such further periods of uncertainty and pressure as may occur.

It is but little more than six years since the federal reserve system was organized and began operations on a modest scale. In that brief period of time it has had to meet a greater variety of conditions and problems than have ever confronted any system of reserve banking. Since the armistice it has had to cope with economic and financial problems of unprecedented magnitude and great complexity. It has rendered continuously the greatest assistance to the Treasury in making short-term borrowings. It has provided the credit basis for financing our enormous exports on credit to Europe. It is primarily to its steadying and moderating influence that the drop in prices during the past eight months did not eventuate in a complete and disastrous collapse. All of these things have been accomplished without ever for a moment putting the maintenance of the gold standard, or the solidity and integrity of our credit system, in jeopardy. These things augur

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

well for the future of reserve banking in the United States. The federal reserve system has met its first searching tests on the whole with remarkable success. The fact, moreover, that in the heat of a presidential campaign, in which the attitude and methods of the federal reserve system were frequently the subject of bitter attack in sections of the country which felt in a peculiarly high degree the impact of the price recession movement, it did not yield to sectional or political pressure of any character, has done much to set at rest the doubt, often expressed at the inception of the system, as to whether any system of reserve banking under governmental supervision could be fully successful in the United States because of "politics."

A great banking system is not, however, to be regarded as a ready-made contrivance. The legislator can frequently foresee much, and the law can do much, to make provision for future contingencies and establish safeguards against future temptations, but when all is done that can wisely be done by legislative prescription and legislative safeguards, it still remains true that a great banking system must be largely the result of growth and development in the course of shaping its policies, devising methods, promoting practices, and adapting its operations to the exigencies of differing situations as they arise. Such is peculiarly the case at the present time. The federal reserve system must learn its ways and get its gait in a world more profoundly disturbed financially, economically, socially, and politically than ever before. Severe, therefore, as are the tests which the system has already had to meet, the developmental stage may not yet be said to be over. Traditional methods of reserve banking, developed in the experience of Europe, cannot be mechanically adopted in the administration of the federal reserve system. Much pioneer work in blazing new paths must therefore needs be done by those who are guiding its development, and they will need all the help they can get from enlightened discussion and large-minded consideration of their problems. Recalling Bagehot's penetrating observation that "the abstract thinking of the world is never to be expected from persons in high places,"[1] and recalling also

[1] Reference: *Lombard Street,* by Walter Bagehot, p. 179. The whole passage with reference to the early management of the reserve of the Bank of England is worth quoting: " . . . the directors of the Bank of England were neither acquainted with right principles, nor were they protected by a judicious routine. They could not be expected themselves to discover such principles. The abstract thinking of the world is never to be expected from persons in high places; the administration of first-rate current transactions is a most engrossing business, and those charged with them are usually but little inclined to think on points of theory, even when such thinking most nearly concerns those transactions. No doubt when men's own fortunes are at stake, the instinct of the trader does somehow anticipate the conclusions of the closet. But a board has no instincts when it is not getting an income for its members, and when it is only discharging a duty of office."

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

how much the development of the English banking system in the nineteenth century owed to scientific economic discussion, it is much to be desired that American economists who are interested in problems of credit and banking, or in the bearing of credit administration upon economic conditions, should give close thought to federal reserve problems. It is for this reason that Dr. O. M. W. Sprague's notable examination of the discount policy of the federal reserve banks[2] is particularly welcome. His paper serves well as a point of departure for (1) a review of federal reserve policy in the past and (2) a consideration of factors and difficulties that will have to be reckoned with in adjusting the methods and operations of the federal reserve banks in the future to new conditions and altered circumstances.

I

Leaving out of consideration many minor, but by no means unimportant, features of federal reserve policy in order to concentrate attention upon more fundamental aspects, it may be said that the three chief elements of the policy of a central bank or system of reserve-holding institutions are best disclosed in connection with the attitude adopted toward: (1) gold; (2) currency; (3) credit.

While thus separately enumerated, however, the policies pursued with respect to gold, currency, and credit by the federal reserve banks are not to be regarded as separate and unrelated policies, but as closely complementary and integral parts of federal reserve policy. It would perhaps be nearer the truth to say that the policy pursued with respect to gold and the policy pursued with respect to currency are elements in the policy pursued with respect to credit, the regulation of the flow and volume of credit being in the last analysis the primary function of the federal reserve banks. Whatever policy the federal reserve system may pursue with respect to either gold or currency must take its color and occasion from the policy pursued with respect to credit, and such has been the case in the past.

1. *Gold policy.* The first phase of the federal reserve system's policy with reference to gold was developed in connection with the heavy influx of gold which set in toward our shores soon after the beginning of the European war, and which up to the end of the year 1916 added approximately 1200 millions of dollars to our national monetary stock. The federal reserve banks at this time not being possessed of any ready or adequate method of impounding this redundant gold, the Federal Reserve Board recommended in 1916 an amendment to our banking statute giving the board the power to raise the reserve requirements of

[2] In the American Economic Review for March, 1921, p. 16.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

member banks. The object sought was to prevent, when and as it seemed desirable, the new gold which was accumulating in the vault reserves of member banks from becoming the basis of an undesirable expansion of credit. It will be recalled that at this time the federal reserve banks were operating under the terms of the Federal Reserve act as originally enacted, the required reserves of member banks being carried partly with reserve banks as balances, partly in the vaults of member banks, the remainder at the option of the member banks being carried either in their own vaults or with the reserve banks. It was hoped that a sufficient number of the leading member banks would appreciate the need of coöperation with the board's purposes in preventing the abnormal increase in our gold supply from providing a basis of inflation, to secure their support for this amendment. This amendment failed, but in September, 1916, the Federal Reserve act was amended so as to permit member banks, at their option, to carry the whole of their required reserves as balances with the federal reserve banks. The object of this amendment was to concentrate a larger portion of the actual gold reserves of member banks in the hands of the federal reserve banks. In brief, these first phases of the federal reserve system's gold policy developed out of its credit policy as a method of restraining undue and unnecessary expansion of credit at a time when the reserve banks had not yet attained a position where they could exercise any effective control over the course of the country's credit operations by discount rates.

The table on the opposite page, which sets forth changes in the leading items of the federal reserve banks' condition, shows the changes in the system's gold position to the end of March, 1921.

The next phase of the federal reserve system's gold policy came with our entry into the war in 1917. The note issue provisions of the Federal Reserve act were then liberalized so as to permit the direct issue of the federal reserve notes against gold as collateral security, the gold thus held as security in the Federal Reserve Agent's Department being counted as reserve required against federal reserve notes; and the provisions concerning member banks' reserves were changed, first by reducing their required reserves, and second by requiring that their reserves should all be carried as cash balances with federal reserve banks. The object of these changes was to enable the federal reserve system to strengthen itself against the credit demands which it was foreseen the war into which we were entering would occasion. The policy, in brief, was to impound as much of the stock of monetary gold in the country as possible in the federal reserve system, where it would supply, as circumstances made it necessary, an adequate gold basis for an enlarged issue of federal reserve notes and reserve deposit credit in

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

In millions of dollars

Date	Net imports (+) or exports (—) of gold	General stock of gold in U. S.	Gold reserves of federal reserve banks (a)	Total cash reserves federal reserve banks (a)	Net deposits and note liabilities (a)	Reserve ratio (a)
November 27, 1914......	—	1,835	228	262	252	104.2
End of March, 1917.....	—	3,089	938	947	1,065	89.0
" " May, 1919.......	—	3,092	2,188	2,255	4,350	51.8
" " March, 1920.....	—	2,662	1,935	2,057	4,821	42.7
" " March, 1921.....	—	3,001	2,222	2,437	4,585	53.1
Changes for period:						
Nov. 1, 1914, to end of March, 1917..........	+1,189	+1,254	+ 710	+ 685	+ 813	— 15.2
End of March, 1917, to end of May, 1919.....	— 29	+ 3	+1,250	+1,308	+3,285	— 37.2
End of May, 1919, to end of March, 1920....	— 404	— 430	— 253	— 198	+ 471	— 9.1
End of March, 1920, to end of March, 1921....	+ 376	+ 339	+ 287	+ 380	— 236	+ 10.4

(a) Bank figures relate to the last Friday of the month, except those of March, 1921, which are as of March 31; deposit liabilities and reserve percentages have been figured on a uniform basis throughout the table.

connection with the vast loan and financial operations of the war. Here again the gold policy of the federal reserve system is to be interpreted in the light of its attitude toward credit conditions and needs. Just as in the first phase of its gold policy its objective was to restrain credit expansion at a time when such expansion was not necessary, so now its objective was to provide an ampler base for credit expansion in view of the changed situation and its credit requirements.

