100% MONEY

Designed to keep checking banks 100% liquid; to prevent inflation and deflation; largely to cure or prevent depressions; and to wipe out much of the National Debt.

By

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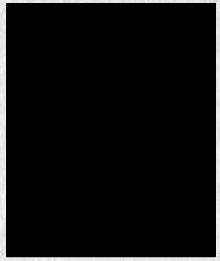

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PART III

THE SIGNIFICANCE OF THE 100% SYSTEM

PREFACE TO THE SECOND EDITION

After the first edition of this book was published, the Omnibus Banking Act of 1935 was passed. This may be said to represent a step in the direction of the 100% idea, as outlined in this book. While the reserves of member banks cannot, under this Act, be raised to 100%, they can be raised to double their present figures. This provision will at least afford a weapon to fight inflation, the danger of which, as to check-book money, has recently been greatly increased. But, although the volume of check-book money has already grown greatly, it has not, as yet, grown too greatly. In fact it is this very growth which has been leading us out of the depression. Nevertheless, if this growth is not controlled, it may lead us beyond recovery into an unwholesome boom. As I write, the stage is set for such a boom in the existence of huge excess reserves. Raising the reserve ratios, as permitted under the new law, will reduce this excess. If the reserves could be raised to the full 100% there would be *no* excess. But the proposal to permit this was bitterly fought in the Senate Committee on Banking and Currency.

In one other respect, the new Act approaches the plan here proposed. It sets up more definite and

centralized machinery for open market operations. However, the new Open Market Committee is too unwieldy and its members have too many duties other than the duty of deciding what open market operations should be undertaken. But once it is generally recognized that the Open Market Committee has almost all the powers for "managing" our money system, it might readily be transformed into the sort of "Currency Commission" described in this book. It would then have a standing like that of the Supreme Court, and become, as it were, a Supreme Court of Money.

The reception of the first edition has been more gratifying than I had dared to hope, even among bankers, whose first instinct is always to oppose. But bankers have been making some progress, even if painfully slow, in the direction of 100% money. From abroad comes the news that Dr. Hjalmar Schacht, President of the Reichsbank and an astute banker, is attempting to reform the German banking system along the lines of 100% reserves. This he considers essential for the proper control and functioning of the banking system. Moreover the German Postal Checking System has functioned admirably on a 100% reserve basis for many years.

There is also a trend in both Germany and England toward the idea of service charges, one of the features of the plan here recommended. In America this idea has been applied, in a crude way, by almost all banks. Moreover, Mr. Efron, Vice President of the National Safety Bank of New York, has been

pioneering with this plan as applied to small deposits, and with great success.

This new edition has been completely rewritten and re-set. Chapter II has been changed most of all, in order, among other things, to make clearer the fact that the proposed reform is essentially like that adopted for bank notes by the Bank of England under the Bank Act of 1844 promoted by Sir Robert Peel.

As this second edition goes to press, an able article on the 100% plan, written by Professor James W. Angell of Columbia University, has come to hand. It provides for certain improvements in the plan which have, I believe, great practical importance. I have, therefore, quoted his conclusions in Appendix V.

IRVING FISHER

Yale University
January, 1936

PREFACE TO THE FIRST EDITION

The "100% Money" proposal—to raise reserve requirements against checking deposits from 10%, or thereabouts, to 100%—may at first seem startling. But it is an historical fact that, in the earliest days of deposit banking, a 100% reserve was required.

The revival now of this ancient 100% system, with the readjustments demanded by modern conditions, would effectually restrain the monetary inflation and deflation incident to our present system; that is, would actually stop the irresponsible creation and destruction of circulating medium by our thousands of commercial banks which now act like so many private mints. For these and other reasons, the 100% system would be a great boon, even to bankers.

That this is true is recognized by a few bankers who have studied the economic effects of the system under which they now operate and who see that the 100% system would largely save them from great depressions.

Some of these bankers have helped in the preparation of this book. I wish, in particular, to thank Mr. F. R. von Windegger and Mr. W. L. Gregory, President and Vice President, respectively, of the

Plaza Bank of St. Louis. Both of them have read two successive drafts of the manuscript. Though, at first, they were doubtful about the merits of the plan, they have, after further study, endorsed it fully.

I wish also to thank the many other bankers who have read and criticized parts of the manuscript, not all of whom, however, have as yet accepted its conclusions.

Among those bankers who do approve the 100% principle is Mr. George Le Blanc, who was Vice President of the Equitable Trust Company of New York City before its merger with the Chase National Bank, and who, I am informed, was the first man to whom President Wilson offered the Governorship of the Federal Reserve Board. Mr. Robert H. Hemphill, former Credit Manager of the Atlanta Federal Reserve Bank, has, he tells me, advocated the 100% principle for many years. Mr. Hemphill has kindly supplied a foreword to this book, which, with Appendix II, extracts from letters of Mr. von Windegger and Mr. Gregory, should be of special interest to bankers. Likewise Mr. Irving B. Altman, who has had a long banking record in the Federal Reserve, has been in favor of the 100% idea for many years. Mr. Robert D. Kent, formerly President of the Merchants Bank of Passaic, N. J., a bank executive for over fifty years and one who worked out the principles of the Aldrich-Vreeland Act, has long favored stable money and has endorsed the 100% plan.

I am also under obligations to several economists, including especially Professor Henry C. Simons, Mr. Aaron Director, Professor Frank H. Knight, Professor Garfield V. Cox, Professor Lloyd W. Mints, Professor Henry Schultz, Professor Paul H. Douglas, Mr. A. G. Hart, and others, all members of a group at the University of Chicago from whose "memorandum" on the 100% plan I originally obtained many of the ideas embodied in this book. Professor Simons, in particular, has given generously of his time in personal consultation, as well as in going over parts of the manuscript.

Among the many other economic students who have especially helped me, and who are known to favor the 100% principle, are Dr. Lauchlin Currie of Harvard University, now with the Federal Reserve Board, whose recent book, *The Supply and Control of Money in the United States*, has treated of this subject; Mr. H. H. Edmiston, also with the Federal Reserve Board; Mr. Richard A. Lester of Princeton University; Professor Frank D. Graham of Princeton University; Professor John R. Commons of the University of Wisconsin; Professor C. O. Hardy of the Brookings Institution; Professor F. Cyril James of the University of Pennsylvania; Professor Willford I. King of New York University; Professor Luther A. Harr of Pennsylvania University, Secretary of Banking, State of Pennsylvania; Dr. Royal Meeker, formerly Chief of Division of Scientific Methods and Results of the International Labour Office; Dr. Warren M.

Persons, Consulting Economist, formerly Professor in Harvard University; Dr. Robert Eisler, author; Dr. Walter Adriance, formerly of Standard Statistics Company; Ex-Senator Robert L. Owen; Hon. T. Alan Goldsborough; Hon. Wright Patman; Mr. J. Calvin Shumberger, President, Controller's Institute of America and Controller, Lehigh Portland Cement Co.; Mr. Hans R. L. Cohrssen, who assisted me in writing *Stable Money, a History of the Movement;* Mr. Edwin Newdick, Senior Economist of Agricultural Adjustment Administration; Mr. H. B. Brougham, Executive Secretary, Sound Money League; Mr. Robert B. Wolff, Manager, Pulp Division, Weyerhaeuser Timber Co.; Mr. William C. McCreary, President, First National Brands, Inc., Chicago; Mr. Robert W. Pomeroy, investment expert; Mr. Spruille Braden of Parker, Braden and Armstead; Mr. Charles E. Duryea, automobile inventor; Mr. Richard A. Staderman, research student.

In order to get criticism from every angle and to test every feature of the plan by such criticism, this little book has been in preparation for over a year. At one stage in its evolution the book was mimeographed and sent to one hundred and fifty persons for criticism. It would therefore be impossible to make complete acknowledgment of all the help received; but among the many whose suggestions have been very helpful are Professor Joseph Schumpeter of Harvard University; Professor G. H. Bousquet of the University of Algiers; Professor

Harry G. Brown of the University of Missouri; Professor Harold L. Reed of Cornell University; Dr. John Bauer, Director, American Public Utilities Bureau; Mr. Frank A. Vanderlip, formerly President of the National City Bank; Colonel Leonard P. Ayres, Vice President of the Cleveland Trust Company; Mr. John R. Stewart, Vice President of the First Wisconsin National Bank of Milwaukee; Mr. Ralph W. Manuel, President of the Marquette National Bank of Minneapolis; Mr. Evans Woolen, formerly President of the Fletcher Trust Company of Indianapolis; Mr. Gibbons Poteet, Cashier of the First National Bank of Roxton, Texas; Mr. Herman Waldeck, Executive Vice President of the Continental Illinois National Bank and Trust Company of Chicago; Mr. Maximilian B. Wellborn, formerly Governor of the Federal Reserve Bank of Atlanta; Dr. W. F. Gephart, Vice President of the First National Bank in St. Louis; Major C. H. Douglas, author; Mr. J. S. Cullinan, retired corporation official; Mr. M. K. Graham, capitalist; Mr. E. L. Wiegand, President, Edwin L. Wiegand Company, Pittsburgh; Mr. Owen D. Young, Chairman, Board of General Electric Company; Mr. Marcus Goodbody, broker; Mr. Grier Hersh, President, York National Bank and Trust Company of York, Pa.; Mr. Michel A. Heilperin; Mr. Ezra Pound, author; Mr. H. S. Gilbertson, Director of Personnel, Lehigh Navigation Coal Co.; Judge Philip Troup; Mr. John D. Pearmain; Mr. Gardner Means, Economic Adviser on Finance to the Secre-

tary of Agriculture; Mr. Ralph W. Wescott, Comptroller of Customs, Philadelphia; Mr. Ludwig S. Hellborn; Mr. L. E. Eichelberg; Hon. G. W. Edmonds, Mr. Paul Anderson, Judge George W. Anderson.

I also wish to thank my brother, Herbert W. Fisher, for scrutinizing and helping with the text at all its various stages with a view to clarity of exposition.

Part I summarizes the whole proposal, and many laymen may feel it unnecessary to read the more detailed discussions of Parts II and III. These are primarily designed to meet the possible objections of bankers and of technical students of banking. I have, however, tried everywhere to stress only the principles involved rather than to insist on exact methods for applying them. In many cases alternative methods are suggested. Actually to crystallize the 100% system into law and to combine it with a plan for stabilizing the purchasing power of the dollar will require the attention of those better fitted than I to choose between the available alternatives and to formulate the legal specifications necessary to carry out any detailed plan.

Already several bills have been introduced into Congress to create a 100% reserve system. I refer, in particular, to the bill of Senator Cutting and Congressman Patman, that of Congressman Goldsborough and that of Senator Nye and Congressman Sweeney.

The last named bill was endorsed in March 1935

by the National Monetary Conference, constituted in January, 1935, and representing 16 organizations, said to embrace half the American electorate.

This book aims to present the subject from as many points of view as possible. The plan is so simple that it can be covered completely in a few pages; but it would affect the present complicated banking structure and its relations to business in so many ways that its very simplicity and its consequent generality and far-reaching character raise a multitude of questions in the minds of those familiar with the present more involved system. For these reasons there is a good deal of intentional repetition and summarizing.

My chief object is to make every possible relationship of the plan so clear that any intelligent and open-minded reader may be fully convinced as to its soundness and practicability. I suggest that my readers, after finishing the book, re-read the first chapter.

The essence of the 100% plan is to make money independent of loans; that is, to divorce the process of creating and destroying money from the business of banking. A purely incidental result would be to make banking safer and more profitable; but by far the most important result would be the prevention of great booms and depressions by ending the chronic inflations and deflations which have ever been the great economic curse of mankind and which have sprung largely from banking.

Although the idea of a 100% reserve is old and

was put in practice centuries ago, it will seem to most people brand new. One of my correspondents, an authority on banking, says, it is the only "original" idea which this depression has brought forth.

I have come to believe that that plan, properly worked out and applied, is incomparably the best proposal ever offered for speedily and permanently solving the problem of depressions; for it would remove the chief cause of both booms and depressions, namely, the instability of demand deposits, tied, as they now are, to bank loans.

IRVING FISHER

Yale University
March, 1935

FOREWORD BY A BANKER

To the "man in the street," or to one whose wages, salary or income is paid in currency or coin, banking appears to be a remote subject, in which he can have little direct interest. To such a man it may be a great surprise to read that the amount of his wages, salary or income depends on the total of loans outstanding by the commercial banks of the nation. And yet such is the case.

Certainly this is the most vital question of the moment. You who read this are not buying the things you normally purchase for the very simple reason that you haven't the money. Your friends and acquaintances seem to be in the same boat. What does all this add up to?

If your personal difficulty and that of all the people you know or know of, is lack of money, is it not obvious that the central national difficulty is but the aggregate of the difficulties of all its citizens, that the scarcity of money is our paramount national problem?

We have ample producing and distributing facilities to supply everyone with an abundance of the essentials for a high standard of living, and we are desperately anxious to produce, but we haven't sufficient money to effect the exchange of our goods and services.

It is only in very recent years that we have collected sufficiently accurate data to calculate the amount of money which must be in circulation to make possible a given national income. We find that this ratio is about one to three, and persists at that figure with remarkable constancy, under widely varying conditions.

To bring the significance of this important fact home to you—there must be one dollar in money or some usable substitute in circulation for each three dollars of your annual wages, salary or income, and there must be an additional dollar in circulation for each three dollars of the annual income of every other individual in the nation.

According to my estimates, which are in substantial agreement with those of other students, we had in circulation in 1929 twenty-seven billions of dollars in cash and demand bank deposits, exclusive of an estimated amount employed in stock speculations. Our national income for 1929 was eighty-one billions of dollars. This eighty-one billions was but the total of your wages, salary or income and that of all other individuals in this nation.

In 1932 the volume of currency, coin and bank deposits in circulation had shrunk to approximately sixteen billions of dollars, and our national income had shrunk in precisely the same proportion, to approximately forty-eight billions of dollars, and of course this means that the average personal income had shrunk proportionately.

Currency and coin, issued by the government,

play a minor part in the transaction of our business. The vast majority of our transactions are paid by checks drawn against the demand deposits, or checking accounts, in commercial banks. These deposits are created by the commercial banks and the people who borrow from them. The borrower gives the bank his note and the banker credits the face value of this note as a "deposit" on the books of the bank. Checks drawn against this deposit are charged against the borrower's account and credited to the account of the persons who receive them. This person again "spends" this "deposit" and it continues to circulate through an average of the accounts of twenty-five or more persons or firms per annum. In this way, these book credits operate as a synthetic substitute for money, performing every monetary function.

The total business of the nation is simply the aggregate of the transactions we effect by means of these borrowed credits and of the trifling amount of cold cash that circulates.