The next important phase of the gold policy of the federal reserve system came in 1919 with the lifting of the embargo on the exportation of gold in June of that year on the recommendation of the Federal Reserve Board. The embargo on gold was not originally imposed at the instance of the Federal Reserve Board, although the board was charged with the responsibility of administering it. When one form after another of the various controls which had been set up over industry, trade, transportation, fuel, etc., began to fall away in 1919, the Federal Reserve Board recommended a lifting of the gold embargo, although the federal reserve system was still confronted with the credit problems of the Treasury and had not yet, on account of the Treasury financing, regained a normal control of its discount operations and its discount policy. At a time when it was virtually helpless to influence the course of the money market by the adjustment of discount rates to actual conditions, it sought to exercise what influence it could over the expansion of banking credit in the year 1919 by permitting the

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

exportation of gold, and thus exposing the gold reserve of the federal reserve system to depletion by foreign drains. The loss of gold from the country thus occasioned to the end of the year 1919 amounted to 322 millions of dollars. The loss occasioned to the federal reserve system amounted to 125 millions of dollars, and helped to bring nearer the day when the federal reserve banks must be permitted to resume their normal relation to the money market and to exercise a control through discount rates. Thus again it appears that the gold policy of the Federal Reserve Board was a reflection of its attitude toward credit conditions, although an important consideration in the lifting of the gold embargo was, also, the desire to maintain and upbuild American financial prestige by restoring to the American market the character of a free gold market.

2. *Currency policy.* There was little occasion, during the first years of the federal reserve system, for the Federal Reserve Board to develop a currency policy. According to the original conception of the Federal Reserve act, and in view, further, of the fact that at the time of the organization of the new system the country was supplied with a large volume of currency in the form of national bank notes, the federal reserve note was regarded as a means of satisfying seasonal or emergency requirements for additional circulation. When the great gold influx set in, in 1915, the federal reserve system pursued the policy of issuing federal reserve notes in exchange for gold, and the federal reserve note, up to the time of our entry into the war in 1917, was in effect a gold certificate. The object sought in this policy, especially in view of the extraordinary character of the shifting of the world's stock of monetary gold then in progress as an incident of the war, was to treat the reserve banks as repositories of gold against the day when it seemed reasonable to expect that the largest portion of our new acquisitions of gold would flow back to Europe, and was also in furtherance of the early credit policy of the board, already described. Under the terms of the Federal Reserve act, federal reserve notes were not available as legal reserve money to member banks. One of the practical effects, therefore, of the issue of federal reserve notes in exchange for gold was the withdrawal of this gold from ordinary banking use, particularly from member bank reserves, where its accumulation was already beginning to work an undue expansion of credit. In brief, currency policy was developed upon lines paralleling the federal reserve system's credit policy, which, as already stated, was aimed, at this time, at a control of credit expansion, the situation not yet having developed to a point where the traditional method of the control of expansion by means of discount rates could be made effective.

During the period between the end of November, 1914, and the end

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

of March, 1917, net imports of gold into the United States amounted to 1189 millions of dollars, while the increase in the gold held by the reserve banks and the reserve agents was about 710 millions. The difference between these two amounts represents additions to the gold holdings of national, non-national, and private banks, to gold held earmarked for foreign account, and to gold in circulation. It appears, therefore, that even before the entry of the United States into the war, the larger part of the gold coming into this country found its way into the federal reserve banks and was impounded there.

After we entered the war and the Federal Reserve act was liberalized in its note issue provision, the board systematically continued the policy, already noted in connection with the discussion of its gold policy, of impounding gold in exchange for federal reserve notes. It was expected that the gold thus acquired would be needed in the process of providing the credit facilities necessary for financing the war and in taking care of the extraordinary requirements of business occasioned by the war.

It was of course recognized that the degree of credit assistance that the federal reserve banks might be called upon to extend to their member banks in the process of floating the government's war loans might easily reach the point of producing a considerable inflation of credit. But the theory upon which the board proceeded with respect to the issue of federal reserve notes was that the currency, as such, would not promote inflation, and that restriction of note issues by federal reserve banks in response to the requirements of the community was not therefore advisable or necessary. On more than one occasion, as the volume of federal reserve notes in circulation showed substantial increase, the board stated its view that the increased issues were occasioned by the rise of prices, and that in due course, as prices ceased to rise or showed a tendency to fall, the federal reserve note currency which was found to be in excess of the country's requirements would return to the banks. The board's view was most succinctly stated in its letter of August 8, 1919, to the chairman of the Senate Committee on Banking and Currency:

> Federal Reserve notes are not legal tender, nor do they count as reserve money for member banks. They are issued only as a need for them develops, and as they become redundant in any locality they are returned to the Treasury at Washington, or to a Federal Reserve Bank for redemption. Thus, there cannot at any time be more Federal Reserve notes in circulation than the needs of the country at the present level of prices require, and as the need abates the volume of notes outstanding will be correspondingly reduced through redemption.[3]

[3] *Federal Reserve Bulletin*, Aug., 1919, p. 701.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

How far the currency theory thus stated has been borne out by recent changes in the volume of federal reserve notes in circulation can now be determined. Federal reserve notes attained their maximum amount for the year 1919 on December 26, when they stood at $3,057,-646,000. With the advent of the year 1920, a return flow of federal reserve notes set in. This movement, however, was short lived. Between December 26, 1919, and January 23, 1920, federal reserve note circulation was reduced by $213,419,000. Thereafter there was a steady increase in the volume of federal reserve notes issued and in circulation, attaining the amount of $3,404,931,000 on December 23, 1920, when a return flow of substantial dimensions set in which is still in process. The drop from the high point in December, 1919, to the low point of 1920, was $213,419,000; and from the high point of 1920 to April 15, 1921, is $536,404,000.

The two movements just referred to indicate not only changes in the volume of currency owing to seasonal needs, but also a connection between the volume of credit and the volume of currency, thus lending much support to the board's theory that the expansion of the currency is a consequence of the expansion of credit and the rise of prices, and that the expansion of the currency is not therefore to be regarded as a causal factor in price movements:

> The increased volume of Federal Reserve notes in circulation during the past three years, in so far as it is not the result of direct exchanges for gold and gold certificates which have been withdrawn from circulation, is the effect of advancing wages and prices, and not their cause.[4]

Whether this view (with all it implies) of the relation of currency to credit and prices, which, it must be admitted, has the sanction of high authority in our own and other countries and considerable support from banking and currency experience under normal conditions, can safely be taken as an invariable principle of reserve bank action in the future will be considered later in this paper.