Neither the banker nor the borrower ordinarily realize that a loan just completed, is putting into circulation that much new money, or, as our reactionary friends would say, "inflating the currency," by the amount of the loan. Neither the banker nor the borrower ordinarily realizes that he is starting an endless chain of successive transactions which will continue as long as this credit substitute for money remains in circulation.

When a bank loan is paid, someone draws on one

of these deposits to pay it, and of course so much of that deposit goes out of existence, and a train of successive transactions which would otherwise have been made with that portion of that deposit ceases.

If all bank loans were paid, no one would have a bank deposit, and there would not be a dollar of currency or coin in circulation.

This is a staggering thought. We are completely dependent on the commercial banks. Someone has to borrow every dollar we have in circulation, cash or credit. If the banks create ample synthetic money we are prosperous; if not, we starve. We are absolutely without a permanent monetary system.

When one gets a complete grasp upon this picture, the tragic absurdity of our helpless position is almost incredible—but there it is.

If all the 14,500 banks of the nation begin calling their loans simultaneously, the aggregate destruction of this synthetic money is enormous. Almost immediately, practically no one seems to have the normal amount of money to spend. The business of the nation decreases so rapidly that merchants and manufacturers are suddenly compelled to decrease their forces and lower the wages of the remainder. This is a "depression." Its severity depends on how many of these loans are called and paid—how much of our principal money is destroyed by the payment of these loans.

It is a baffling and mysterious disappearance of money—mysterious because, of course, the general public is unaware that the 14,500 banks of the nation are all busily destroying our principal substitute for money—bank deposits.

As the depression deepens, prices and values decline and the banks are forced into further and more drastic efforts to preserve their solvency. Ruthless foreclosure becomes the only doctrine consistent with their self-preservation.

Our statesmen have consistently declined to study this question and provide a sound monetary system, an adequate permanent currency, scientifically calculated to expand consistently with our increasing population and our increasing ability to produce.

Somehow, the intelligent public of this nation must learn the fundamentals of this question. We can no longer depend upon our banking system to furnish all the money we have to do business with. The principal reason this depression continues is that the banks are not lending, and as a result, the money with which to expand business does not exist. It is so simple that business men largely overlook this fundamental situation and continue to search for some economic "fourth dimension" to explain our distressing situation, but there is no mysterious force defeating our efforts to exchange goods and services. We haven't the money nor any substitute in circulation, and that is the essence of the story.

In Professor Fisher's book, he presents in lucid detail the operation of this erratic banking-monetary system, and the obvious remedy. It is the most

important subject intelligent persons can investigate and reflect upon. It is so important that our present civilization may collapse unless it is widely understood and the defects remedied very soon.

It is *your* problem and *mine*.

ROBERT H. HEMPHILL

Former Credit Manager of the Federal Reserve Bank of Atlanta

PART I

A SHORT OUTLINE

Chapter I

SUMMARY IN ADVANCE

Introduction

In the United States, as in a few other countries, most of our bills are paid by check—not by money passing from hand to hand.

When a person draws a check, he draws it against what he calls "the money I have in the bank" as shown by his deposit balance on the stub of his check book. The sum of all such balances, on all such stubs in the whole country, i. e. all checking deposits, or what we ordinarily think of as the "money" lying on deposit in banks and *subject to check,* constitutes the chief circulating medium of the United States. This I propose to call "check-book money" as distinct from actual cash or "pocket-book money." Pocket-book money is the more basic of the two. It is visible and tangible; check-book money is not. Its claim to be money and to pass as if it were real money is derived from the belief that it "represents" real money and can be converted into real money on demand by "cashing" a check.

But the chief practical difference between check-

book money and pocket-book money is that the latter is bearer money, good in anybody's hands, whereas check-book money requires the special permission of the payee in order to pass.

In 1926, a representative year before the great depression, the total check-book money of the people of the United States, according to one estimate, was 22 billion dollars, whereas, outside of the banks and the United States Treasury, the pocket-book money—that is, the actual physical bearer money in the people's pockets and in the tills of merchants—amounted, all told, to less than 4 billion dollars. Both together made the total circulating medium of the country, in the hands of the public, 26 billion dollars, 4 billions circulating by hand and 22 by check.

Many people imagine that check-book money is really money and really in the bank. Of course, this is far from true.

What, then, is this mysterious check-book money which we mistakenly call our "money in the bank"? It is simply the bank's *promise to furnish* money to its depositors when asked. Behind the 22 billions of checking deposits in 1926, the banks held only some 3 billions in actual money. The remaining 19 billions were assets other than money—assets such as the promissory notes of borrowers and assets such as Government bonds and corporation bonds.

In ordinary times, as for instance in 1926, the 3 billions of money were enough to enable the banks

to furnish any depositor all the money or "cash" he asked for. But if *all* the depositors had demanded cash at one and the same time, the banks, though they could have gotten together a certain amount of cash by selling their other assets, could not have gotten enough; for there was not enough cash in the entire country to make up the 22 billions. And if all the depositors had demanded *gold* at the same time, there would not have been enough gold in the whole world.

Between 1926 and 1929, the total circulating medium increased slightly—from about 26 to about 27 billions, 23 billions being check-book money and 4 billions, pocket-book money.

On the other hand, between 1929 and 1933, check-book money shrank to 15 billions which, with 5 billions of actual money in pockets and tills, made, in all, 20 billions of circulating medium, instead of 27, as in 1929. The increase from 26 to 27 billions was inflation; and the decrease from 27 to 20 billions was deflation.

The boom and depression since 1926 are largely epitomized by these three figures (in billions of dollars)—26, 27, 20—for the three years 1926, 1929, 1933.

These changes in the quantity of money were somewhat aggravated by like changes in velocity. In 1932 and 1933, for instance, not only was the circulating medium small, but its circulation was slow—even to the extent of widespread hoarding.

If we assume that the quantities of circulating

medium for 1929 and 1933 were respectively 27 and 20 billions and that its turnover for those years was respectively 30 and 20, the total circulation would be, for 1929, 27 x 30 = over 800 billion dollars and, for 1933, 20 x 20 = 400 billion dollars.

The changes in quantity were chiefly in the deposits. The three figures for the check-book money were, as stated, 22, 23, 15; those for the pocket-book money were 4, 4, 5. An essential part of this depression has been the shrinkage from the 23 to the 15 billions in check-book money, that is, the wiping out of 8 billions of dollars of the nation's chief circulating medium which we all need as a common highway for business.

The shrinkage of 8 billions in the nation's check-book money reflects the increase of 1 billion (i. e. from 4 to 5) in pocket-book money. The public withdrew this billion of cash from the banks and the banks, to provide it, had to destroy the 8 billions of credit.

This loss, or destruction, of 8 billions of check-book money has been realized by few and seldom mentioned. There would have been big newspaper headlines if 8 thousand miles out of every 23 thousand miles of railway had been destroyed. Yet such a disaster would have been a small one compared with the destruction of 8 billions out of 23 billions of our main monetary highway. That destruction of 8 billion dollars of what the public counted on as their money was the chief sinister fact in the depression from which followed the two chief tragedies, unemployment and bankruptcies.

The public was forced to sacrifice 8 billion dollars out of 23 billions of the main circulating medium which would not have been sacrificed had the 100% system been in use. And, in that case, as we shall see in Chapter VII, there would have been no great depression.

This destruction of check-book money was not something natural and inevitable; it was due to a faulty system.

Under our present system, the banks create and destroy check-book money by granting, or calling, loans. When a bank grants me a $1,000 loan, and so adds $1,000 to my checking deposit, that $1,000 of "money I have in the bank" is new. It was freshly manufactured by the bank out of my loan and written by pen and ink on the stub of my check book and on the books of the bank.

As already noted, except for these pen and ink records, this "money" has no real physical existence. When later I repay the bank that $1,000, I take it out of my checking deposit, and that much circulating medium is destroyed on the stub of my check book and on the books of the bank. That is, it disappears altogether.

Thus our national circulating medium is now at the mercy of loan transactions of banks; and our thousands of checking banks are, in effect, so many irresponsible private mints.

What makes the trouble is the fact that the bank

lends not money but merely a promise to furnish money on demand—money it does not possess. The banks can build upon their meager cash reserves an inverted pyramid of such "credits," that is, check-book money, the volume of which can be inflated and deflated.

It is obvious that such a top-heavy system is dangerous—dangerous to depositors, dangerous to the banks, and above all dangerous to the millions of "innocent bystanders," the general public. In particular, when deflation results, the public is deprived of part of its essential circulating medium through which goods change hands.

There is little practical difference between permitting banks to issue these book credits which perform monetary service, and permitting them to issue paper currency as they did during the "wild cat bank note" period. It is essentially the same unsound practice.

Deposits are the modern equivalent of bank notes. But deposits may be created and destroyed invisibly, whereas bank notes have to be printed and cremated. If eight billion bank notes had been cremated between 1929 and 1933, the fact could scarcely have been overlooked.

As the system of checking accounts, or check-book money, based chiefly on loans, spreads from the few countries now using it to the whole world, all its dangers will grow greater. As a consequence, future booms and depressions threaten to be worse than those of the past, unless the system is changed.

The dangers and other defects of the present system will be discussed at length in later chapters. But only a few sentences are needed to outline the proposed remedy, which is this:

The Proposal

Let the Government, through an especially created "Currency Commission," *turn into cash* enough of the assets of every commercial bank to increase the cash reserve of each bank up to 100% of its checking deposits. In other words, let the Government, through the Currency Commission, issue this money, and, with it, buy some of the bonds, notes, or other assets of the bank or lend it to the banks on those assets as security.[1] Then all check-book money would have actual money—pocket-book money—behind it.

This new money (Commission Currency, or United States notes), would merely give an all-cash backing for the checking deposits and would, of itself, neither increase nor decrease the total circulating medium of the country. A bank which previously had $100,000,000 of deposits subject to check with only $10,000,000 of cash behind them (along with $90,000,000 in securities) would send these $90,000,000 of securities to the Currency

[1] In practice, this could be mostly "credit" on the books of the Commission, as very little tangible money would be called for—less even than at present, so long as the Currency Commission stood ready to supply it on request.

Commission in return for $90,000,000 more cash, thus bringing its total cash reserve up to $100,000,000, or 100% of the deposits.

After this substitution of actual money for securities had been completed, the bank would be required to maintain *permanently* a cash reserve of 100% against its demand deposits. In other words, the demand deposits would literally be deposits, consisting of cash held in trust for the depositor.

Thus, the new money would, in effect, be *tied up* by the 100% reserve requirement.

The checking deposit department of the bank would become a mere storage warehouse for bearer money belonging to its depositors and would be given a separate corporate existence as a Check Bank. There would then be no practical distinction between the checking deposits and the reserve. The "money I have in the bank," as recorded on the stub of my check book, would literally *be* money and literally be *in the bank* (or near at hand). The bank's deposits could rise to $125,000,000 only if its cash also rose to $125,000,000, i. e. by depositors depositing $25,000,000 more cash, that is, taking that much out of their pockets or tills and putting it into the bank. And if deposits shrank it would mean that depositors withdrew some of their stored-up money, that is, taking it out of the bank and putting it into their pockets or tills. In neither case would there be any change in the total.

So far as this change to the 100% system would deprive the bank of earning assets and require it to

substitute an increased amount of non-earning cash, the bank would be reimbursed through a service charge made to its depositors—or otherwise (as detailed in Chapter IX).

Advantages

The resulting advantages to the public would include the following:

1. There would be practically no more runs on commercial banks;
   because 100% of the depositors' money would always be in the bank (or available) awaiting their orders. In practice, less money would be withdrawn than now; we all know of the frightened depositor who shouted to the bank teller, "If you haven't got my money, I want it; if you have, I don't."
2. There would be far fewer bank failures;
   because the important creditors of a commercial bank who would be most likely to make it fail are its depositors, and these depositors would be 100% provided for.
3. The interest-bearing Government debt would be substantially reduced;
   because a great part of the outstanding bonds of the Government would be taken over from the banks by the Currency Commission (representing the Government).

4. Our Monetary System would be simplified;
because there would be no longer any essential difference between pocket-book money and check-book money. All of our circulating medium, one hundred per cent of it, would be actual money.

5. Banking would be simplified;
at present, there is a confusion of ownership. When money is deposited in a checking account, the depositor still thinks of that money as his, though legally it is the bank's. The depositor owns no money in the bank; he is merely a creditor of the bank as a private corporation. Most of the "mystery" of banking would disappear as soon as a bank was no longer allowed to lend out money deposited by its customers, while, at the same time, these depositors were using that money as *their* money by drawing checks against it. "Mr. Dooley," the Will Rogers of his day, brought out the absurdity of this double use of money on demand deposit when he called a banker "a man who takes care of your money by lending it out to his friends."

In the future there would be a sharp distinction between *checking* deposits and *savings* deposits. Money put into a checking account would belong to the depositor, like any other *safety* deposit and would bear no interest. Money put into a savings

account would have the same status as it has now. It would belong unequivocally to the bank. In exchange for this money the bank would give the right to repayment with interest, but *no checking privilege.* The savings depositor has simply bought *an investment* like an interest-bearing bond, and this investment would not require 100% cash behind it, any more than any other investment such as a bond or share of stock.

The reserve requirements for savings deposits need not necessarily be affected by the new system for checking deposits (although a strengthening of these requirements is desirable).

6. Great inflations and deflations would be eliminated;
because banks would be deprived of their present power virtually to mint check-book money and to destroy it; that is, making loans would not inflate our circulating medium and calling loans would not deflate it. The volume of the checking deposits would not be affected any more than when any other sort of loans increased or decreased. These deposits would be part of the total actual money of the nation, and this total could not be affected by being lent from one person to another.

Even if depositors should withdraw all

deposits at once, or should pay all their loans at once, or should default on all of them at once, the nation's volume of money would not be affected thereby. It would merely be redistributed. Its total would be controlled by its sole issuer—the Currency Commission (which could also be given powers to deal with hoarding and velocity, if desired).

7. Booms and depressions would be greatly mitigated;

because these are largely due to inflation and deflation.

8. Banker-management of industry would almost cease; because only in depressions can industries in general fall into the hands of bankers.

Of these eight advantages, the first two would apply chiefly to America, the land of bank runs and bank failures. The other six would apply to all countries having check-deposit banking. Advantages "6" and "7" are by far the most important, i. e. the cessation of inflation and deflation of our circulating medium and so the mitigation of booms and depressions in general and the elimination of *great* booms and depressions in particular.

Objections

Naturally, a new idea, or one which seems new, like this of a 100% system of money and banking, must and should run the gauntlet of criticism.

The questions which seem most likely to be asked by those who will have doubts about the 100% system are:

1. Would not the transition to the 100% system —the buying up of the assets with new money—immediately increase the circulating medium of the country and increase it greatly?