3. *Credit policy.* Credit policy was only of theoretical moment in the first years of the federal reserve system. Easy credit conditions in the United States, because of the reduction of member bank reserve requirements and the great influx of gold, made reserve bank credit policy and discount rates of little actual consequence until the late autumn of 1916. Then, for the first time, did a credit situation develop which gave to the rates of some of the federal reserve banks a degree of effectiveness. The increasing pressure for credit funds, which would have developed in the year 1917 even if the United States had not entered the war, would undoubtedly have led to the development of an effective discount policy by the federal reserve system—a policy

[4] *Federal Reserve Bulletin,* Aug., 1919, p. 702.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

in which main reliance would have been put upon rates, and under which reserve bank rates would have been adjusted to market conditions so as to keep them, in the larger financial centers at least, at or above the ordinary commercial rate; all of this in accordance with well recognized principles of reserve bank practice. With the entry of the United States into the war, the outlook was changed, and the federal reserve system was confronted with large and difficult problems of credit growing out of the loan policy and loan operations of the Treasury. From that time forth to the beginning of the year 1920, the discount policy of the federal reserve system was shaped not in accordance with money market conditions—not with the idea of using reserve bank rates as an instrument of effective control of the money market—but with the primary purpose of assisting the Treasury in the flotation of its great bond issues and its short-term certificate issues. In brief, the discount policy of the federal reserve system was treated as an element of the Treasury's loan policy, the federal reserve system virtually ceasing to exercise, for the time being, its normal function of regulating credit. The position of the Federal Reserve Board with respect to the bearing of Treasury policy upon the federal reserve system has been explained in its several annual reports,[5] and recently was succinctly stated by the governor of the Federal Reserve Board at the joint hearings held before the Senate and House committees on agriculture on December 3, 1920:[6]

The Federal Reserve Board adopted a policy in order to assist in the war financing which was economically unsound. I say this frankly. Congress authorized certain loans. It authorized the Secretary of the Treasury to determine the rates at which the loans should be issued. The Secretary of the Treasury asked the advice of experts and then fixed the rates of interest to be borne by the several issues of bonds, notes, and certificates. During the time we were actually at war, something like $18,000,000,000 of bonds were sold to the people, an amount certainly in excess of the normal investment power of the American people in such a short time, and the only way in which those loans could be financed was through the instrumentality of the banks. The only way the banks could undertake to do it was to get some assistance from the Federal Reserve Banks and at a low rate. The low rate of interest borne by these bonds was fixed with a view of holding down the expenses of the Government as far as possible. Anyway, that is something the Federal Reserve Board has no responsibility for. In order to make possible the floating of these bonds we fixed a rate less than their coupon rate. Some member banks announced that for a period of six months there would be a rate of 4¼ per cent on notes secured by Government obligations. The result was there was no loss to subscribing banks pending the distribution of the bonds to the public. There were successive bond

[5] See Report for 1920, pp. 11-15; for 1919, pp. 67-73; and for 1918, pp. 1-5 and 85-87.

[6] Pages 62 and 63 of the hearings entitled "Reviving the Activities of the War Finance Corporation."

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

issues. The principal reason why discount rates were not increased earlier than they were in 1919 was on account of Treasury financing.

This may be taken as the official statement of the Federal Reserve Board with respect to the discount policy followed by the federal reserve banks to the end of the year 1919.

It is clear that the point at which the loan policy of the Treasury affected the federal reserve banks was the money rate. Discount rates were maintained at artificially low levels from shortly after the beginning of the war in 1917 until the end of the year 1919. The particular device which was employed in aid of the Treasury's loan policy, as is well known, was the establishment and maintenance of (1) preferential rates on bond and certificate secured paper, as compared with commercial paper, and (2) a differential in favor of the rate on such bond and certificate secured paper as compared with the interest rate borne by the bonds and certificates. The immense credit resources of the federal reserve system were thus availed of by the Treasury during this period to make and maintain an artificial money market. In effect, the power of the Federal Reserve Board as the ultimate regulator of the discount policy of the federal reserve banks was put in commission, and rates were fixed, not "with a view of accommodating commerce and business,"[7] in accordance with normal principles, but with a view to accommodating the financial program of the Treasury in accordance with emergency principles.

Whether the Treasury's loan policy and methods of short-term borrowing were well conceived is not here in question. Indeed, the time has not yet come for passing judgment upon the policies of the Treasury in connection with the financial conduct of the war. It is, however, possible to speak of that feature of Treasury policy which most vitally affected the federal reserve banks. The wisdom and the necessity of the device of an artificial money rate, carried to the point that it was by the maintenance of a differential rate upon so-called war loan paper, may be questioned. In the light of subsequent developments, it may be questioned whether it was not a costly device to the country. While the bad economic consequences of artificially low discount rates were minimized during the war by the many various controls over the economic activities of the people that were then set up, a precedent was established which it was found difficult to set aside after the war.

The controls which were set up during the war on production, trade, and consumption—such as the War Industries Board, War Trade Board, Food Administration, Fuel Administration, Railway Administration, Shipping Board, Capital Issues Committee, New York Money

[7] The language of the Federal Reserve act, section 14, paragraph D.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

Committee, had very important financial consequences. Their bearing upon the credit situation and upon the credit problem of the federal reserve banks was especially important. They acted in effect, though that was not their intended purpose, as a control of credit expansion at the source by limiting the occasion for the use of credit and by confining its use to such purposes as were deemed essential to the prosecution of the war.[8]

But with the close of the war—that is, with the cessation of hostilities following the armistice—these various controls were soon lifted: "The moment we knew the armistice to have been signed we took the harness off."[9] It was very generally expected that business and industry, if freed from restraint, would soon effect their return to a normal condition. Early in the year 1919, however, industrial stagnation and unemployment were in evidence, and a fresh survey and diagnosis of the economic situation was made by the Industrial Board[10] set up under the auspices of the Department of Commerce for assisting the readjustment of industry and trade to a more stable basis. Its main effort was directed to bringing about revision of prices and stabilization of the expected fall of prices. Events soon showed that the policy of "price stabilization" was based on a faulty economic diagnosis. It was not many months after the close of the war that prices began to rise. The main impulse came from the release of buying power which had been in restraint during the war. A seller's market began to develop in the spring of 1919. The consumer demanded goods; price was a secondary consideration. Dealers, both wholesale and retail, were bidding against one another for such supplies as there were, and manufacturers were bidding against one another for raw materials and labor. The rapid rise of prices induced buying for speculation, and speculation in its turn accelerated the rise of prices. Inflation was becoming cumulative and systemic in its effects, and pervading the whole body economic. This is the explanation of a phenomenon which has puzzled so many people. During the war, expansion of credit was restrained from working its full economic effects in the form of price inflation and speculation. After the war it was let loose when the various controls above enumerated were lifted and the huge volume of credit created during the war was permitted to diffuse itself.

[8] *Federal Reserve Bulletin,* October, 1918, pp. 922-924. If these various controls which were in effective operation in the last months of the war had been made equally effective early in the war, it is probable that a better financial and credit situation would have been maintained throughout the war; in brief, that there would have been less inflation of credit and prices than in fact developed.

[9] From President Wilson's address to Congress, delivered December 2, 1918.

[10] *Federal Reserve Bulletin,* Mar., 1919, p. 246.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

The credit and business situation which developed in the United States in 1919 was one that needed restraint. A seller's market usually needs credit restraint before it passes the limit of safety, just as a buyer's market usually needs the help of credit support. It would have been of the greatest advantage to the country if such restraint[11] had been exercised by the federal reserve system in the year 1919, and the development of the runaway and speculative markets, which developed in the second half of the year, been measurably prevented. The federal reserve system was the one important agency of control left to the country after the various war controls had disappeared. All the more important was it, therefore, that it should be in a position to function as effectively as possible. Its burden and responsibility, even under the most favorable view of the situation, were undeniably large, and would have imposed a severe test upon the system. In the light of what transpired in the year 1920, as is now a matter of universal knowledge, there is every reason to believe that if the federal reserve system had functioned as effectively in 1919 in regulating credit as it did in 1920 in retarding and eventually arresting expansion, it would have rendered an inestimable service to the country and would have prevented many of the unhealthful developments in business and credit from gaining the headway which made action of so drastic a character as that which was taken in 1920 necessary. How much of the business distress and economic hardship experienced by the country during the past year would have been avoided, had the federal reserve system been in a position to pursue a discount policy in the second half of the year 1919 such as the trend of developments clearly indicated to be necessary, cannot of course be determined. Much of the hardship suffered by the country in 1920 might, however, have been

[11] The month of September was the time to have gotten control. The public debt reached its maximum at the end of August, and a great reduction of the floating debt occurred in September. Total war loan paper for the twelve federal reserve banks dropped from $1,635,233,000 on September 5, 1919, to $1,383,896,000 on September 19, following the redemption of certificates on September 15 of $431,910,000. The rise was then rapid, reaching $1,771,028,000 on November 7. The movement of total bills discounted paralleled the variations in war loan paper closely. On September 5, total bills discounted for member banks were $1,847,418,000. They fell to $1,645,881,000 on September 19, and rose to $2,189,489,000 on November 7. The expansion of the loan account of the federal reserve banks during the seven weeks from September 19 to November 7 amounted to over $500,000,000.