   Not by a single dollar. It would merely make check-book money and pocket-book money completely interconvertible; change existing circulating deposits of imaginary money into circulating deposits of real money.

   After the transition (and after the prescribed degree of reflation[2] had been reached), the Currency Commission could increase the quantity of money by buying bonds, and could decrease it by selling, being restricted in each case by the obligation to maintain the prescribed price level or value of the dollar with reasonable accuracy.

   But it is worth noting that the maintenance of 100% reserve and the maintenance of a stable price level are distinct; either could, conceivably, exist without the other.

2. Would there be any valuable assets "behind" the new money?

   The day after the adoption of the 100% system there would be behind the new money

[2] See Chapter VI.

transferable by check the very same assets—mostly government bonds—which had been behind the check-book money the day before, although these bonds would now be in the possession of the Currency Commission.

The idea is traditional that all money and deposits must have a "backing" in securities to serve as a safeguard against reckless inflation. Under the present system (which, for contrast, we are to call the "10% system"), whenever the depositor fears that his deposit cannot be paid in actual pocket-book money, the bank can (theoretically) sell the securities for money and use the money to pay the panicky depositor. Very well; under the 100% system there would be precisely the same backing in securities and the same possibility of selling the securities; but *in addition* there would be the credit of the United States Government. Finally, there would be no panicky depositor, fearful lest he could not convert his deposits into cash.

3. Would not the gold standard be lost?

No more than it is lost already! And no less. The position of gold could be exactly what it is now, its price to be fixed by the Government and its use to be confined chiefly to settling international balances.

Furthermore, a return to the kind of gold standard we had prior to 1933 could, if desired, be just as easily accomplished under

the 100% system as now; in fact, under the 100% system, there would be a much better chance that the old-style gold standard, if restored, would operate as it was intended.

4. How would the banks get any money to lend?

Just as they usually do now, namely: (1) from their own money (their capital); (2) from the money received from customers and put into savings accounts (not subject to check); and (3) from the money repaid on maturing loans.

In the long run, there would probably be much more money lent; for there would be more savings created and so available for lending. But such an expansion of loans—a normal expansion generated by savings—would not necessarily involve any increase of money in circulation.[3]

The only new limitation on bank loans would be a wholesome one; namely, that no money could be lent unless there was money to lend; that is, the banks could no longer *over*lend by manufacturing money out of thin air so as to cause inflation and a boom.

Besides the above three sources of loan funds (bank capital, savings, and repayments), it would be possible for the Currency Commission to create new money and pass it on to the banks by buying more bonds. But this additional money would be limited by

[3] See Chapter V.

the fundamental requirement of preventing a rise of prices above the prescribed level, as measured by a suitable index number.

5. Would not the bankers be injured?

On the contrary,

(a) they would share in the general benefits to the country resulting from a sounder monetary system and a returned prosperity; in particular they would receive larger savings deposits;

(b) they would be reimbursed (by service charges or otherwise) for any loss of profits through tying up large reserves;

(c) they would be almost entirely freed from risk of future bank runs and failures.

The bankers will not soon forget what they suffered from their mob race for liquidity in 1931-33—each for himself and the devil take the hindmost. Such a mob movement would be impossible under the 100% system; for a 100% liquidity would be assured at all times and for each bank separately and independently of other banks.

6. Would the plan be a nationalization of money and banking?

Of money, yes; of banking, no.

In Conclusion

The 100% proposal is the opposite of radical. What it asks, in principle, is a return from the

present extraordinary and ruinous system of lending the same money 8 or 10 times over, to the conservative safety-deposit system of the old goldsmiths, before they began lending out improperly what was entrusted to them for safekeeping. It was this abuse of trust which, after being accepted as standard practice, evolved into modern deposit banking. From the standpoint of public policy it is still an abuse, no longer an abuse of trust but an abuse of the loan and deposit functions.

England effected a reform and a partial return to the goldsmiths' system when, nearly a century ago, the Bank Act was passed, requiring a 100% reserve for all Bank of England notes issued beyond a certain minimum (as well as for the notes of all other note-issuing banks then existing).

Professor Frank D. Graham of Princeton, in a statement favoring the 100% money plan, says of President Adams that he "denounced the issuance of private bank notes as a fraud upon the public. He was supported in this view by all conservative opinion of his time."

Finally, why continue virtually to farm out to the banks for nothing a prerogative of Government? That prerogative is defined as follows in the Constitution of the United States (Article I, Section 8): "The Congress shall have power . . . to coin money [and] regulate the value thereof." Virtually, if not literally, every checking bank coins money; and these banks, as a whole, regulate, control, or influence the value of all money.

Apologists for the present monetary system cannot justly claim that, under the mob rule of thousands of little private mints, the system has worked well. If it had worked well, we would not recently have lost 8 billions out of 23 billions of our checkbook money.

If our bankers wish to retain the strictly banking function—loaning—which they can perform better than the Government, they should be ready to give back the strictly monetary function which they cannot perform as well as the Government. If they will see this and, for once, say "yes" instead of "no" to what may seem to them a new proposal, there will probably be no other important opposition.

CHAPTER II

OUTLINES FOR A STATUTE

Those who wish to study a proposed statute, drawn up in legal form, are referred to Appendix IV. There they will find a reprint of the bill suggested by Mr. Robert H. Hemphill, as an amendment to the Bank Act of 1935. Also Chapters IX and XI contain further discussions of this subject. The present Chapter is designed primarily for the general reader and is less technical.

There are various possible ways of enacting into law the principle of 100% money. All of them would require a Currency Commission, or some equivalent, such as the recently constituted Open Market Committee of the Federal Reserve Board (with some suitable changes). This Currency Commission (or equivalent) should be empowered to issue the money of the nation and, under some of the plans, to regulate it in accordance with a legal criterion of stabilization. The stabilization would be accomplished by open market operations, that is, buying and selling United States bonds and any other items made eligible, as well as gold and foreign exchange—also by changing the price of gold, silver and foreign exchange.

Fixed Total Supply

The first outline of a statute embodies the simplest possible 100% reserve plan.

It is followed by a brief description of compromise plans, not quite so simple, but designed partly to occasion less disturbance in the status quo.

1. Authorize and direct the Currency Commission to *issue new currency* and to use this new money:
   (a) to purchase of the 12 Federal Reserve Banks sufficient United States bonds (or other eligible items) to provide each of these banks with a 100% reserve in actual physical money against all their demand liabilities;
   (b) to purchase from all other existing banks carrying checking accounts sufficient United States bonds to provide each bank with a similar 100% reserve in actual money against such accounts;
   (c) to purchase from the general public Government bonds sufficient to bring the total circulating medium of the nation (all in actual money) up to a specified figure (such as 30 billion dollars).
2. Thereafter, *leave this total money supply unchanged.*

The above two provisions—for reflation and for subsequent fixity of amount—cover the essentials of the 100% money plan in its simplest form—and

a form more automatic, even, than the old-fashioned gold standard. For, after issuing and allocating the new money, the Currency Commission would have nothing further to do, so far as concerns the creation and destruction of money. Neither they nor the banks (at present the great disturbers of the money supply) nor any other agency would have the power to alter the nation's supply.

This plan should be implemented with two other requirements:

3. Prohibit all substitutes for check-book money and all other evasions of this law (such as checks against savings deposits).
4. Under suitable regulations, permit banks carrying checking accounts to *make warehouse and service charges,* thus reimbursing them for any loss of earnings incurred by surrendering earning assets.

It should go without saying—although it might be legally advisable to make it a specific declaration—that all banks carrying deposits subject to check would be required to treat these deposits as trust funds of money held for the depositors. The reserves, instead of belonging to the bank, as they do now, would automatically become, on reaching 100%, identical with the deposits. This simplest version of the 100% plan may appeal to those who fear the discretionary feature of a "managed currency."

But, in my opinion, the amount or supply of

circulating medium should not be fixed so simply —once and for all time. With a growing population and growing business, it might lead to a harmful and progressive deflation.

In order to provide needed elasticity some continuous management of the money supply would be necessary, though this management need not require any more discretion than the discretion of a chauffeur who is ordered to drive a definite, prescribed course.

Fixed Per Capita Supply

For instance, if we wish, not a fixed *total* amount of circulation, but a fixed *per capita* amount, the Currency Commission would be authorized and directed continually to buy and sell (usually buy) bonds and other eligibles in order to keep the money supply in pace with population.

In order to obtain and maintain such a fixed per capita amount of money the only change needed in the four provisions above formulated would be to replace the second ("thereafter, leave this total money supply unchanged") by:

2. Thereafter, purchase securities (from banks or public) whenever the per capita supply of money falls below a stipulated figure (such as $250) until that figure is again reached and, reversely, sell whenever the per capita supply rises above that figure.

Fixing Purchasing Power

If we wish, as our criterion, neither a fixed total supply nor a fixed per capita supply of money but a fixed purchasing power of the dollar—that is, a fixed price level as measured by some official index number—exactly the same procedure would apply as in the last case. The Currency Commission would be required:

2. to buy securities when the index is below the official par and to sell when above.

This last is, of course, precisely what Sweden has been doing through her Riksbank ever since September 1931 in connection with suitable adjustments in the price of gold and foreign exchange. Her success in keeping almost constant her official index number (an index of the internal cost of living), thereby also keeping almost constant its reciprocal, the purchasing power of the krona, is the most convincing answer to those who fear currency management, especially as Sweden has been foremost in recovering from depression.

Other Criteria

There are, of course, numerous other criteria which are possible (see Chapter VI). To all of them the same technique of management applies. That is, the Currency Commission would increase or

decrease the supply of money in order to meet whatever type of stabilization requirement should be prescribed in the law.

I have often expressed the opinion that theoretically one of the best criteria for the dollar, whenever statistics shall be adequate for the purpose, would be a fixed fraction of the per capita income of the country—such as the one-thousandth part.

There is a growing opinion among specialists in this field that the per capita money income is approximately equal to three times the per capita money in circulation. Should this opinion be confirmed—that money and money income maintain an approximately constant ratio or even that this would be true in the absence of great booms and depressions—we would reach the rather startling conclusion that to maintain the dollar as a fixed fraction of per capita income would amount to the same thing as fixing the per capita supply of money and that the only statistics needed by the Currency Commission would be those of population. We cannot, as yet, be sure that the two criteria—a fixed per capita quantity of money and a dollar as a fixed fraction of the per capita income—are so nearly the same; but we can at least be sure that the per capita quantity plan would not be a bad solution of the money problem.

Naturally the Currency Commission should study all available criteria or indexes and report its recommendations to Congress. But at present and all things considered, my own preference would be

to do what Sweden has done: fix the monetary unit in terms of the cost of living.

To be most efficient, the Currency Commission should have no other function than the regulation of the value of the dollar.

Nevertheless, as the reader will note and as is emphasized elsewhere in this book, the question of what criterion to use in managing the nation's money is really separate from the question of whether or not to have a 100% reserve. The criterion of stability does not directly concern us in this book.

It would greatly simplify the problem of money in the mind of the general public to separate it entirely from that of loan banking, exactly as the Issue Department of the Bank of England was separated in 1844 from the Banking Department. Each commercial bank should be thus split into two, a Check Bank and a Loan Bank.

Compromise Forms

So much for the simpler plans, but the simplest way to accomplish a purpose is not always the best nor politically the most practical. For instance, the retirement of existing money which, from the standpoint of simplicity would be desirable, would in practice be fiercely resisted. This would be true of our silver certificates and of the useless silver now "behind" them, as well as of the Treasury notes, the greenbacks, and the Federal Reserve notes.

Fortunately, there is no urgent practical need of abolishing any part of our thirteen [1] sorts of circulating media, however awkward and superfluous many of them are. The only important requirement is to regulate the demand deposits.

Even if, in our 100% plan, we used only paper money, we would not need so much of it as above provided for. The reserves behind the deposits of the public in member banks could consist not wholly of this actual paper money but chiefly of "credit" or demand deposits held by those member banks in Federal Reserve Banks, so long as the total were kept equal to 100% of the public's checking deposits. It would be (to trace backward) as if the member banks originally had possessed the actual

[1] Namely: (1) gold; (2) gold certificates; (3) silver dollars; (4) silver certificates; (5) U. S. notes or greenbacks; (6) currency (greenback) certificates; (7) Treasury notes; (8) National Bank notes; (9) Federal Reserve notes; (10) Federal Reserve Bank notes; (11) subsidiary silver; (12) minor coins; (13) deposits subject to check. Of these, items (5), (6), (7), (8), (11), (12) could be let alone entirely. If we retain the gold standard (items [1] and [2]), the President or other authority would have to make occasional changes in the price of gold. Some similar regulations would be required as to (3) and (4), concerning silver. The best way to treat (10) would seem to be to stereotype the amount now outstanding just as, sixty years ago, we stereotyped (5). This leaves (9) (Federal Reserve notes) to serve as the "Commission Currency" above mentioned and to be varied in amount as required to maintain the right total of the circulating medium. The reserve behind (13) could consist of any lawful money whatever, from among the twelve sorts of pocket-book money.

money in their own vaults and had then, for safety, redeposited most of it in the Federal Reserve vaults. Nor would it even be necessary to have all this money in the Federal Reserve vaults so long as it was available somewhere. In fact, it would not even be necessary to have all of it printed and extant—certainly not actually signed—so long as the Bureau of Engraving stood ready to supply it promptly on request. Canadian banks are allowed to have unsigned bank notes on hand ready to be converted, when authorized, into actual money by a stroke of the pen.

Under such a regime, the reserves of member banks could remain in the form of credit as now and not become actual money.

Like the Bank of England

Furthermore, we would not have to keep all the 100% reserve in the form of either money or credit. To lessen the opposition of bankers, we could allow part of the reserve—in fact the bulk of it—to remain in the form of Government bonds (or other eligibles) in the vaults of the banks, provided, however, these bonds or other eligibles were made convertible into money or Federal Reserve credit on demand of a member bank; and also provided that the total reserve, that is, the total of the bonds and the money, should not exceed in value the total check-book money required under the criterion adopted.

As a result, demand deposits would merely become a trust fund, invested partly in "cash" and partly in Government bonds, exactly as was required by President Roosevelt in 1933 in the case of the new deposits in reopened and "restricted" banks. In principle, this mixed reserve system would also be like the English provision for Bank of England notes. These are backed 100%, partly by "cash" (Government paper money) and partly by (a fixed amount of) Government securities. In fact, the 100% plan for Bank of England notes adopted in 1844 seems to have been arrived at as a compromise, an effort to avoid the opposition of bankers by disturbing the 1844 status quo as little as possible.

With these provisions it would be found that the inauguration of the 100% system *would scarcely cause any disturbance in the status quo today,* since most banks already have substantially 100% behind their demand deposits, if Government bonds be counted in. There would only be a slight change in the status of these bonds—namely, they would be made convertible into cash and their total amount would be limited.