For the Federal Reserve Bank of New York, total war loan paper dropped from $672,070,000 on September 5, 1919, to $483,053,000 on September 19. It then rose to $795,212,000 on November 7. On September 5, total bills discounted amounted to $724,861,000, falling to $528,592,000 on September 19, and rising to $904,351,000 on November 7. The expansion in total bills discounted in the seven weeks from September 19 to November 7 amounted to approximately $375,000,000.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

avoided by the adoption in 1919 of an effective precautionary policy of credit control. That such a precautionary discount policy would have been adopted by the federal reserve system, had it felt free to act, will not be doubted by any one acquainted with the attitude of the Federal Reserve Board and the federal reserve banks at this time. As early as June, 1919, after the close of the Victory Liberty Loan campaign, which, it will be remembered, was announced to be the last of the war loans, the Federal Reserve Board expressed its concern over the unhealthful tendencies which were in process. Counsel and warnings of similar purport were subsequently repeated. The necessity of restraint upon the borrowings of member banks for speculative purposes by other means than advances in discount rates[12] was pointed out, and such restraint was urged. Here and there, for a while, there were some slight evidences that the situation was being controlled, but no large results were achieved, and speculative tendencies of a dangerous character and large dimensions, involving speculation in land and commodities as well as in securities, gained increasing momentum through the autumn of 1919. "Direct action," so-called, as a method of credit control was not succeeding.[13] The expansion of credit and the rise of prices went on apace. Speculation flourished. It could no longer be doubted that the federal reserve system must undertake the regulation of credit by means of discount rates. A beginning was made by the slight advance in discount rates on war loan paper on December 11, 1919, with every expectation and intention on the part of the federal reserve system of assuming full control of its discount policy with the advent of the year 1920.

All this is said dispassionately and objectively, by way of explanation of a critical period in the history of federal reserve policy. The Treasury, as well as the federal reserve system, had its difficulties. While the war, in a fighting sense, was over with the advent of the year 1919, it was not over in a financial sense. The Treasury was still confronted with vast financial obligations. The financial precedent established during the war carried over into the year 1919. Reserve bank policy continued to be subordinated to Treasury policy, and discount rates throughout the year 1919 were maintained at artificially low levels.

[12] "The Federal Reserve Board is concerned over the existing tendency towards excessive speculation, and while ordinarily this could be corrected by an advance in discount rates at the Federal Reserve Banks, it is not practicable to apply this check at this time because of Government financing." (From a letter sent by the Federal Reserve Board to the chairmen of the federal reserve banks, June 10, 1919.)

[13] "These warnings, however, were only a transitory expedient and were given only momentary attention by many banks. The Board was prepared, as soon as Treasury exigencies permitted, to resort to the well-known method of advancing the rate of discount." *Annual Report* for 1920, p. 12.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

The device of an artificial discount rate provided too comfortable an expedient alike to the Treasury and to the banks of the country, which were still burdened with commitments made under the "borrow and buy" Liberty Loan slogan, to be easily relinquished. Thus was the federal reserve system controlled in the matter of its discount policy at the very time when the interest of the country at large required that it should be free of control in order that it itself might control.

With the year 1920[14] the federal reserve banks entered upon the exercise of their function of regulating credit in accordance with business and economic indications, and, under circumstances of extraordinary difficulty and for the first time since the outbreak of the war, undertook to develop a policy of credit control by means of discount rates. About the same time the Treasury adopted the policy of adjusting the interest rate on its short-term borrowings to the state of the money market. It is not for the Federal Reserve Board to estimate the wisdom of the credit policy pursued by it in the year 1920. It may, however, with propriety speak of the attitude which led to that policy. There was nothing "hesitant"[15] in the policy adopted by the board at this time. Rates were advanced as follows in January, 1920: commercial paper rate, from 4¾ per cent at ten banks and 5 per cent at two banks to 6 per cent at all banks; certificate of indebtedness rate, from 4¼ per cent to 4½ per cent according to the rate borne by the certificate to 4¾ per cent on all classes of certificates; liberty bond rate, from 4¾ per cent at ten banks and 5 per cent at two banks to 5½ per cent at all banks. Such marked advances of rate do not betray "hesitation"; they evidence conviction.[16] This first advance in rates not proving effective, further advances were made in the early summer—the commercial rate at the largest federal reserve banks being advanced from 6 per cent to 7 per cent, rates on certificates from 4¾ per cent to 5½ per cent at seven banks, and from 5 per cent to 6 per cent at five banks, according to the rate borne by the certificate, and rates on liberty bonds from 5½ per cent to 6 per cent at six banks, and to 5¾ per cent at one bank, the rate being left unchanged at the remaining five banks.

The reserve ratio for the federal reserve system as a whole on January 2, 1920, was 43.7 per cent as compared with 50.8 per cent on

[14] "Fortunately the condition of the Treasury is such that the Board can now feel free to inaugurate discount policies adjusted to peace-time conditions and needs." *Annual Report* for 1919, p. 69.

[15] The term used by Mr. Sprague in the article already cited, page 24.

[16] "It was the Board's conviction, however, at the close of the year (1919) that a substantial advance in all discount rates was necessary and that it should not be long delayed." *Annual Report* for 1919, p. 4.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

July 3, 1919. It declined to 42.8 per cent on July 2, 1920. The board's action in raising rates was therefore clearly supported by the reserve position of the banks. But there is nothing in the action taken then or at any time later in the year to justify the statement that the board's discount policy in 1920 was not "the expression of a voluntary policy."[17] The board's attitude is clearly indicated in its annual report for 1919: "The expansion of credit set in motion by the war must be checked. Credit must be brought under effective control and its flow be once more regulated and governed with careful regard to the economic welfare of the country and the needs of its producing industries."[18] The action taken by the federal reserve banks in 1920 was taken not primarily to protect their reserves but to control the rate of expansion of credit. It should be distinctly noted in reviewing the situation of the reserve banks during the years 1919 and 1920 that the reserve ratio of the federal reserve system was declining, not because reserves were being depleted through loss of gold, but primarily because the credit facilities of the system were being too freely drawn upon by the banks of the country and the liabilities of the reserve banks in the form of deposits and notes mounting at a steady and startling rate. The decline of the reserve ratio reflected quite accurately the credit expansion which was in process.[19] The solicitude of the board arose not because of loss of gold—for the total gold holdings of the reserve system showed little variation (amounting on January 3, 1919, to $2,091,194,000; on July 3, 1919, to $2,128,946,000; on January 2, 1920, to $2,062,615,000; on July 2, 1920, to $1,971,696,000; and on December 31, 1920, to $2,059,333,000), but because of the unhealthful credit situation which had been developing since the summer

[17] "It is, however, by no means certain that the Reserve Board would have taken measures to restrain credit during the course of the winter and spring of this year [1920] if the power of the reserve banks to extend credit within the limits of legal reserve requirements had not been nearly exhausted. The successive advances in discount rates made during the first half of the year were not then entirely the expression of a voluntary policy. It was a policy which in large measure was enforced by the reserve position of the banks." (Sprague, article cited, p. 23.)

[18] *Annual Report* for 1919, p. 71.

[19] Studies made by the Statistical Division of the Federal Reserve Board indicate that for the larger part of the year 1920 the reserve ratio has fluctuated in close accord with changes in note and deposit liabilities. As between notes and deposits, the indications are that for shorter periods of time changes in the ratio follow fluctuations in deposits, while for longer periods of time the decisive influence on the ratio is exercised by changes in the volume of notes. An effort has been made to devise an "index of divergence," or formula for estimating the relative effects of changes in liabilities and of changes in reserves on the movement of the reserve ratio. See paper by E. A. Goldenweiser, "Index of Divergence," in the forthcoming September number of the *American Statistical Review*.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

of 1919, and which threatened to culminate in disaster unless subjected to control. While this condition was reflected in the decline of the reserve ratio, the board's discount policy was directed toward improving the reserve position of the federal reserve banks not by increasing their reserves but by checking the constant expansion of their liabilities and by setting in operation forces which would make for a healthier credit situation. It raised rates to protect the reserve banks against abuse of their credit facilities, and to protect the community and the general business and economic situation against the consequences of such abuse.