But, for simplicity of exposition, the following chapters ignore any such practical compromises and assume a literal 100% reserve in actual money, the bonds having been bought outright by the Currency Commission.[2]

[2] Since the above was written, Professor James W. Angell has proposed a version of the 100% plan (see Appendix V).

PART II

HOW THE 100% SYSTEM WOULD WORK

CHAPTER III

THE RESERVE PROBLEM

The Bank of Amsterdam and the Old 100% System

The two preceding chapters have briefly outlined the proposal for a 100% reserve against checking deposits—Chapter I for the layman in general, and Chapter II for the legislator in particular.

Many will want further explanations. Parts II and III are presented for that purpose. This chapter is devoted to the reserve problem in its relation to the principles and history of banking.

The very earliest banking system seems to have been a 100% system. It originated in the custom of depositing gold and other valuables for safekeeping with goldsmiths or with others having facilities for safety deposit. The gold and other valuables thus deposited were transferred through paper evidences called "bank money," which were, in effect, checks. As long as 100% of the gold was kept in vault, this old system was evidently a 100% money system, much like that here proposed. It

began to change when some of the gold was lent out. In England, this change occurred about the year 1645.

The Bank of Amsterdam (owned by the City of Amsterdam) began in the same way and made the same change of policy at about the same time. Of this bank the late Professor Charles F. Dunbar of Harvard University said:

"It is clear that the original theory of the bank as a bank of deposit did not contemplate lending as one of its functions. Established without a capital, it was understood, both by the ordinance which created it and by the public, to have actually in its vaults the whole amount of specie for which bank money was at any time outstanding." [1]

The lending function developed gradually and surreptitiously. It was an abuse, made easy by the fact that no public reports were required of the bank. Professor Dunbar says:

"How completely the transactions and conditions of the bank were kept in secret is shown by the general ignorance which prevailed as to the real extent of its business." [2]

"At intervals, for the last century of the existence of the bank, doubts were raised as to the actual presence of all the specie represented by the bank money, but these appear to have been easily satisfied, or dismissed as

[1] *The Theory and History of Banking,* by Charles F. Dunbar, New York (Putnam), 1901, p. 103.

[2] *Ibid.,* p. 110.

unimportant, although it is now certain that, in some cases at least, they were well founded." [3]

"It does not appear, however, that serious alarm was felt as to the safety of the bank before the disclosures of 1790 and 1791." [4]

The bank then failed "after a career of 182 years." It was found that it had lent money to the City of Amsterdam, replacing the cash loaned with public obligations deposited by the City, and that this practice "had existed for not far from a century and a half" without the knowledge of the public.

"For generations the peculiar constitution of the bank had enabled the administration to hide this guilty secret and to stifle suspicion. A system of banking of great utility, under which, with a faithful management, failure was impossible, thus ended in discredit and ruin, from a lack of any public knowledge of the real condition of affairs, and of any responsibility of the managers to public opinion." [5]

For our present purposes the only important difference between the abuse which ultimately wrecked the Bank of Amsterdam and the modern way of lending depositors' money (which has nearly wrecked capitalistic civilization) is that the modern system is not secret but is practiced openly, with the consent of all concerned, and is supposedly

[3] *Ibid.,* p. 112.

[4] *Ibid.,* p. 113.

[5] *Ibid.,* p. 116.

safeguarded by legal or other restrictions, especially as to the reserves. These restrictions are extremely complicated, as everyone knows who has pored over our voluminous banking laws, including the Glass Banking Act of 1934 and the Omnibus Banking Act of 1935. They are mostly efforts to remedy defects in our banking system traceable to the lack of a full 100% reserve. Most of them would be dispensed with the instant 100% reserves were provided.

Lending Reserves Ten Times Over

Under the present, or 10% system, the cash is lent not once but over and over again. The following is a simplified imaginary illustration of the process by which this is done, resulting in the modern intimate tie between deposits and loans—a tie far more intimate than that which wrecked the Bank of Amsterdam.

On, say, June 1 a bank is started—the only one, let us suppose, in the community—with one million dollars of capital consisting of actual money in vault. This bank then proceeds to lend this money. The first customer borrows, say, $10,000, giving his promissory note. The $10,000 of actual money is, let us suppose, actually pushed through the teller's window to the customer; but the customer immediately pushes it back again, that is, "*deposits*" it. The same is done by other customers so

that, by the end of the day, the whole million has been lent out and redeposited.

Thus far the bank has lent only its own capital to its customers; and its customers, after receiving it (the million dollars), have redeposited it.

These customers now think of it as *their* money. And, at this stage, it practically, though not legally, is their money rather than the bank's; for they are secured by a 100% reserve against the million dollars of deposits recorded on the stubs of their check books.

Our imaginary bank, then, has one million of deposits (which are its *liabilities* due to the depositors) and it has assets of two millions—one million consisting of deposited cash, the other consisting of promissory notes.

If the cash can be called the property of the depositors, the promissory notes must be considered as the property of the bank. It is true that *legally* both millions belong to the bank, but *practically*, as just indicated, the former—the million of cash in vault—belongs to the depositors. It may be thought of as, in effect, held in trust for them, by the bank.

The depositors can, by check, shuffle about, from person to person, their respective shares in this million dollars, in payment for groceries and everything else for which checks customarily circulate. So far, the situation is almost exactly like that of the old Bank of Amsterdam before the period of its secret manipulation.

On June 2, the same thing happens as on June 1. That is, the bank proceeds to loan out actual money from its vaults to the second day's borrowers—*the very same million dollars,* the million which practically belonged to yesterday's depositors, though legally to the bank; and then these borrowers of today, like those of yesterday, as fast as they get it, redeposit that money—*the same million dollars.* At the end of the day there are bank liabilities of two millions (recorded as cash on the stubs of check books) and assets of three millions—namely, one million of cash and two millions of promissory notes representing the two days' loans.

Here the danger has begun. The deposits are now two millions but the assets, though they are three millions, include only one million of *cash.* The bank has done what the Bank of Amsterdam did surreptitiously, replaced cash with promissory notes. Half of the deposits are now backed by these promissory notes. Yet the two millions of deposits count for cash so far as the depositors are concerned. They have on the stubs of their check books a total of two million dollars, and call all of it their "cash in bank"; they circulate this entire two millions by check, just as if it were real pocket-book money, turning it over, according to estimates, at about the rate of once a fortnight.

The bank is no longer in the position of a mere custodian. It has assumed a more serious responsibility—that of furnishing cash which it does not possess. It is in the position of a person who has

sold a commodity short. It trusts to good management (and to good luck) to get that commodity, cash, when needed. As already noted, legally the million of cash, as well as all the other assets, belongs to the bank. The depositors' ownership of two millions of "cash in bank" has become a fiction. It is not even there in trust. It is not there at all. The depositors do not own two millions of cash, although ordinarily they think they do and their books say so. All they really own is the right to demand cash—two millions of it.

By allowing the second set of depositors to circulate by check what is not real money, the bank has, in effect, manufactured (by mere promises to furnish cash on demand) a million dollars of new circulating medium. Each dollar of the deposits is a mere promise to furnish a dollar on the demand of the depositor. These promises to pay its depositors *instantly* are made partly on the strength of the counter-promises of the borrowers to pay the bank *sometime.* These latter, the promissory notes of the depositors, are the basis for half their deposits, the other half being backed by the solitary million of cash.

On June 3 the bank lends out that solitary one million of cash for the third time and again receives it back as the borrowers redeposit it.

In practice, of course, the cash seldom really passes through the teller's window and back again, but simply stays undisturbed in the vaults. All that usually happens is that the depositors are told to

record the successive "deposits"—the proceeds of loans—on the stubs of their check books, and each is assured that he may feel safe in drawing checks against it up to the full amount of *his* particular deposit.

On June 4, the million is lent and deposited a fourth time; on June 5, a fifth time; and so on, until June 10, inclusive, when the deposits become $10,000,000 while the cash is still $1,000,000 (and the promissory notes are $10,000,000). Then (if the bank hasn't stopped earlier) the law steps in—the legal limit of 10 per cent reserve has been reached.[6]

The legal reserve requirement in the United States is not uniformly 10%, but, for convenience, the whole of our present system, that of short reserves, will hereafter be referred to as the "10% system," as already stated.

[6] Strictly speaking, the example given does not fully apply to an individual new bank in a community in which there are other deposit banks. The million, when lent and then transferred by check to others, would not all be redeposited in the same bank; and the other banks, as they receive their part, would draw out some of the million from the vaults of the new bank into their own vaults. This spilling over of the reserve from one bank's vault to another's hides the fact above stressed of relending the same money many times over—usually hides it even from the banker.

The multiple lending is more evident when there is only one bank to consider. But, even where there are many banks, the same fact holds true for them all *as a group*. The spilling over from one bank to others merely shifts to these others parts of the additional lending.

This banking paradox by which what is true for banks as a whole is not true for the individual bank was first clearly pointed out by Chester Phillips, now Dean at the University of Iowa.

"Cash" Which Is Not Cash

Most deposits are created in the curious way just described—by lending. Sometimes a little actual cash passes through the teller's window in one direction or the other—is borrowed and actually withdrawn, as for a payroll, or is deposited, as by a retail store which does a cash business. But typically and for the most part, checking deposits are manufactured out of loans, as in the imaginary example. In other words, some nine-tenths of the depositors' deposits can be made out of their own promises, with the help of the bank.

Besides loans (promissory notes) and cash, the assets of the bank usually include "investments" such as bonds. The above principles apply to these investments just as to the loans; that is, a bank may buy bonds, say from investment firms, by merely granting deposits, that is "extending credit" to those firms without the use of any cash at all, exactly as when it grants loans. The result is that the checking deposits are increased by increased investments, just as by increased loans—and so by increased loans and investments taken together. Also, of course, deposits are decreased by decreased in-

vestments, by decreased loans and by decreased loans and investments taken together.

Loans (and investments) will be considered in Chapter V. Here what interests us chiefly is the checking deposits—the alleged "cash in bank," or what has been called check-book money—and the extent to which this "cash" is not really cash.

As already said, each depositor still calls his "deposit" his "cash in bank." But the only justification for this is that he feels sure he can get "his" cash when he wants it—and so he can, provided not too many others want to draw out "their" cash at the same time, or provided sufficient cash is deposited by others. As long as the bank can thus supply all the cash the depositors call for, the $10,000,000 of deposits can circulate by check as merrily as if there was really that much money behind them. Checks which pass from one depositor to another within the same bank simply transfer deposits—rights to demand cash—without any of the cash in vaults being touched; and, as between depositors in different banks, the checks largely cancel each other through the clearing house; so that, both as between depositors in the given bank and as between depositors in different banks, little cash is required—in fair weather.

Thus, being largely exempt (in fair weather) from large calls for cash, our illustrative bank has been able to perform a miracle. It has made $10,000,000 grow where $1,000,000 grew before. That

is, it has inflated the circulating medium. It has manufactured $9,000,000 out of promissory notes or debts. This "money" is called by various names, all of which have practically the same meaning: "credit," "credit currency," "deposit currency," "cash in bank," "the money I have in the bank," "demand deposits," "deposits subject to check," "checking deposits." In Chapter I, it has been called "check-book money."

With a 10% reserve, only 10% of the check-book money can properly be called real deposits of money. The other 90% of check-book money is a synthetic substitute for pocket-book money, created by a sort of sleight-of-hand. The customer thinks he has obtained a loan of pre-existing money of the bank and then deposited that money. He does not see that the "money" he deposited was, in effect, created by the bank out of his loan itself —his own debt. He has helped the bank manufacture money and this manufacture of money concerns not only himself and the bank but the whole nation exactly as a gold miner's manufacture of money when he takes his gold to the mint concerns the whole nation.

Destroying "Check-Book Money"

Not only can the commercial banks create such synthetic money; they can also destroy it, simply by reversing the above process. Take the first cus-

tomer who, on June 1, borrowed $10,000. By September 1, after using it in trade, that is, expending it for labor, materials, equipment, he has earned thereby $10,000, together with a profit, and deposited this intake (chiefly in the form of checks). He now pays his note of $10,000 by a check which he draws on the bank against his deposit in the bank. This payment destroys that much ($10,000) of the circulating medium of the United States; for it reduces by $10,000 the balance on the stub of his check book and does not increase anybody else's check-book balance. The deposits shrink by $10,000, as do the loans also.

That is to say, just as check-book money is manufactured by *loans incurred*, so check-book money is destroyed by *loans paid*. In both cases the public interest is affected.

This is the basis of the statement in Chapter I that banks are virtually private mints. However, Mr. Edmund Platt, former Vice-Governor of the Federal Reserve Board, reminds us [7] that it takes two to make a loan. "The banks are powerless," he says, "if because of lack of confidence or for any other reason borrowers fail to come forward." This is perfectly true, but all the more unfortunate, for it shows our circulating medium to be at the mercy not merely of 14,500 private mints but also of millions of individual borrowers; and Mr. Platt quotes the English economist Keynes as saying that it is "most unfortunate that depositors should be

[7] *New York Herald Tribune*, January 2, 1935.

able to take the initiative in changing the volume of the community's money."

But the important point is that it is the 10% banking system which gives these two parties, the bank and the borrower, the power to inflate and deflate the circulating medium—an unintended power which attaches unnatural and nation-wide consequences to an otherwise innocent transaction.

Banking on a Shoe String

If the two parties, instead of being a bank and an individual, were an individual and an individual, they could not inflate the circulating medium by a loan transaction, for the simple reason that the lender could not lend what he didn't have, as banks can and do. An individual cannot lend $10 from his pocket unless there is that much money in his pocket to lend. And if he lends it, it is no longer in his pocket. He cannot keep $10 in his pocket while lending it successively to ten different people, merely promising each person to furnish on demand the $10 lent. But if he incorporates himself into a commercial bank (and is the only bank in the community) he can do this very thing—he can hold ten notes aggregating, say $100,000 and expect the borrowers to keep circulating the $100,000 ($90,000 of which is imaginary) by drawing checks against him, while he trusts to luck that they will never cash more than $10,000 of these checks at one time.

Only commercial banks and trust companies can lend money which they manufacture by lending it. The savings bank does not create its deposits. It lends the funds deposited in it.

And by the same token, two individuals cannot deflate the circulating medium by liquidating; neither can a savings bank and an individual.

What about the danger to the banks themselves?

Just because the commercial banks and trust companies are always carrying a vast and varying volume of "credit" or check-book money on a small cash basis, they find themselves in a predicament like that of a teamster carrying an enormous load of hay on a very small and narrow wagon. On a smooth road all goes well; but not when the road is rough.