Whether the federal reserve system would have had the support of public opinion to the extent it had during the past year, had the bad situation which the Federal Reserve Board was undertaking to improve not been unmistakably reflected in the reserve position of the banks, may well be doubted:

> As a guide to discount policy, it must be admitted the reserve ratio has certain conspicuous advantages. It is definite and obvious. Public opinion may be expected to support the always unwelcome policy of credit restraint when that policy is enforced by a depleted reserve. It is unhappily very doubtful whether the public would have been reconciled to the advance in rates made last spring if the reserve banks had had, let us say, a reserve ratio of 55 per cent, and yet, all other things being the same, an advance in rates would have been no less desirable.[20]

It is this consideration, thus well stated, which has given to the bank reserve ratio in the past its authoritative position as a credit and banking indicator. It is this same consideration which will assure it a position of almost equal importance in the future. Tradition, it must never be forgotten, has much to do with matters of banking and credit practice. The popular tradition that the reserve ratio is the index of changes in the credit situation will therefore be slow to disappear. Particularly will this be true in the United States, where long adherence to the principle of legislatively prescribed minimum banking reserves has much of the sanctity of a first principle. The proposals often made in recent months to abandon the reserve ratio as an indicator of discount policy and to base discount policy hereafter on the observed effects of credit on prices,[21] have, therefore, the character of academic proposals, even in present circumstances, which, it must candidly be admitted, are less favorable than was ordinarily true in the past to quick responsiveness on the part of the reserve ratio to changing business, credit, and price conditions. As an abstract proposition, the proposal to substitute a price indicator for the reserve ratio as a

[20] Sprague, article cited, p. 27.

[21] *Ibid.*, p. 28.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

guide to discount policy has much economic merit. The rigors of the recent price readjustment process through which the United States, in common with the rest of the commercial world, has been passing, have emphasized the value of price stability. Price disturbances not originating from inevitable natural causes are bad and costly alike to producer and consumer. It is not surprising, therefore, in view of the trying experiences of recent years, that effort should be made, in reviewing the working of present-day credit and banking machinery, to find some guide to credit policy that will give to the community greater protection against unsettling changes in the price level. Recent American experience, it may also be admitted, has demonstrated that good banking administration in times of economic disorder, at least, presents more than a problem of merely maintaining the reserve ratio, in a conventional or perfunctory sense.

Without entering upon the discussion of controverted questions of economic theory touching the relation of changes in prices to changes in the volume of credit, it may be assumed that the retardation of the flow of credit in times of expansion, and the acceleration of the flow of credit in times of business recovery following a period of depression, have an appreciable bearing on price movements. As a theoretical proposition, therefore, it is entirely conceivable that the discount policy of the federal reserve system might be governed by indications of impending price changes, with a view of mitigating their cyclical fluctuations. While such an undertaking would raise some new and difficult problems of credit administration, no doubt in time the technique of a plan of credit regulation based on price indices could be worked out and made administratively practicable if public sentiment demanded. But there is now no warrant in the statute under which the federal reserve banks are organized for undertaking to regulate their credit operations on any such basis. The economic logic of the Federal Reserve act is clearly predicated upon the theory that the federal reserve banks shall be operated with regard to reserve ratios, and "rates be fixed with a view of accommodating commerce and business." It would imply a very latitudinarian construction of the term "accommodating commerce and business" for the Federal Reserve Board and the federal reserve banks to adopt the "observed effects of credit on prices" as their rule of action in the future. There is not, however, the slightest reason for supposing that such a procedure on the part of the federal reserve banks would be viewed with public approval. Quite the contrary. Public sentiment in the United States is, and always has been, highly sensitive in matters of credit control, and precisely, among other reasons, because of the bearing that such control has, or is believed to have upon the movement of prices.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

The popular dread of "contraction," based, as it is, upon the popular assumption of a close, immediate, causal connection between contraction and falling prices, has seldom, if ever, been appealed to in vain in the United States in times of economic pressure. There is not the slightest warrant in either the remote or recent economic history of the United States for supposing that the American public would sanction or tolerate a discount policy on the part of the federal reserve system avowedly based upon price indexes, even if it were clear that such a practice were otherwise advisable. It would be regarded as tantamount to the setting up of a credit and price despotism. This fear of contraction and its consequences is one of the most persistent phases of American popular economics; practically viewed, it has the force of an instinct and is the explanation of many, if not most, of the otherwise puzzling vagaries of American financial history. One of its earliest and most energetic manifestations, it is well to recall, was the bitter hostility aroused against the Second Bank of the United States because of the financial pressure experienced in 1833-1834, alleged to have been due to the sinister purposes and Czarist methods of the great banking institution against which Andrew Jackson was successfully arraying the forces of public sentiment in many sections of the country. Later manifestations of the same feeling abound in the decades following the Civil War, when the nation was confronted with the problem of correcting currency disorders resulting from the Civil War. Recent events, in the autumn of 1920, have given evidence of the persistence of a similar strain of sentiment.

The problem of credit and currency regulation in a country as vast as the United States, and as complicated in its economic organization with different sections of the country in different stages of economic development and maturity, presents a very difficult problem even under normal conditions.[22] This, among other things, is the explanation and justification of the use of the regional principle in determining the structure of our system of reserve banking, as against the principle of a single central institution, nation-wide in the scope of its operation and control—the regional principle permitting of a closer adaptation of credit policy to regional or local conditions. The discount or credit policy of a reserve bank, whether organized on the regional or the central principle, must always be the expression of a judgment as to when a situation has arisen in business, industry, or credit which indicates the desirability of action on the part of reserve holding and credit and currency regulating institutions. That judgment must be a live judg-

[22] See Sprague, article cited, pp. 26-27: "There is no such general market rate of discount as in England. Consequently, the Bank of England practice of a discount rate slightly above the market rate cannot have so pervasive an influence."

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

ment, not a mechanical judgment. A great variety of factors enter into the determination of appropriate discount policy. Among these may be mentioned the state of business, industry, and trade (both domestic and foreign), the state of money markets (both domestic and foreign), international gold movements, seasonal conditions and needs, accidental economic disturbances, sometimes political conditions and the international situation, the stage of the business cycle, price movements,[23] and the state of banking reserves. No one of these by itself can be conclusive of action to be taken. Each has its own value and significance; and competent judgment on the part of reserve institutions depends in great measure upon the skill and capacity developed to give to each of these several factors its due weight in any given set of circumstances in determining the matter of credit policy. But when all this is said, it may yet be added that ordinarily there is no one indicator which is more suggestive of the occasion of considering action on the part of a reserve bank than a change in its reserve ratio.[24]

II

Viewing the matter practically, the problem of developing a more satisfactory technique under the federal reserve system, and one adapted to American conditions, is not that of finding a substitute for the reserve ratio as a guide to credit policy, but rather that of finding how to make our reserve ratio a more sensitive and immediate indicator of changing conditions in the credit situation than it now is. The problem, it must be admitted, has its very considerable difficulties; and these difficulties would be many, even under normal conditions. But the problem has been immensely aggravated by the disorganization of the whole mechanism of monetary standards and international credit and price relationships, and the artificial redistribution of the world's stock of monetary gold, which have resulted from the war. It would also deserve careful study, if space permitted, whether the changes made in the structure and safeguards of the federal reserve system by the amendments made in June, 1917, as a part of the financial preparation for war, are not destined to operate prejudicially to the best functioning of the reserve banks as credit regulators. For the effect of the 1917 amendments has been to make the reserve ratio of the federal reserve banks more sluggish in its responsiveness to changing conditions

[23] "While the Federal Reserve Board will always be mindful of the interdependence of credit and industry and of the influence exerted on prices by the general volume of credit, the Board nevertheless can not assume to be an arbiter of industry or prices." *Annual Report* for 1919, p. 73.

[24] Sprague, article cited, p. 27: "There is no substitute for the reserve ratio which possesses its peculiar virtues of simplicity and definiteness."

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

than it was under the original provisions of the reserve act. But even under the provisions of the reserve act as originally enacted, the reserve ratio of our reserve banks was probably a less sensitive indicator than that of the Bank of England, the institution which served as a general model after which our federal reserve system was patterned, and the institution whose methods of operation were believed to supply the best model in shaping the discount practices of our system.

The essential principle upon which the Bank of England is organized, as I see the matter, is unfettered discretion on the part of the bank in the matter of credit issue, combined with rigid restriction in the matter of note issue. This is the net outcome of the legislation of 1844, which specified no required reserve against deposits of the Bank of England, but a reserve of 100 per cent against all new issues of notes.

In practice, how does this system work? In a word, it has worked to make the state of the banking reserve of the Bank of England a very sensitive and immediate indicator, and therefore a very satisfactory guide to changes in discount policy. Under the English banking system as it operated before the war, any undue expansion of business and credit would, in swift course, make itself felt in the form of a demand for more than the usual volume of cash at the Bank of England. The Bank of England having no power to issue fiduciary notes to meet such demand, its cash—consisting of gold or Bank of England notes covered by gold—would be the source from which the demand would be met. The depletion of its reserve thus resulting from an undue credit expansion would quickly indicate the need of action on the part of the bank to protect its reserve by raising its discount rate, and thus, by a process which had become almost automatic in its character during the course of the forty years preceding the war, undue and unhealthful expansion of credit would be brought under control before it gained too much headway. All the more was this the case because an undue expansion of credit usually brought with it a gold export demand, for it is particularly to be noted that the rigid adherence to the practices of an effective gold standard and of a free gold market contributed greatly to the success of the English system of credit control. Under the English system, credit expansion usually gave rise to an external as well as an internal drain upon the cash holdings of the Bank of England. The combined effect of the two was to elevate the importance of the bank's reserve as a barometer of the credit situation almost to the position of being an instrument of precision.

England, like the United States, in contrast to the countries of the non-English-speaking world, is habituated to the use of bank credit in the form of the deposit account rather than of the bank note. Her

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

example is, therefore, of particular value for us. It has sometimes been argued, from the fact that the United States is a check-using country, that regulation of the currency is a negligible matter in the technique of banking control in the United States, supposing, of course, that care is always taken to make sure that all notes which are issued are fully protected by collateral security of indubitable character and value. In opposition to this view, I believe that regulation of bank-note currency, even in check-using countries, is at times a matter of first importance. I believe this to be measurably true, even under normal conditions when the commercial world or the major portion of it is operating under an effective gold standard and there is much gold or gold currency in actual everyday use and bank notes are convertible into gold, and principally for the reason that an increase in deposit credit invariably occasions, in due course, an increase in the demand for currency. Even check-using countries, like England and the United States, cannot do business without the use of a considerable proportion of hand-to-hand currency, the proportion of currency to credit in the United States being about one dollar of currency to five or six dollars of credit. The conditions upon which the community can get additional supplies of currency are therefore an important factor in credit regulation. The regulation of currency becomes, in fact, a method of regulating the flow and volume of credit. Important as it is that additional supplies of currency should be forthcoming on ready terms in certain circumstances, *e.g.*, in times of seasonal or emergency need, it is equally important at other times, when an undesirable credit or business situation is developing, that the conditions should not be easy. In general, it may be stated that the easier the conditions (that is, in terms of the effect on the reserve percentage) upon which banks of issue can furnish additional supplies of currency, the greater will be their difficulty, especially at times when their reserve ratio runs high, of regulating or controlling the volume of credit. It is, therefore, of first importance, under any system of reserve banking which undertakes to govern credit by primary reference to the reserve ratio, that the reserve ratio should fall or rise in quick and close reaction to changes in the volume of credit.

The matter is, in last analysis, largely one of psychology. The banker, no less the central banker than the ordinary commercial banker, looks at the reserve ratio as a gauge of the credit situation. So does the general community. Why this should be so need not here be analyzed. It is sufficient to emphasize the fact, and to point to one of its important implications in connection with our scheme of federal reserve banking: *A bank-note currency when it has little of the quality of a fiduciary note is more calculated to bring alike to the bankers'*

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

and the community's attention the fact and the meaning of credit expansion than when it has much of the fiduciary quality. This is a fair deduction from the forty years of English banking experience before the war. It is also the explanation of British determination since the war not to change the character of the Bank of England note as, in effect, a gold certificate, although such change has frequently been proposed in recent years:[25]

We are of opinion that the principle of the act of 1844, which has upon the whole been fully justified by experience, should be maintained, namely, that there should be a fixed fiduciary issue beyond which, subject to emergency arrangements which we recommend below, notes should only be issued in exchange for gold. . . . We think that the stringent principles of the act have often had the effect of preventing dangerous developments and the fact that they have had to be temporarily suspended on certain rare and exceptional occasions (and those limited to the earlier years of the act's operation when experience of working the system was still immature) does not, in our opinion, invalidate this conclusion.[26]

No doubt it would be possible for the Bank of England, with the help of the joint stock banks, without any legal restriction on the note issue, to keep the rate of discount sufficiently high to check loans, keep down prices, and stop the demand for further notes. But it is very undesirable to place the whole responsibility upon the discretion of the banks, subject as they will be to very great pressure in a matter of this kind. If they know that they can get notes freely, the temptation to adopt a lax loan policy will be very great. In order, therefore, to ensure that this is not done, and the gold standard thereby endangered, it is, in our judgment, imperative that the issue of fiduciary notes shall be, as soon as practicable, once more limited by law, and that the present arrangements under which deposits at the Bank of England may be exchanged for legal tender currency without affecting the reserve of the banking department shall be terminated at the earliest possible moment. Additional demands for legal tender currency otherwise than in exchange for gold should be met from the reserves of the Bank of England and not by the treasury, so that the necessary checks upon an undue issue may be brought regularly into play.[27]

Whenever before the war the bank's reserves were being depleted, the rate of discount was raised. This, as we have already explained, by reacting upon the rates for money generally, acted as a check which operated in two ways. On the one hand, raised money rates tended directly to attract gold to this country or to keep gold here that might have left. On the other hand, by lessening the demands for loans for business purposes, they tended to check expenditures and so to lower prices in this country, with the result that imports were discouraged and exports encouraged, and the exchanges thereby turned in our favor. Unless this twofold check is kept in working order the

[25] From the report of the British Committee on Currency and Foreign Exchange (frequently called the Cunliffe report) reprinted in the *Federal Reserve Bulletin,* Dec., 1918, pp. 1178-1192.

[26] *Federal Reserve Bulletin,* Dec., 1918, p. 1187.

[27] *Ibid.,* pp. 1184-1185.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

whole currency system will be imperiled. To maintain the connection between a gold drain and a rise in the rate of discount is essential.[28]

An examination of our own experience during the past three years does much to confirm the wisdom and the correctness of the conclusion of the Cunliffe report. The machinery and safeguards set up in the reserve act as originally enacted also bear evidence of wholesome appreciation by the framers of the act of the danger of laxity in the administration of credit under a system of elastic note issue. The power to issue notes was separated from the power to make discounts. The latter was given to the federal reserve banks, subject to certain review by the Federal Reserve Board; the former was exclusively vested in the Federal Reserve Board. It was not alone for the safety and protection of the noteholder, but also for the protection of the general community against the consequences of excessive or ill regulated issues of credit and currency that this arrangement was made. It was perceived that the power to regulate the currency carries with it an indirect but considerable power to regulate credit; for power over currency is, in effect, and, within limits, power over reserves; and power over reserves is power over credit. Close attention, therefore, should be given by students who are interested in the development of methods and practices of reserve banking in the United States to the bearing of currency issue and regulation upon credit control. Much more importance, I believe, attaches to the function of currency regulation than is ordinarily recognized by economists in the United States. By increasing or diminishing the fiduciary element in the federal reserve note, or—stating the proposition in terms of gold—by diminishing or increasing the gold element in the note, the Federal Reserve Board has the power to protect the reserves of the federal reserve banks *against*, or to expose them *to*, depletion and thus to affect their reserve ratios, and thereby make their ratios more faithful economic indicators, both to the banks and to the public, of the credit situation and outlook. Regulation of federal reserve note issue, if wisely conceived and competently administered, is capable of use as a preventive measure against an undesirable expansion of credit in its earlier and more insidious stages by making the supplying of currency by reserve banks eat into their reserve more rapidly, thereby making their reserve ratio a more trustworthy reliance than it now is as a guide to credit policy.