The Essential Defects of the 10% System

There is irony, unconscious or not, in the "conservative" banker advising his customers not to pyramid; not to do business on a shoe string; not to speculate with other people's money; not to sell short.

A banker of wide experience, which made him a believer in the 100% plan, said to me, "No real business man would think of running his business with such a balance sheet as that of an ordinary commercial bank, and if he tried it, no commercial bank would lend him any money. If you don't believe it, try it with any commercial bank. Take its own balance sheet disguised enough to apply to a business and ask the loan officer of that bank how much credit he would extend to a concern with demand liabilities ten times its cash, and its assets largely frozen even when nominally quick or liquid!"

Granted that such banks can escape shipwreck in fair weather or, in England and Canada, even in foul weather, they save themselves only by injuring the public; that is, by deflating the circulating medium. So that not only would the banker refuse to sanction his business customers' doing business on so small a shoe string as that which he himself uses but he is even less justified than the customers in doing business on a shoe string; or rather we are less justified in permitting the banker such dangerous practices. For a shaky bank reserve shakes the whole business structure. Through inflation and deflation the 10% system hurts us all, including the innocent bystander.

As is well said in a memorandum written by some of the economists of the University of Chicago favoring the 100% system, "If some malevolent genius had sought to aggravate the affliction of business-and-employment cycles, he could hardly have done better than to establish a system of private deposit banks in the present form."

The smallness of the reserve and, growing out of that, the connection between checking deposits and loans, constitute the great defects in our present banking system. These, and their fatal conse-

quences, may be summarized in the following four propositions which will be discussed more fully in Chapter VII:

(1) The 10% system ties check-book money to bank loans (and investments).
(2) This system and this tie-up result in runs and failures.
(3) They also result in the inflation and deflation of our chief "money" ("check-book money") according as bank loans (and investments) are inflated or deflated.
(4) Inflation and deflation of bank loans and so of "check-book money" are largely responsible for great booms and depressions.

Putting these four propositions together, we are justified in saying that the 10% system of banking is a major aggravating factor in such terrible calamities as we have recently experienced.

The Federal Reserve System as Remedy

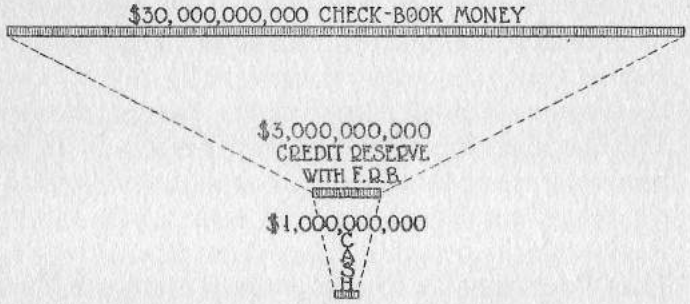
The Federal Reserve System was established in 1914 to remedy some (not all) of the faults in this 10% system in the United States.

In the Federal Reserve System there are 12 districts, each with one central bank (the Federal Reserve Bank of the district) and a group of so-called "member banks." The business public of a given district borrows of, and deposits in, the member banks; the member banks borrow of, and deposit in, the Federal Reserve Bank. Moreover, the

deposits of the member banks kept in the Reserve Bank constitute the reserves of the member banks. That is, today the banks with which we deal need, themselves, keep no cash reserves at all! They need only keep credit reserves, i. e. the promises of the Federal Reserve Bank to furnish cash on demand.

These reserves are required by law, according to the location of the member bank, to be equal to at least 7 per cent, 10 per cent, or 13 per cent of the deposits of the public in the member banks. The law also requires the Federal Reserve Bank to keep a 35 per cent reserve against the member bank deposits. Only *this* reserve—the reserve kept by the Reserve Bank—must be in cash or bearer money. "Lawful money" is the statutory expression. Thus, in a small town, a bank with checking deposits of $100,000 must keep a reserve of 7% or $7,000, all of which is deposited in the Federal Reserve Bank. Behind this deposit, in turn, the latter bank must keep a 35% reserve, or $2,450, in actual cash. This is $2\frac{45}{100}\%$ cash behind the $100,000 deposits held by the public, or about 2½%. In short, in small towns, the checking deposits need have a cash reserve of only 2½% (i. e. 35% of 7%). Similarly a bank in a middle sized town with $100,000 deposits must keep as reserve $10,000 of *deposits* in the Federal Reserve Bank which, in turn, keeps as reserve $3,500 cash or 3½% of the $100,000. For the large towns, the cash requirement works out at 35% of 13%, or about 4½%; that is, $4,500 cash behind $100,000 checking deposits.

Our American check-deposit system, therefore, which we call in this book a "10%" system is much worse than a literal 10% system. Under our Federal Reserve laws, it is really a 2½%, 3½%, and 4½% system! Moreover, it is, in respect to reserves, worse than it was before the Federal Reserve System was



THE 10% SYSTEM'S INVERTED PYRAMID

One billion cash supporting thirty billion checking deposits. This is topheavy and unstable so that the check-book money can shrink to 3 billions (or theoretically even to 1) and then expand again. Under the 100% system the base would be as broad as the top.

established. The idea then was to make bank reserves safer by pooling them. But this added element of safety was afterward neutralized by weakening the reserve requirements. This weakening was objected to by some bankers, including Mr. Hemphill of the Federal Reserve Bank of Atlanta. He would have changed the reserve requirements in the opposite direction.

A member bank may create a part of its reserve by "rediscounting." That is, after a customer has his note discounted by a member bank, the member bank may have it rediscounted by the Federal Reserve Bank. Also, if the member bank sells securities to the Federal Reserve Bank, it may leave the purchase money on deposit in the Federal Reserve Bank and thus increase the member bank's reserve.

Moreover, the Federal Reserve Bank may initiate or influence these transactions and so *cause* the member banks to increase or decrease their reserves; that is, the Reserve Bank may

(1) raise or lower its rediscount rates;

(2) buy securities of, or sell securities to, the member banks. This second expedient (i. e. buying or selling) constitutes what is called "open market operations."

These two devices can theoretically be used, and have been used, to meet the dangers of the 10% system—the danger of runs and failures and the danger of inflation and deflation.

Yet, under the Federal Reserve System, we have had worse failures and also worse inflations and deflations than we had before that system was introduced! Until it happened, no one imagined possible such a sudden, sharp, and great deflation as that of 1920. And that which came a decade later was worse.

The recent attempts to reform, or "restore," the Federal Reserve System, merely by regulating the

kinds of loans, miss the main point. It is of comparatively little consequence what kinds of loans are permitted. The important point is the inadequacy of the reserves.

The essential trouble is that American banking has been trying to do the business of the country on a shoe string of real money.

A Record of See-Saw in the Reserves

Thus the whole history of banking seems to have been a see-saw in reserve requirements. There has been a cycle of abuse, remedy, evasion. The individual banker is tempted by the lure of profits to reduce his "idle" reserves; the law then applies, as remedy, higher reserves or consolidation of reserves; the banker responds by finding a way to evade these safeguards, which brings us back to the original abuses in some new form.

For instance, beginning several centuries ago with the full 100% reserves of the goldsmiths and the first deposit banks, bankers, in order to use the "idle" gold, "progressed" to the "free" or wild cat banking of a century ago, due largely in America to state bank notes being inadequately secured. This abuse was remedied in America, as far as our state bank note problem was concerned, by taxing state bank notes out of existence and substituting National Bank notes, better secured under Government auspices and safeguards. Later we added the

Federal Reserve notes, which are ostensibly Government obligations.

In England, the same sort of abuse (though less in degree) was better solved. In 1844, the Bank of England, through a great statesman, Sir Robert Peel—following earlier recommendations of the banker-economist, Ricardo[8]—was required to revert, in part at least, to the 100% reserve system.

While the early abuses related to bank notes redeemable in gold, the later abuses related, and still relate, to deposits redeemable in lawful money. But the trouble has almost always been the same—reserves inadequate to prevent inflation and deflation of our circulating medium.

Short bank reserves are always a menace.

Check-Book Money Has Escaped the Reserve Restrictions on Notes

In England the inadequacy of reserves against *notes* had scarcely been remedied in 1844 when it reappeared in the form of inadequacy of reserves against *deposits*. When Sir Robert Peel applied essentially a 100% principle to a part of the English note issue, checking deposits had not yet become a problem. They scarcely existed. But they speedily became a problem through the same abuse which had previously made bank notes a problem. True, the banks could no longer print and loan to their customers ill-secured bank *notes*, but they could

[8] *Works*, p. 499.

furnish them with ill-secured bank *deposits,* or check-book money, a synthetic substitute for money, and this quasi-money could circulate by handwritten checks almost as freely as the older form of money circulated by printed notes.

Instinctively, checking deposits were resorted to by the banks as a way of circumventing the restrictions on note issues. This modern deposit peril thus takes the place of the old bank-note peril. From the standpoint of public policy, the modern form deserves, even more than the ancient form, the opprobrious epithet, "wild cat banking."

The growth of this peril has been particularly insidious because checking deposits were at first associated in men's minds with time "deposits" and savings "deposits" (which are not used as a circulating medium) rather than with bank notes to which checking deposits are more analogous. It is true that a check is not "lawful money" nor legal tender. It does not circulate from hand to hand except with the special consent of the person receiving it. It is, therefore, not—like a National Bank note—of equal use to any and every bearer.

But this very fact (that it is not bearer money) is a large part of the trouble; for it conceals the essentially monetary status of bank deposits subject to check. While the average depositor imagines he has "cash in the bank," bankers know that this "cash" is really only "credit," that is, a debt of the bank to the depositor. The result is that we mentally play fast and loose with "cash" as money and

"cash" as credit. Now you see it and now you don't! This explains why so few today realize that the destruction of 8 billions of check-book money was a major cause of this depression.

Had it been realized more fully and more promptly that checking deposits are virtually money, they would long since have been treated as such. Yet, even when the Federal Reserve System was established, and established for the very purpose of making reserves more effective, the problem of regulating *reserves against deposits* was relatively neglected. The result has been that, under the Federal Reserve Act, *notes* must be backed by a 40% reserve (and all in gold or gold certificates), while the demand *deposits,* as already indicated, need be backed by only 2½%, 3½% and 4½%—not necessarily in gold, but merely in "lawful money."

The Present Reserve Problem

This quasi-money (checking deposits) has now come to constitute our principal circulating medium, while bank notes now furnish merely our small change, so to speak. The Annual Report of the Federal Reserve Bank of New York for the year ended December 31, 1933 (pp. 18-19), says:

". . . the importance of currency in the money supply of the United States had been declining almost without interruption for more than fifty years prior to 1930,

while the importance of bank deposits as a means of payment had been steadily rising. In 1873 and 1874 the amount of currency outstanding was approximately equal to the total deposits in all commercial banks. By 1880 the ratio of currency to deposits had dropped below 50 per cent, by 1910 to less than 25 per cent, and in 1930 to about 10 per cent. Subsequently the ratio has increased to around 18 per cent, due partly to an increase in currency outstanding as a result of hoarding, and partly to the rapid shrinkage in bank deposits between 1930 and 1933." [9]

Separate statistics for individual deposits subject to check without notice were not even available until, at my suggestion, the Aldrich Commission dug them out, at great expense, from the then unpublished records of the office of the Controller of the Currency. This was in 1910 when those statistics were wanted for filling out what I called the "equation of exchange." [10] Since then (though with some ambiguities) such statistics have been published regularly. Yet, only a few years ago, a Governor of the Federal Reserve Board admitted that he did not even know of their existence, to say nothing of their significance. So careful have we been in regulating and watching "currency," or

[9] It should be said, however, that the above figures, while correct as to trend, exaggerate somewhat the relative importance of deposit currency, as they include more kinds of deposits than those subject to check.

[10] *The Purchasing Power of Money,* New York (Macmillan), 1911.

pocket-book money, and so careless in regulating and watching check-book money!

Deposits Need Reserves More Than Notes Do

Check-book money really needs big reserves behind it much more than pocket-book money does, both because it is usually some six or seven times as large in volume and because check-book money is not bearer money. On their merits, the contrast between 2½%, 3½% and 4½% minimum reserves for deposits and the 40% minimum reserve for Federal Reserve notes ought to be reversed, because (for one thing) there is less practical need of redeeming Federal Reserve notes than of redeeming deposits. The notes are real money capable of circulating generally from hand to hand so that their redemption merely means substituting one form of real money for another. But the deposits are not real money—are not capable of circulating generally from hand to hand. Every day someone needs to substitute real money for them, as in "cashing a check" for a payroll.

Consequently, if 2½% or 4½% is an adequate reserve for deposits, 1% or 2% ought to suffice for Federal Reserve notes. Or if 40% is necessary for the notes, much more than 40% ought to be required for deposits. The reason why the two reserve requirements are so inconsistent is doubtless to be found in ancient history. Bank notes had been subject to long abuse—"wild cat banking"—the mem-

ory of which now deters the bankers from exploiting notes; but deposits have behind them no such history or memory. So deposits are exploited by the bankers of today as their forefathers exploited notes. The present depression is the logical result.

But the chief reason why, for deposit currency, a 100% reserve requirement is needed is to be found in the fluctuations in the quantity of money under our present system. This does not apply in the same way to reserves behind bank notes. Printed bank notes after redemption still exist and can be put back into circulation. But the pen-and-ink check-book money, when redeemed, no longer exists at all and so cannot be reissued until the bank can make a new loan or investment. Under the 100% system, the dependence of our volume of circulating medium on loans would cease. This is the essential merit of the 100% system; and the quest for non-dependence of money on loans was what started the present writer on the 100% system. A congressman had asked him: "Can't you find a system such that to have the money of the Nation adequate does not require somebody to swap debts at a bank?"

The foregoing, in brief, are the reasons why our modern reserve problem as to bank deposits is so much more serious than was the ancient reserve problem as to bank notes.

Among the few efforts to meet this modern problem of reserves—of how to accomplish the interconvertibility of check-book money and

pocket-book money—was the effort made by Canada under the Act of June 28, 1934. Under that act, any bank in Canada may, with certain restrictions, lodge with its branches surplus supplies of its own notes which are then held in safekeeping to be used for emergency redemption of deposits. This is not the 100% system, but it is a step in that direction. The same law also provides that notes of a Canadian bank, issued beyond a certain point, must be backed 100% by government currency. This is analogous to the Bank of England 100% provision, and even more analogous to the proposals of this book.

We have seen an age-long see-saw between adequate and inadequate reserves. The inadequacy is now at its worst. Our 100% principle, already partially invoked, would, if invoked fully, put an end to the see-saw altogether.

Chapter IV

HOW THE 100% SYSTEM WOULD WORK AS TO DEPOSITS

Introduction

Modern banking includes four chief functions: first, *money changing*, as exemplified by the business of foreign exchange; second, the issuance of *bank notes;* third, *check-deposit* banking, which provides facilities to depositors for payment by check; fourth, *borrowing, loaning,* and investing generally. Many banks in the United States do all four sorts of banking; some, such as investment banks, savings banks, and trust companies, emphasize one function more than another; "commercial" banks emphasize short term loans and checking deposits.

It is clear that *money changing* would not be greatly affected by the 100% system, so that it need not be discussed here. As to *note issue*, the 100% system could be applied to notes, just as to deposits.[1]

Check-deposit banking will be considered in this

[1] But see Chapter IX.

chapter, and *loaning* in the next. Check-deposit banking would be so simple and easily understood under the 100% system as to require no special banking talent. The money subject to check would, as elsewhere stated, be kept in a separate "Check Bank" which would be a department of the original bank, or affiliated with it. Each original commercial bank would thus be split into a *Check Bank* or *Department* and a Loan-and-Investment Bank or Department.

The Loan Department, could, of course, like any other depositor, deposit its own cash in the check bank or department, and draw out this cash or transfer it by check.

The process by which the Currency Commission would bring all reserves of checking deposits up to 100% has already been described, namely, by buying some of the banks' non-cash assets and paying for them with credits on the books of the Currency Commission.

The Commission could best do this through the Federal Reserve Banks, as its agents in dealing with member banks. As already stated, it would also, and in the same way, provide the Federal Reserve Banks themselves with a 100% reserve.

In what follows, we shall, merely for simplicity of exposition, ignore banks outside the Federal Reserve System, of whatever sort. (We shall also ignore the money now issued by, and the money and bank deposits belonging to, the United States Treasury.)

The First Day After the 100% System Is Installed

After the transition to the 100% system, what would be the picture of our banking system? It would now have three stages or strata: thousands of member banks, twelve Federal Reserve Banks, and the Currency Commission at the top.

Let us, for convenience, suppose that the new system was installed all at once, overnight. The day after the transition, there would be outstanding precisely the same loans, the same deposits, and the same total of public circulating medium as the day before; there would also be the same assets, but the non-cash assets would be differently distributed. Of these non-cash assets the Currency Commission would now hold some which had previously been held by the Federal Reserve Banks and member banks; and the Federal Reserve Banks would hold some which had been previously held by the member banks.

Thus, there would be varying shifts of assets up-stream, either two stages at a jump or one or the other of the two stages alone. In all three cases, there would be inserted between these non-cash assets and the deposits, a layer of money (cash), so as to bring the cash backing up to the newly required 100%. (This new money, thus sandwiched in, would count both as assets and liabilities—assets for the banks holding it and liabilities against the

Currency Commission—i. e. the liability of the Commission to said banks.)

Illustrative Balance Sheets

Those accustomed to studying balance sheets may be interested in the hypothetical accounts set out below. They show how each main item would be affected overnight by the introduction of the 100% system. The assets undergo change—the liabilities remain unchanged.

The first table is for the 12 Federal Reserve Banks.

TABLE I

HYPOTHETICAL COMBINED BALANCE SHEET OF 12 FEDERAL RESERVE BANKS [2]

(in billions of dollars)

ASSETS	*Before*	*Changed by*	*After*	LIABILITIES	*Before and After*
Lawful Money in Vault	5	+ 1 =	6	Member Bank Deposits in Federal Reserve Banks	3
U.S. Securities	3	— 1 =	2	Federal Reserve notes (total public circulating medium issued by Federal Reserve Banks)	3
Etc.	1		1	Capital, etc.	3
	9		9		9

The first two items on the liabilities side, deposits

[2] No account is here taken of the effect of reimbursement for loss of profits.

and notes, represent everything (so far as issued by the Federal Reserve Banks) usable as money before or after the change. The total amount of these two items (in this imaginary case) is 6 billions, while the cash (see assets side) behind this 6 billions of circulating credit is (*before* the introduction of the 100% system) 5 billions. This requires an addition of only 1 billion to make up the required 6 billions—i. e. to bring the reserve of these 12 Federal Reserve Banks up to 100%. This addition to cash is accomplished by the Currency Commission purchasing from the 12 Federal Reserve Banks 1 billion of their United States securities. The only changes therefore, are the "+ 1" and "— 1" respectively in the first two assets items. *After* these changes, the total (6 billions) of deposits plus notes is backed 100%—i. e. by the 6 billions of cash.

Table II on page 65 shows how the member banks of the country would be affected.

The Currency Commission would (see assets side) add 12 billions to cash, 10 of which would be from the sale of United States securities and 2 from rediscounting [2a] loans. The result would be to bring the "cash" (sum of the first two items) in *member* banks up from 4 billions to 16 billions, which

[2a] In practice I would prefer not to allow the Currency Commission to rediscount loans, i. e. to buy promissory notes, but would restrict their purchases entirely to Government obligations. In this chapter, however, I wish to illustrate all possible operations.

would match, on the liabilities side, the total circulating medium (checking deposits and National Bank notes) issued by *member* banks and circulating among the public, that is, circulating outside of the banks. (Table I shows 3 billion Federal Reserve notes making, in all, 19 billions public circulation.)

The first two lines of liabilities and assets, representing respectively the 16 billions in public cir-

TABLE II

HYPOTHETICAL COMBINED BALANCE SHEET OF MEMBER BANKS

(in billions of dollars)

ASSETS	*Before*	*Changed by*	*After*	LIABILITIES	*Before and After*
Money in Vault	1	+ 12 =	13	Checking Deposits	15
Reserve (in F. R. B.)	3		3	National Bank notes	1
	4		16	Total public circulating medium issued by member banks	16
U. S. Securities	10	— 10 =	0		
Loans	20	— 2 =	18	Time Deposits	21
Etc.	10		10	Capital, etc.	7
	44		44		44

culation, and the 100% cash reserve of 16 billions (after the transition), would constitute the combined balance sheet of the check departments of the banks. All below those two lines would con-

stitute the combined balance sheet of the remaining, or Loan Departments of the banks.

The following table shows the resulting balance sheet of the Currency Commission:

TABLE III

HYPOTHETICAL BALANCE SHEET OF THE CURRENCY COMMISSION

(in billions of dollars)

ASSETS		LIABILITIES	
U. S. Securities [3]	11	Commission Currency [5]	13
Loans [4]	2		
	13		13

The Essential Figures

The total *public* [6] circulating medium accounted for in these tables would amount to 19 billions. This would be true both before and after insertion of the 13 billions of Commission Currency (i. e. insertion of 1 in Federal Reserve and 12 in member). This 19 billions would consist of three parts: the 3 billions of Federal Reserve notes (see Table I, liabilities side); the 1 billion of National Bank notes (see Table II, liabilities side) and the 15 billions of checking deposits (see Table II, liabilities side).

[3] See the "— 1" of Table I (assets side, middle column) and the "— 10" of Table II (assets side, middle column).

[4] See "— 2" Table II (assets side, middle column).

[5] See the "+1" of Table I (assets side, middle column), and the "+12" of Table II (assets side, middle column).

[6] The member bank deposits in the Federal Reserve Banks are, of course, not included here, being merely inter-bank items.

We may tabulate these three figures, which are the essential ones for this chapter, as follows:

TABLE IV

IN PUBLIC CIRCULATION

(in billions of dollars)

	Before	*After*
Federal Reserve notes	3	3
National Bank notes	1	1
	4	4
Check-book Money	15	15
	19	19

Thus, as recorded in the foregoing hypothetical tables, the total actual money of the nation (pocket-book money) in public circulation would be (both "before" and "after") 4 billions; and (also in both cases) the check-book money would be 15. But the status of this check-book "money," "after," would be very different from what it was "before." After the 100% reserve was adopted, we might as well omit the quotation marks from the word "money"; for, to all intents and purposes, this check-book money would then all *be* money—money on deposit and not, as before, only partly money and mostly mere promises to *furnish* money on demand.

Evidently, in this illustration, the insertion of the

13 billions of Commission Currency does not add a dollar to the public circulation outside of banks; it merely inserts a new and essential gear inside the banking machinery, to insure that this machinery will work smoothly at all times, especially when redemption is called for. Before this insertion, the only cash in banks, as shown in the tables, was 6 billions, of which 5 billions were in the Federal Reserve Banks (see Table I, assets side), and 1 billion was in member banks (see Table II, assets side). These inadequate reserves of 6 billions are now brought up to 100%, i. e. to 19 billions, by means of the 13 billions of Commission Currency, 12 going to member banks and 1, to Federal Reserve.

Neither the reserves of 6 billions before the change, nor the reserves of 19 billions after the change, are part of the public circulation but merely afford the *backing,* lying in the bank, for that circulation. Before the change, a cash reserve of only 6 (of which 5 were in the Federal Reserve Banks and 1 in the member banks) backed a public circulation of 19 outside of the banks; after the change, a reserve of 19 inside backs 19 outside.

Deposit Operations After the First Day

So much for a picture of the first day.

After the first day, the loaning function and the deposit function of any former bank would be separate, conducted by two separate banks (or departments of the same bank), one being the new

check bank, or department. The loan department, as has been observed, would deposit its own cash in the check department and would transfer it by check just like any other depositor. The operations of the private depositor would be precisely the same as before. He would draw checks, receive checks, cash checks, and deposit either checks or cash in the check department, exactly as before. But neither he nor the banks could any longer increase or decrease the total circulating medium of the nation, all of which would now be real money and none imaginary.

Any checks drawn by Smith would be solely against Smith's share of the money in the bank vaults, never, even in part, against somebody else's; any checks he receives from Jones would likewise represent what had been part of Jones' share of vault cash but now transferred to Smith; if Smith deposited these checks, he would simply be authorizing the bank to record this transfer of ownership of vault cash; if he cashed a check he would simply be taking out some of his own cash now in vault to put it into his pocket or till; if, finally, he deposited cash he would be taking cash out of his pocket or till and placing it in vault to lie there in storage subject to his order by check.

This interflow between check-book money and pocket-book money would merely be changing the place where the money was kept. It could go to any extent without affecting the total money of the nation. For instance, to go back to the illustrative

tables (see, especially, Table IV): if, all at once, 10 billions of deposits were redeemed in cash—Commission Currency—the pocket-book part of the circulation would be increased by 10 billions (changed from 4 to 14); but the check-book part would be decreased by this same 10 billions (changed from 15 to 5). The total public circulation (i. e. outside the banks) would remain 19 (i. e. would change from 4 + 15 to 14 + 5). No loan operation of the banks, nor of their customers, could change this total public circulation either way. Only the Currency Commission could do that. Nor could the redemption or withdrawal of deposits weaken the bank reserve behind the remainder. It would always stay 100% for such deposits as remained. A withdrawal of 10 billions would merely change the check situation from checking deposits of 15 backed by 15 in actual money to checking deposits of 5 backed by 5.

Withdrawing Money Under the 10% System

How different all this would be from the present 10% system of short reserves is obvious. Under the 10% system, the acts of the bank and of its customers affect the reserve ratio and, what is of far greater consequence, affect the total amount of public circulation; for the deposits (liabilities side) go up and down with the loans (assets side).

Although this last proposition has been emphasized many times already, it is so vital a part of the

picture that it is here set forth once more in terms of figures taken from the foregoing illustrative tables. The reader who wishes can readily make up for himself the appropriate balance sheet for each supposed step in the following analysis.

At the outset, it is clear that, according to the first two tables, under what has been called the 10% system (first assets column), the withdrawal of 10 billions of cash all at once would be an impossibility—no such amount of cash exists in the System. But let us imagine a more gradual withdrawal, first of one billion and then another; and follow the results of the equal changes on both sides of the balance sheet.

Evidently 1 billion could be withdrawn easily. It might exhaust that 1 billion of cash in vaults of the member banks themselves (Table II), but they would still have 3 billions on deposit with the Federal Reserve Banks which these latter could readily furnish out of the 5 billions in *their* vaults (see Table I).

The member banks would then have these 3 billions of cash but would have outstanding checking deposits of 14 billions (i. e. 15—Table II, liabilities side—less the 1 just withdrawn). The total actual pocket-book money in public circulation would then be 1 more than formerly or 5 (formerly it was 4; see Table IV).

The total circulating medium, however, would remain undisturbed (19, or 14 plus 5). Nor would the volume of loans need to be disturbed.

But, although the total circulation would, in this case, be as unaffected under the 10% system as under the 100% system, there is a little fly in the ointment: the reserve ratio would be reduced.[7]

[7] For the benefit of any readers who may wish to follow, microscopically, the numerical illustrations showing how the reserve ratio is affected, the following is included:

Under the 100% system, the reserve would, as has been seen, remain 100%. For instance, under this system, the reserve ratio of the member banks would be, before the withdrawal of the 1 billion cash, 15 to 15, and after withdrawal 14 to 14—both 100%.

Under the 10% system, on the other hand, this reserve ratio would be, before the withdrawal, 4 to 15 (or 27%) and after withdrawal, 3 to 14 (or 21%).

The mathematical reason for the difference in reserve behavior under the two systems is evident. An equal reduction from two equals (15 and 15) does not change their ratio; but an equal reduction from two unequals (4 and 15) does change their ratio.

A second billion could likewise be withdrawn without affecting the public circulating medium; this would still be 19 (the money part now being 6; and deposits, 13). But the reserve ratio (already down to 3 to 14, or 21%) would now sink to 2 to 13 (or 15%).

A third billion withdrawn would bring the reserve ratio down to 1 to 12, without reducing the total circulating medium of the nation. But this ratio of 1 to 12 (about 8%) is below the legal minimum of 10%. Even so, however, the banks could restore the ratio to 10% or more; for the Federal Reserve Banks, by "open market operations," could buy 1 billion of bonds of the member banks, paying, let us say, cash (thus reducing their own reserve). The reserve of the member banks would then become 2 again; the deposits would, of course, remain 12; so that the reserve ratio would be brought

As the member bank reserves approached their legal minimum limits, 10%, the Federal Reserve Banks could raise them by buying member bank assets for cash, thus reducing the reserves of the Reserve Banks themselves; till eventually the member banks might get down to the 10% and the Reserve Banks to 35%.

up to 2 to 12 (or 17%). The total public circulation would still remain 19 (money 7; deposits 12).

The member banks could then, with the added cash, pay off still another billion of deposits, and so increase the public's *cash* by a billion, without changing the total circulating medium. Their reserves would sink again to 1, the deposits sinking to 11 and the reserve ratio to 1 to 11 (or 9%); the public circulation would remain 19 (money 8; deposits 11).

The reserve ratio would again be too low to comply with the law. To remedy this, still another billion could, if necessary, be spared by the Federal Reserve by means of open market operations. Then the member banks' cash would be brought up again to 2; the deposits would remain 11; the reserve ratio would be 2 to 11 (or 18%); public circulation, 19 (money 8; deposits 11). But each successive billion thus spent by the Reserve Banks would now dangerously weaken their own reserve ratio, that is, the ratio of their cash to their deposit liabilities.