The line of reasoning pursued above may seem to overlook or run counter to the well established theory that a truly convertible bank note currency, such as is the federal reserve note, is self-regulating, and cannot, except temporarily, be issued in excess. Our federal re-

[28] *Federal Reserve Bulletin*, Dec., 1918, p. 1183.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

serve note is, no doubt, self-regulating in the sense that its volume adjusts itself to the volume of circulating deposit credit and the level of prices. It is not, however, by this test alone, or by this test primarily, that the self-regulating quality of a convertible currency is to be tested, more especially in view of the widespread derangements in the machinery of monetary standards and international exchanges which exist at this time and which promise to continue for a very considerable period of time. The theory that a convertible bank note currency is self-regulating and supplies its own corrective against over-expansion was in the nature of a corollary of the gold standard when the monetary and banking practices associated with the gold standard were in effect in a considerable number of countries. It was on such assumptions, and under the monetary conditions that existed in Europe before the war, that gold reserves[29] and convertible bank note issues of the several leading countries had a very definite and important significance as economic and credit regulators, more particularly as devices for setting in operation deterrent or corrective forces against credit expansion and price inflation. The theory of the self-adjusting character of a convertible bank note currency undoubtedly has much validity in normal circumstances—in such circumstances as existed prior to 1914. When the commercial world, or a sufficiently large number of the leading commercial countries, are operating on a gold basis, and prices in these countries are gold prices, the international flow of gold undoubtedly does much to act as a deterrent to excessive credit and currency expansion in gold standard countries. Currency and credit expansion, and rising prices, in such circumstances, bring about an unfavorable balance of trade, raise the foreign exchanges, and set in motion an outflow of gold and a return flow of bank notes for redemption in gold to meet the foreign drain. All of this may be freely admitted; but the conditions which the theory of the self-controlling character of a convertible bank note currency assumes, do not now exist because the conditions requisite to the functioning of an effective gold standard do not exist. The theory of bank note convertibility as

[29] Looking at the matter of reserves from the economic point of view, the adjustment of the volume of a country's credit and banking currency to what is necessary to maintain prices at their proper economic level may be described as the most important function of a nation's banking reserve. The gold of the world and the new gold as it comes from the mines is constantly in process of distribution and redistribution. It is thus that the international price level is maintained or rectified in accordance with underlying conditions governing the equation of international demand and supply of the different countries. As such, the gold reserve is an economic regulator of the very first importance. It is a method of testing the character and volume of a country's credit and currency and so keeping it from getting out of line with economic requirements, particularly in relation to world conditions. (AMERICAN ECONOMIC REVIEW, SUPPLEMENT, vol. IX, no. 1, p. 142, article entitled "After-War Readjustment: Liberating Gold.")

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

a protection against over-expansion therefore breaks down. The larger portion of the commercial world is not now on a gold basis, though the United States is. No one country, however important, can, by itself alone and for itself alone, maintain an effective gold standard. The monetary history of the United States in recent years conclusively establishes this proposition. The gold movements involving the United States in recent years have been predominantly one way movements. We hold a disproportionate part of the world's stock of monetary gold, and are adding to our holdings—a new gold movement of large dimension and portentous significance having recently set in.[30] Convertibility as a protective device has little meaning in such a situation. The self-regulating quality of our bank note currency has therefore been in abeyance, and has offered, and could offer, no protection, or at any rate no adequate protection, against the insidious process of gold-credit inflation.

Lacking the agency of two-way gold flows, in proper relationship, we must find and set up some other agency, at least so long as present abnormal conditions continue, for regulating our currency—and that

[30] Between October 15, 1920, and April 15, 1921 (the latest date for which figures are available) the federal reserve banks have increased their gold holdings by the amount of $294,778,000. The great bulk of this, aggregating $251,608,000, represents accessions since December 10, 1920. This is mainly new gold from the South African mines, bought in the London market for American account because of the premium on the dollar, and because of the further fact that the United States is a free gold market. The increase thus occasioned in the reserves of the federal reserve banks has had a pronounced effect upon the rise of their reserve ratio.

Between October 15, 1920, and April 15, 1921, the reserve ratio of the twelve banks combined increased 31 per cent, and that of the New York Federal Reserve Bank increased 44 per cent, as the tabulation below shows. A careful calculation indicates that the 31 per cent increase for the twelve banks combined is attributable to the three factors involved in the following proportions: Decline in federal reserve note circulation, 11 per cent; decline in deposits, 4 per cent; and increase in reserves, 16 per cent. For the New York bank the ratio shows a rise of 44 per cent, distributed as follows: Decline in federal reserve note circulation, 9 per cent; decline in deposits, 6 per cent, and increase in reserves 29 per cent.

Item	Twelve banks combined		Federal reserve bank of New York	
	October 15	April 15	October 15	April 15
Note Liabilities...	$3,353,271,000	$2,868,527,000	$875,737,000	$762,173,000
Deposit Liabilities	1,915,731,000	1,754,943,000	764,466,000	680,283,000
Deposit and note liabilities combined	5,269,002,000	4,623,470,000	1,640,203,000	1,442,456,000
Total reserves....	2,154,911,000	2,485,077,000	607,460,000	767,474,000
Reserve ratio.....	40.9	53.7	37.0	53.2

This content downloaded from 149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

means primarily for determining its volume in accordance with changing conditions and requirements—if a good credit situation is to be reëstablished and maintained in the United States, and the likelihood of the repetition of costly alternations of feverish activity and painful recession in business is to be reduced, or at any rate the violence of such alternations to be mitigated. The agency I am proposing for this purpose is the adoption and the development by the federal reserve system of a currency policy and a gold policy designed to operate upon the reserve ratios of the several banks so as to make those ratios a better index of the credit situation and a better guide to credit policy. I use the term "credit policy" rather than "discount policy" because the former is a broader conception and because the latter implies pretty exclusive reliance upon changes of discount rate as the instrument of credit control. The maintenance of good credit conditions appears to me to make the problem of credit administration one of credit regulation rather than one of credit control. Prevention, rather than control, should be the objective of a competent credit policy in the United States. This is not to say that changes of discount rate have no place in credit policy. They have, indeed, a very important place, but credit policy does not place exclusive reliance on rates; because regulation, not control, is its purpose. It aims to deal with tendencies or situations in the making, rather than to await their development before acting. While credit policy uses the rate as an instrument, it does not make the rate its only reliance, and when it uses the rate, uses it in time so as to prevent the necessity of resort to extreme and punitive levels. Having regard to the practical and traditional importance of the reserve ratio as the conventional credit and banking indicator, credit policy administers currency and gold so as to support its purpose by acting on the banking reserve and checking the development of lax loan policy tendencies on the part of either reserve banks or member banks. Thus are gold policy and currency policy not only complementary to one another but also inseparable elements in a comprehensive credit policy.

It would lengthen this paper unduly, even were this the proper place and occasion, to describe the *modus procendendi* which would be necessary in order to give effect to the ideas which have been set forth on federal reserve policy for the future. The discussion has concerned itself with matters of experience, with matters of theory, and with questions of principle and of policy, rather than with a program of action. The revision of our reserve bank practice, and the recasting of reserve bank accounting which would be necessary under a plan designed to give effect to the principles suggested, would not, however, present a difficult problem.