Let us suppose, then, that the Federal Reserve refused to help beyond the last mentioned billion. We may still suppose that the member banks let another billion go out to insistent depositors. The cash of the banks would now be 1; the deposits, 10; the reserve ratio, 1 to 10 (i. e. 10%); public circulation, still 19 (money 9; deposits 10). Now, however, the banks could simply go no further. All their slack would be used up. They would be down to a 10% reserve; and, as stated, the Federal Reserve would help no further.

Thenceforth, the only recourse of the member banks for more cash would be to get it from the public. But the whole trouble has been that the public itself wants to get more cash from the banks! A contest between the banks and the public for cash now begins.

The banks get cash from the public by calling such loans as are call loans, or by refusing to renew loans coming due, or by selling to the public some of their investments. They demand cash in order to meet demands for cash by their depositors, so that the actual cash they pay out *now adds nothing at all to the public's net total volume of cash,* since it must come out of the public in the first place. The bank simply robs Peter to pay Paul. But the *deposits,* of course, shrink with every pay-off of deposits, so that *the total circulating medium in the hands of the public shrinks by this shrinkage of deposits.*

In this example, from the time they begin to call in cash *from* the public in order to pay out cash *to* the public, the banks cause deflation. If, by selling non-cash assets for cash, they get 1 billion from the public in order to pay it back to the public for cashing deposits, these deposits shrink by 1 billion, from 10 to 9, while, this time, there is no compensating increase in pocket-book money, which remains 9. That is, check-book money shrinks by 1 while pocket-book money remains unchanged, so that the total circulation is lessened by 1 billion, from 19 to 18. The results will then be: reserve, 1, deposits, 9; reserve ratio, 1 to 9 (or 11%); public circulation, 18 (cash, 9; deposits, 9).

Illustrative Tables

We may now review the preceding series of steps as to cash withdrawals, etc., by means of the following tabulation, which has also been continued a few steps further.

TABLE V

RELATION OF LOANS TO CIRCULATION UNDER 10% SYSTEM

	Reserve Ratio, in Member Banks, of cash to deposits	*Public Circulating Medium* (in billions) *Pocket-Book Money*	*Check-Book Money*	*Total*
After Public withdraws 1 bill.	3 to 14 (21%)	5	14	19
After Public withdraws 1 bill.	2 " 13 (15%)	6	13	19
After Public withdraws 1 bill.	1 " 12 (8%)	7	12	19
After Federal Reserve supplies 1 bill.	2 " 12 (17%)	7	12	19
After Public withdraws 1 bill.	1 " 11 (9%)	8	11	19
After Federal Reserve supplies 1 bill.	2 " 11 (18%)	8	11	19
After Public withdraws 1 bill.	1 " 10 (10%)	9	10	19
After Banks call 1 bill. & public withdraws 1 bill.	1 " 9 (11%)	9	9	18
After Banks call 1 bill. & public withdraws 1 bill.	1 " 8 (12%)	9	8	17
After Banks call 1 bill. & public withdraws 1 bill.	1 " 7 (14%)	9	7	16
After Banks call 1 bill. & public withdraws 1 bill.	1 " 6 (17%)	9	6	15

The above table illustrates the kind of deflation which took place in the United States since 1929.

Table VI (below) shows that, under the 100% system, no such deflation would occur, nor would there be any need either of Federal Reserve aid or

TABLE VI

RELATION OF LOANS TO CIRCULATION UNDER 100% SYSTEM

	Reserve Ratio, in Member Banks, of cash to deposits	*Public Circulating Medium (in billions)* Pocket-Book Money	Check-Book Money	Total
After Public withdraws 1 bill.	14 to 14 (100%)	5	14	19
" " "	13 " 13 "	6	13	19
" " "	12 " 12 "	7	12	19
" " "	11 " 11 "	8	11	19
" " "	10 " 10 "	9	10	19
" " "	9 " 9 "	10	9	19
" " "	8 " 8 "	11	8	19
" " "	7 " 7 "	12	7	19
" " "	6 " 6 "	13	6	19
" " "	5 " 5 "	14	5	19
" " "	4 " 4 "	15	4	19
" " "	3 " 3 "	16	3	19
" " "	2 " 2 "	17	2	19
" " "	1 " 1 "	18	1	19
" " "	0 " 0 "	19	0	19

of the banks' taking money from the public in order to furnish it to the public.

These long tables are given in order to clinch beyond all doubt the supremely important fact that it is the short reserve (10%) system which (after a lag, during which the reserve ratio falls) compels

deflation of the circulating medium under certain circumstances, while no such compulsion ever exists under the 100% system. In spite of any disturbances whatever, the circulating medium would remain 19 billions—in spite, for instance, of overproduction, over-indebtedness, maladjustment between agricultural and industrial prices, over-confidence, bad banking, bank failures. No matter what else might happen, no such tragedy as the recent destruction of 8 out of 23 billions check-book money could occur, with its consequent interruption of our creation and exchange of wealth, and the long train of unemployment and bankruptcies. In a word, the 10% reserve in our banking system is the loose screw in our monetary system.

The Contest for Cash

Under the 10% system, once deflation begins, it tends to go on and on. The public's circulating medium shrinks from 19 to 18, from 18 to 17, from 17 to 16, and so on, because of the wiping out of deposits; and the shrinkage will be accelerated by the action of the banks in their contest with the public for cash.

In this contest the banks will not be content to get money from the public merely fast enough to pay it back to the public. They will, in most cases, get it faster than that, so as to be in a "more liquid" position to weather the storm. They will naturally tell a customer that they must do this to

protect him, which is partly true. But the dominating motive of the banks is to save their own skins, and the net result is to increase their cash reserve *at the expense of the circulating medium of the public*. In effect, they, for the time, become the enemies of the public.

They not only "rob Peter to pay Paul"; but they rob Peter of $10 on the average to pay Paul $1. That is, for every dollar of cash which the public gets it loses $10 in deposits because of the 10-fold lending of each dollar, as explained above in Chapter III.

And the banks cannot help it. The public is quite wrong when, in the depression, they blame the individual bankers. It is the banking *system*—the 10% system—which is at fault. Under this system, *the bankers cannot help destroying money when it should be created, namely in a depression; while in a boom they create money when it should be destroyed.*

In Chapter II it was pointed out that between 1929 and 1933 the public's pocket-book cash expanded about a billion dollars while their check-book money contracted 8 billions. But reducing the quantity of money is not the only sort of deflation. Besides deflating the quantity of the circulating medium, this contest for cash results in a slowing up of its velocity—another form of deflation. What we call "hoarding" is merely near-zero velocity. Hoarding is not an independent form of deflation. It is chiefly *caused* by the contest for

cash. If there were no contest for cash there would be very little inducement to hoard.

The serious consequences of the two-fold deflations—of quantity and velocity (including hoarding)—will be noted in Chapter VII.

Depositing Money Under the 10% System

We have now seen how widely different are the 10% and the 100% systems as to the effects of money *withdrawals* from checking deposits. One system involves deflation, the other does not.

The two systems are just as widely different as to money *deposited* in checking accounts. One system involves inflation, the other does not.

Under the 100% system, of course, depositing actual cash in checking accounts is purely a matter of convenience and safety deposit. It merely takes money out of the pocket-book and puts it into the check-book, as it were. The quantity is not changed.

But, under the 10% system, there may be dynamite in such deposits of cash. The effect depends largely on the loan market. If, for any reason, the bank is unable or unwilling to loan, it may pile up the cash so that, for a time, the only effect is to increase the reserve ratio instead of increasing the circulating medium.

But, after the bank has a substantial excess reserve above 10%, it will be likely to yield to the lure of making a profit out of these idle funds. As soon as this happens, loans (or investments) will

expand and, with them, checking deposits will expand too. This means inflation; and with this inflation of the volume of circulating medium goes an inflation of velocity. The serious consequences of the two-fold inflation—of quantity and velocity—will be noted in Chapter VII.

The whole situation is the opposite of that just described for withdrawals of cash; and, were it worth while, the corresponding illustrative figures and tables could be given.

The 10% system, then, is calculated to swing first one way and then the other, making one form of a "business cycle," the central feature of which is the taking up and the letting out of excess reserve. A friend puts it in expressive slang: "The 10% system booms the booms and busts the busts." The way to avoid this back and forth movement is evidently to have no slack to be taken up and let out—in short, to raise the reserve from 10% to 100% and to keep it there.

CHAPTER V

HOW THE 100% SYSTEM WOULD WORK AS TO LOANS

We have seen how deposit operations would go on under the 100% system and have contrasted these with the deposit operations as they go on today under the 10% system. But little as yet has been said concerning loans under the 100% system.

The detailed operations of incurring debts and paying them off would be substantially the same as now. The borrower, to get his loan, would hand in his promissory note to the loan department of a bank and receive a check on the check department which he would deposit. When later he paid his loan he would hand in his check at the lending department and receive back his note, canceled. Then the lending department would deposit this check which would transfer to the lending department the title to the borrower's money lying in the bank.

There remains one important question. Where are the loan funds to come from after the first day —i. e. where will the lending department of a bank get its loan funds? True, as already pointed out, there would still be (1) the capital of the Loan Bank, (2) the savings of some depositors, (3) the

repayments by some borrowers; but would these be flexible enough? In a word, if banks are no longer to be allowed to manufacture money to lend, will not the supply of money to lend necessarily shrink or, at all events, fail to expand as required by business?

The answer is: No; the volume of the nation's loans, besides being set free from capricious increases and decreases, as already set forth, would: (1) not necessarily shrink; and (2) be capable of any legitimate expansion—and this independently of the expansion of the check-book money. Let us see how.

The 100% System Would Not Shrink the Bank Loans

As to the first of these two points: the existing volume of loans, in order to be maintained undiminished, would require no manufacturing by anybody. The funds newly lent out from day to day would be (as they are, in fair weather, under the 10% system) equal to the funds paid in from old loans.

It will be remembered that the new system starts off with just as large a volume of loans as there was at the close of the day before, under the old system.

To fix our ideas by illustrative figures, let us suppose that, on the day after the 100% system was installed, the total money in circulation in the

country was 19 billions (of which 15 billions were in checking deposits) and suppose, further, that the bank loans are 20 billions. Let us see how the loans could be maintained, without change, at 20 billions.

The flow of funds from old loans to new is usually very direct—within the same bank. But we shall here, to display the whole of the machinery under the 100% system, begin with the most indirect case possible.

Two billions of the 20 billions of promissory notes are here supposed to have been bought (rediscounted) by the Currency Commission and to be now in its possession. We shall first note here how these two billions can be maintained without change in amount.

A Mr. Smith asks the lending department of his bank in New Haven, Connecticut, for a loan of ten thousand dollars. The New Haven bank decides to accommodate Mr. Smith but, as it has, let us suppose, already lent out all its own capital and knows no other immediate source of funds except the Federal Reserve Bank of Boston, it asks this Federal Reserve Bank of Boston to rediscount Mr. Smith's note. The Federal Reserve Bank of Boston, in turn, finds that it has to apply to the Currency Commission in Washington in order to rediscount Mr. Smith's note. The Currency Commission, let us suppose, already has the funds conveniently in hand, and sends them to the Federal Reserve Bank of Boston which, in turn, sends them to the New

Haven bank, which, in turn, deposits them in the check department of its bank and, by check, transfers them to Mr. Smith, the borrower.

But where did the Currency Commission get those funds? We here suppose it got them not from manufacturing new money but from the payment of loans which the Currency Commission had taken over when the new system was installed.

Among the payments of loans owed to the Commission, was, say, $10,000 from a Mr. Jones in Oakland, California. That is, when Jones' note came due, he repaid the Oakland bank, which repaid the Federal Reserve Bank of San Francisco (which had formerly rediscounted it for the Oakland bank) and this Federal Reserve Bank of San Francisco repaid the Currency Commission in Washington (which had rediscounted it for the Federal Reserve Bank of San Francisco—i. e. bought it when installing the new system).

Thus, in effect, Jones of Oakland, by paying his loan, provides, in the circuitous way here assumed, the funds to be lent to Smith in New Haven, the funds travelling up from Jones, through two banks, to the Currency Commission and then down, through two other banks, to Smith in New Haven.

Evidently such payment of old loans, via the Currency Commission, could provide the funds to furnish enough new loans to keep up the Commission's total of 2 billions of loans indefinitely.

The remaining 18 billions of loans, located, not with the Currency Commission, but with the Federal Reserve Banks and the member banks, could be perpetuated in the same way, namely by relending to new borrowers the return flow of funds used in payment of the old loans in whatever bank situated.

There would, therefore, be no difficulty in getting sufficient money to lend for new loans simply out of old loans—sufficient, that is, to maintain the pre-existing volume (20 billions) of loans.

It is not, of course, necessary, in order thus to maintain unchanged the pre-existing volume of loans, to match specifically a particular Jones' old loan with a particular Smith's new loan, so long as the total volume of all old loans paid matches the total volume of all new loans extended.

Even under our present (10%) system, the vast majority of new loans are either mere renewals of old loans to the same borrowers or else, what amounts to the same thing here, continuations of old loans by transferring them, when paid, to new borrowers.

But, under the present (10%) system, we trust to luck that the old and new loans will be properly matched, and so we leave the banks free to spoil this matching. They can even almost stop lending altogether—not because business doesn't need the money but because the banks need it themselves to strengthen their short reserves, as shown in the preceding chapter.

Under the 100% system there would, as has been seen, be no such interference and no such contest

for cash between the banks and the public. For these reasons alone the 100% system would better supply needed loan funds (and with more profits to banks) than the 10% system. *It is under the 10% system, not the 100%, that there is so often a collapse of loanable funds.*

Short Circuiting

We have seen how the Currency Commission could function to use the money paid on old loans for lending to new borrowers. But, in practice, the Currency Commission would seldom need to function in this way. We have, as stated, put the Commission prominently into the picture chiefly for purposes of exposition. But it would, in practice, have no such prominence; and even if it started off as here pictured, it would soon fade out of the picture almost completely. A tendency would begin at once to prevent the new loans (promissory notes) from being shifted from the bank up-stream toward the Currency Commission through discount. This tendency would arise in order to shorten the route by which the money of Jones travels to Smith. Their banks, in order to save the costs involved in the traveling of the loaned money through five intermediary banks, would seek ways to short circuit the flow of funds, just as they short circuit them now.

First of all, there would be a tendency to cut out the Currency Commission as an intermediary; for

it would be easy for the Federal Reserve Banks of San Francisco and Boston to get together and to find out, by telephone or otherwise, that one of them had a large supply of loanable funds while the other had a large demand for such funds. By direct dealing they would eliminate the Currency Commission as a go-between in most transactions.