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

The main change in the published weekly statement of the federal reserve banks that would be necessary would be to report the specific *note* reserve, held by the Federal Reserve Agent, and the specific *deposit* reserve, held by the bank. The existing practice[31] of stating the reserve position theoretically in the form of a ratio derived from a comparison of total reserves with combined note and deposit liabilities should be discontinued, or, if continued, be given merely for purposes of theoretical comparison, by the federal reserve system, and a form of statement should be set up which would show the reserves actually held against deposits and notes respectively and separately, as the law contemplates.[32]

The existing gold holdings of the reserve banks should be reapportioned between the deposit reserve and the note reserve. To the deposit reserve might be allocated an amount of reserve money equivalent, say, to 45 per cent[33] of their deposit liabilities as of the date when the new form of accounting would become effective.[34] To the note reserve should be allocated all the remaining reserve, and, as the law requires, be in the form of gold.[35]

The reserve thus allocated to the deposit reserve should be regarded as the working reserve of the banking or discount department of the federal reserve bank. The banks should be expected to conduct their discount operations on the basis of this reserve. Until conditions justified, the amount of this reserve should not be changed. Fresh acces-

[31] The April 15 statement of the twelve federal reserve banks stated the reserve position for the banks combined as follows:

Ratio of total reserves to deposit and federal reserve note liabilities combined ....53.7 per cent
Ratio of gold reserves to federal reserve notes in circulation after setting aside 35 per cent against deposit liabilities......................65.2 per cent

The actual allocation of reserve moneys on that date showed, however, that an amount of gold equal to 52.0 per cent of notes in circulation was held by the Federal Reserve Agent or in the gold redemption fund, and that an amount of gold and lawful money equal to 56.5 per cent of their deposits was held by, or for account of, the banks.

[32] "Every federal reserve bank shall maintain reserves in gold or lawful money of not less than thirty-five per centum against its deposits and reserves in gold of not less than forty per centum against its federal reserve notes in actual circulation." Federal Reserve Act, Section 16.

[33] This would provide a potential basis for an expansion of over $500,000,000 of reserve bank credit before the deposit ratio would reach the legal minimum of 35 per cent.

[34] A reserve of 45 per cent represents the approximate reserve ratio against the combined note and deposit liabilities of the twelve banks at the beginning of the year 1921, when the gold influx began.

[35] The apportionment above proposed would result, on the basis of the April 15 statement, in the shifting of about $200,000,000 of the gold now held in the banking

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

sions of gold received by the banking department should be transferred to the note reserve by way of substitution for other collateral held by the Federal Reserve Agent, or in exchange for federal reserve notes. Withdrawals of gold from federal reserve banks for foreign shipment should, for the present at least, be taken out of the note reserve by the presentation of federal reserve notes for redemption in gold or by the substitution of commercial collateral for gold in the security held by the Federal Reserve Agent. The deposit reserve held by the banking department would thus be fairly constant in amount; the note reserve, on the other hand, would be variable in amount, fluctuating mainly in accordance with changes in the international flow of gold, increasing when an influx was in process and decreasing when an outflow was in process.

While the deposit reserve under the arrangement proposed above would be constant, the deposit reserve ratio would not be constant, but would fluctuate. Any expansion of the loan account of the federal reserve banks would quickly reflect itself in the diminution of the reserve ratio below 45 per cent; any diminution of their loan account would quickly reflect itself in an increase of the reserve ratio above 45 per cent. In brief, fluctuations in the reserve ratio would reflect quickly and accurately changes in the volume of the reserve banks' discounts.

From time to time the situation of the reserve banks as a whole, and of the several reserve banks individually, should be reviewed in the light of current credit conditions and needs in order to determine whether any reapportionment of reserves should be made; whether, *e.g.*, any given bank should enlarge its deposit reserve at the expense of its note reserve. The *modus operandi* for effecting such enlargement would be for the bank in question to substitute commercial paper for gold as the collateral security pledged with the Reserve Agent for notes issued to the bank, the gold thus released being covered into the deposit reserve. So far as the bank's reserve position was concerned, this would be tantamount to the transfer of a certain amount of gold from the note reserve to the deposit reserve in order to give the bank an enlarged basis of lending.

As a result, the reserve ratios of the federal reserve banks would have a meaning not now possessed by them. As the banking and business community came to be educated to the new method of stating the position of the reserve banks, primary attention would be paid to the movements of the deposit reserve ratio; that ratio would be the immediate gauge of the banking and credit situation. As credit expansion was in process, that reserve ratio would decline much more rapidly than

department to the Federal Reserve Agent's department, and give a reserve ratio against notes of 59.1 per cent.

This content downloaded from 149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

it now does. It would be a faithful indicator of what was going on. It would rise only in reaction to a decline in the rate of expansion or as liquidation was in process. Moreover, as the community came to appreciate the significance of changes in the deposit ratio, that ratio would come to be regarded with heightened interest because of the evident bearing, in the logic of reserve banking, of changes in the reserve ratio upon credit and discount policy. And thus would the problem of credit administration also be simplified and its solution be aided by anticipatory action, both on the part of the banks and on the part of the borrowing community.

The note reserve ratio, under the scheme of operation here under consideration, would have real significance as indicating the extent of the gold cover against federal reserve notes. Fluctuations in the note reserve ratio would indicate the increase or decrease of federal reserve notes outstanding, movements of gold *into* and *out of* the federal reserve system, and reapportionment of existing gold holdings between the deposit reserve and the note reserve. In times like the present, when a heavy flow of gold toward our shores is in process, the effect of the proposed plan would be to give, or rather to restore, to the federal reserve note more of the character of a gold certificate, which it had in the first years of the system, and to set up, under the guardianship of the Federal Reserve Board, a *super-reserve.* When gold was accumulating[36] in the hands of the Federal Reserve banks, the banks would substitute gold for other collateral pledged with the Federal Reserve Agent as security against outstanding issues of notes, new issues of federal reserve notes being made only in exchange for gold until conditions arose which justified the issue of notes against commercial collateral.[37]

Thus would the new accessions of gold brought to us purely because of the derangements of international exchanges be kept in storage, as a *note* and *super-reserve.* There this gold would be held against the day when it will, in part, have to be returned to Europe in the process of restoring the gold standard there—an undertaking in which we, hardly less than Europe, have both an interest and an obligation; and in the meantime it would be where it could be drawn into the banking or de-

[36] Similarly, when silver and legal tenders are accumulating, as has recently been the case (on April 15 the federal reserve banks held $198,198,000 of silver and legal tender notes, the Federal Reserve Bank of New York holding $130,428,000 of this amount), the reserve banks should pay them out in supplying the demand of member banks for currency.

[37] Supposing the reserve statement for the federal reserve system were revised so as to report the deposit reserve and note reserve separately, the following example shows what effect a transfer of $200,000,000 from the deposit reserve to the note

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms

posit reserve, whenever circumstances justified its use to raise or restore the deposit reserve ratio at the expense of the note reserve ratio. Thus would these ratios attain a significance and value as indicators and guides not now possessed by the federal reserve reserve ratio, and gold policy, currency policy, and credit policy become constituent and compensating elements in a balanced scheme of federal reserve policy, whose primary purpose should be to promote and maintain a healthy condition of business and industry by regulating the flow and volume of credit with regard to the trend of business and the volume of production.

A. C. Miller.

Federal Reserve Board, Washington, D. C.

reserve would have on the respective reserve ratios on the basis of the actual allocation of reserves as of April 15, 1921:

	Before transfer of $200,000,000 to note reserve	After transfer of $200,000,00 to note reserve
Note reserve	$1,493,001,000	$1,693,001,000
(*i.e.,* gold with Federal Reserve Agent and in bank's redemption fund)		
Deposit reserve	992,076,000	792,076,000
(*i.e.,* all other cash reserves)		
Federal reserve notes in circulation......	2,868,527,000	2,868,527,000
Total deposits	1,754,943,000	1,754,943,000
Ratio:		
Reserve against notes	52.0	59.0
" " deposits	56.5	45.1

This content downloaded from
149.10.125.20 on Thu, 24 Mar 2022 00:17:42 UTC
All use subject to https://about.jstor.org/terms