And there would be further short circuiting. The member banks would likewise get together (just as they do now), especially in the same Federal Reserve District, so as to eliminate, as far as possible, the expense of using the Federal Reserve Bank as go-between.

For instance, the Currency Commission, instead of using inflowing funds to rediscount the note of Smith of New Haven, as we previously supposed, might use these same funds to buy some of the remaining bonds of the Boston Federal Reserve Bank. This would put the Boston Federal Reserve Bank in possession of said funds, so that it could itself discount Smith's note. In that case, Smith's note would travel only from New Haven to Boston and stop there, instead of going to Washington as previously supposed.

Even this one rediscounting could likewise be saved if the Boston Federal Reserve Bank should, in the same way, buy bonds of the New Haven bank so that this bank would itself have the funds for lending Smith, without having to rediscount his note at all. Such short circuiting would go on progressively as the banks found ways of more di-

rect dealing, just as now. The Currency Commission would progressively, by these "open market" transactions, acquire United States bonds and other securities instead of promissory notes, and leave, so far as possible, the more strictly banking business—rediscounting—to the banks.

In these and other ways, borrowers would for the most part, reach lenders just as they do now, with the least expense for middlemen. In the end, the bulk of borrowing and lending would probably go on within the group of customers of an individual bank, the only intermediary being that bank. Those who had money to lend would "deposit" it in a savings or time deposit account (which, as we know, really means lending it to the bank *without receiving any checking privilege*), and the bank would relend it to its borrowers.

In the end, then, the Currency Commission would not have much occasion to rediscount promissory notes. It would, if rediscounting were allowed at all, function chiefly as a safety valve in cases in which the banks could not themselves readily afford accommodation in sufficient volume or with sufficient promptness.

It would be the business of the Currency Commission to see that all legitimate requirements of borrowers and lenders were met, even if in order to meet them, it had to sell assets or buy assets (bonds, etc.).

We see, then, that the initial shifting of any substantial volume of loans from the banks toward, or

to, the Currency Commission would be temporary and ultimately almost disappear. As a practical matter we need not assume any displacement, even at the start. The loan operations would go on almost exactly as now, except for the absence of sudden expansions and contractions.

In fact, it would not be necessary even to allow the Commission to do any rediscount business whatever. We may go still further and say that even the Federal Reserve rediscounting could be dispensed with. We could return to the old system by which each bank finds out for itself with which other bank, if any, it can best rediscount. For myself, I would prefer not to endow the Currency Commission with any rediscount power whatever. We could accomplish substantially the same purpose simply by buying and selling Government bonds.

Expansion of the Volume of Bank Loans under the 100% System Independent of Checking Deposit Expansion

So much for the first point, namely, that, under the 100% system, the volume of loans need not shrink. We are now ready for the second point, that it could expand. Hitherto we have discussed loans as if they were a monetary problem. But loans normally come out of savings, and the growth of the loans should depend on the growth of the savings, and not be either stimulated or hampered, as they

are now, by a monetary system unduly expanding or contracting.

Of course the volume of loans can exceed the volume of money just as sales do. The same money can negotiate one loan after another just as it can negotiate one sale after another. It can even come back to the same savings bank and be relent. So long as the loans are made out of real money and not out of money manufactured by the lender, for the purpose, they will not violate the principles of the 100% system.

Under both the 10% and the 100% system the chief source of loan accretions is not newly created money, but savings; and, under the 100% system, savings would be greater because not interrupted by booms and depressions.

There are two sorts of deposits, first, savings (and time) deposits without the checking privilege and, second, demand deposits with the checking privilege. Savings deposits are put into a savings account for interest. The money so deposited is lent to the bank for interest and the bank, to earn this interest, is expected to relend the money, as by buying mortgages. The money does not stay in the bank (or not much of it) but keeps on circulating. The savings depositor is an investor and his deposit is the investment which he buys of the bank. The bank, in turn, uses the proceeds to buy a mortgage of Jones, and Jones, in turn, uses the proceeds toward building the house thus mortgaged—and so on indefinitely.

Here the savings "deposit" made in the bank corresponds quite properly to the "loans and investments" made by the bank. The loans come out of savings and can grow as savings grow, without affecting the circulating medium.

This process would go on under the 100% system exactly as it does at present except that it would not be disturbed by the second sort of deposits—demand or checking deposits. Only these would be radically changed in nature. Under the present "10% system" the bank may give the depositor the checking privilege so that he can still use his money just as if he had not deposited it, while the bank uses it as well—investing it precariously in short term notes. That is, under the present system, *loans* increase with the increase of *either* demand or time deposits; the penalty being that with the increase of the former—demand deposits —*check-book money* increases too.

Under the 100% system the time deposits would absorb savings and expand loans correspondingly just as now. But the *demand* deposits would operate differently. That is, any money deposited in a checking account would stay there and not be lent out. The circulating medium would not be expanded by such deposits but would merely be redistributed. Loans would go up with savings but the circulating medium would not go up with either. New loan funds would come out of savings but no longer out of thin air—that is, there would no longer be a double use of checking deposits.

In short, under the 100% system, banks would make loans just like anybody else, either out of their own savings or out of somebody else's, precisely as the earliest lending banks did before they were perverted by somebody's "bright idea" to lend other people's money while still letting these other people think they had that money to use as money.

Thus, under the 100% system, the chief function of the loan department would be that of a broker between savers and enterprising borrowers of the savings. The rate of interest would register the supply and demand of these savings. This might mean at various times a slower or a faster increase of production and productive enterprise than now, but the net increase in the long run would be faster than now, as well as steadier, because it would not be interrupted by so many, or so severe, depressions.

Suppose that, after a period of time, in the manner just explained, due, say, to a period of new railroad building, the time, or savings, deposits were expanded by 10 billions, while the total checking deposits and National Bank notes remained 16.

The result, so far as the member banks are concerned, would be as shown in Table VII.

Because of the added loans two items change (by 10) as indicated. (In practice, of course, all items would be continually changing from other causes.)

In so far as the 10 billions of new loans are concerned, the result is that loans by member banks

and time deposits (in these banks) have both expanded by 10 billions, but the circulating medium has not been affected. It remains 16 billions (in so far as the member banks are concerned).

TABLE VII

HYPOTHETICAL COMBINED BALANCE SHEET OF MEMBER BANKS BEFORE AND AFTER INCREASED LENDING

ASSETS

	Preceding	*Change by New Lending*	*New*
Cash (in vault or as reserve in F. R. B.)	16		16
U. S. Securities	0		0
Loans	18	+ 10 =	28
Etc.	10		10
	44		54

LIABILITIES

	Preceding	*Change by New Lending*	*New*
Checking Deposits and National Bank notes	16		16
Time Deposits	21	+ 10 =	31
Etc.	7		7
	44		54

In the reverse way, loans could, of course, be diminished by liquidation and cessation of savings, without in the least affecting checking deposits or the volume of the circulating medium.

Conclusions

The main conclusions thus far are that, without necessarily invoking any increase in the circulating medium: (1) bank loans could, under the 100% system, be maintained undiminished simply by replacing old loans with new; (2) in the end, the only marked difference between the deposits under the new and the old system would be that the bank loans (and investments) would tend to correspond with *time* deposits instead of with *checking* deposits, as now. This might seem, from a bookkeeper's point of view, a very slight difference. But the difference would be fundamental, because the time deposits, not being subject to check, would not be a part of our medium of exchange actually used for circulating goods.

This book is largely by way of complaint against the manufacture of check-book money by banks; and this chapter is largely by way of meeting the answer to this complaint that if they did not manufacture it, it would not exist. As a matter of fact, except in boom or depression periods, banks manufacture and destroy money almost equally, even though they may annually manufacture (and destroy) two or three times as much as all the money in existence at any one time. On balance, the net effect of their manufacture and destruction is normally very small.

Moreover the abnormal manufacture of credit in

periods of inflation is so far offset by the abnormal destruction of credit in periods of deflation, that the net increase in the long run is not great.

It is true that the total existing volume of check-book money is far greater than its volume years ago, and that the increase has been due to a slow net accretion, or accumulation through the ages, of manufactured credit. Nor do I deny the importance of further manufactured accretions to match the growth of business—that is, if it be accomplished by a duly mandated Currency Commission with due reference to the value of the dollar. The point here is that the 100% system, even without price level control, would be an improvement over the present 10% system, with its erratic effects on the price level. If the volume of money were to be fixed once for all, there would be no need for any Currency Commission.

However, we need more than this elimination of faults. We want the additional advantage of a steady price level, which a fixed volume of money would not be quite enough to insure. In fact, a fixed volume of money (if its velocity did not vary) would, as business volume increased, result in a slowly falling price level. Therefore, there should, in my view, be a Currency Commission, authorized to manage the currency, including the check-book money.

The next chapter will deal with this subject of money management.

CHAPTER VI

HOW MONEY MANAGEMENT WOULD WORK UNDER THE 100% SYSTEM

The Criterion for Stabilization

In most of the examples and discussions up to this point we have, for simplicity, assumed that the Currency Commission would keep the quantity of money unchanged. It would be quite possible, of course, to do this perpetually, in which case no Currency Commission would be needed; in this case there might be a constant fall in the price level.

As has been stated, the 100% system is, theoretically, entirely independent of any particular monetary policy. It need not be combined with a stabilization policy any more than with a deflation or an inflation policy. In fact, some supporters of the 100% plan do not approve of stable money as the present writer does; and some who agree on stable money do not support the 100% plan.

Assuming here a stabilization policy to be *combined* with the 100% plan, what criterion of stability would be needed?

The standard here proposed is that adopted by

Sweden—a fixed index of the cost of living.[1] One reason for selecting this standard is that a rise or a

[1] But the Currency Commission should be authorized to study all other criteria with reference to recommending future improvements. Among these other criteria to be studied are: wholesale indexes; the "General Index" (of Carl Snyder); a fixed quantity of Money; a fixed "Monocity," or Money times its velocity (MV); Monocity divided by volume of trade (MV ÷ T); M per capita; MV per capita; a fixed annual percentage addition to M or to MV; a fixed annual percentage decrease in the wholesale price level; a fixed average wage level; a dollar defined as a fixed fraction of the national income or of per capita income. This last index appeals to me as theoretically preferable even to the cost of living criterion. But practically such an income standard is unavailable, for lack of sufficiently accurate statistics. One virtue of such a dollar would be that, when average per capita income increases or decreases, wage earners and others with relatively fixed incomes would automatically share in the increase of real wealth and real income without having to fight for an increase in monetary income. This virtue, however, is shared, in some degree, by the cost of living index. It is also an interesting fact that the cost-of-living index usually agrees fairly well with Snyder's "general" index. In fact, almost all the criteria favored by different authorities agree in a general way. The most ideal standard would seem to be one which should satisfy the reasonable anticipations of the contracting parties to a debt; and, fundamentally, justice is best served in a loan contract if the reasonable anticipations of the parties are met. Moreover what would afford the most satisfactory results as to debts would probably afford approximately the most satisfactory results as to profits and as to employment, as well as approximately the most satisfactory adjustment within the price structure, i. e. between the quick moving and the slow moving prices.

fall in the cost of living means practically the same thing to everybody; whereas a rise or fall in the wholesale index has different meanings for different individuals, according to which wholesale commodities they respectively produce. Each individual consumes many things, but, under modern conditions, he produces only a few.

A cost-of-living criterion like Sweden's would serve so much better than any previously tried standard, such as gold or silver, that we could patiently await any further refinements. But, in future decades or generations, refinements could come with improved statistical technique and with general economic research, just as we have, through the centuries, improved our measure of length, the yardstick, which has gone through many stages, as for instance: (1) the girth of the chief; (2) the length of the arm of King Henry I; (3) the length of a bar of iron in the Tower of London; (4) a certain fraction of a quadrant between the earth's pole and equator; (5) the distance between the centers of two scratches on two gold plugs in a bar of a special metal called "invar," the bar being kept in a glass case in a vault at a temperature as nearly constant as possible. There is now talk of using a wave length of light at a certain point in the spectrum.

With the aid of the official criterion, the Currency Commission would control the flow of money. This would be in sharp contrast with the results of the 10% system; for the 10% system, as

we know, impels bankers to make and unmake money not according to any criterion at all, but by a sort of mob rule, guided fitfully by reserve requirements, the changing gold situation and other factors, and, in a depression by the instinct of self-preservation, followed blindly and individually, regardless of what the effect may be on the value of the dollar, the welfare of the public, or even the collective welfare of the bankers themselves.

Reflation

In the long run, the action of the Currency Commission would, as stated, be directed toward stability of the dollar. But if the adoption of the system happened to come soon after a serious deflation, for instance, as in 1933, the first object might be to *raise* the price level or lower the value of the dollar (however defined) to the level legally prescribed.

This prescribed level should ideally be that level at which, on the average, outstanding debts had been contracted or (what might amount to very much the same thing) the level which would restore business and industry up to, or near, normal capacity, and absorb the bulk of the unemployed, or the level at which the maladjustments in the price structure would be reduced to a minimum. Any of these criteria could be used and all three probably agree fairly well.

Such a raising of the price level has been called reflation. That is, reflation may be defined as that

degree of inflation which is justified because of recent rapid and great deflation.[2]

Three-fold Program

Assuming that the duty of reflation as well as stabilization were prescribed by law, the Currency Commission could advance in three stages:

First, as already indicated, it would, with its Commission Currency, buy enough securities of banks to *install* the 100% system, this first issue of Commission Currency being tied up as reserve.

Second, the Commission would buy still more securities from banks and probably from others—enough to *reflate* up to the prescribed point. This second issue of Commission Currency would not be tied up as reserve.

Third, the Commission would *stabilize* the value of the dollar at the prescribed point, as Sweden has so successfully done since September 1931. This third procedure—stabilization—would involve not only buying but selling securities, in continual alternation; but the buying would predominate in the long run, because the growth of the country and of its business would continually require more money in order to sustain a given price level.

Mr. Luther Blake, President of the Standard Statistics Company, makes the interesting suggestion that, from a practical point of view, it might

[2] Logically the term reflation should apply in either direction. Thus, in 1920, the price level needed to be reflated *downward,* to a certain extent.

be advisable to reverse the order of (1) and (2), or blend them, that is, to have the Currency Commission first buy bonds (from the public banks or any other bondholder) *with actual money.* This would automatically gravitate into the banks. Then let a gradual increase in reserve requirement take effect, when the banks would be flush of money.

In the three-stage program which has been outlined—(1) installation buying, (2) reflation buying, and (3) stabilization buying and selling—the last two, reflation and stabilization, evidently differ only in degree. Reflation, the big initial correction of the price level, is merely the first and biggest of the series of continual corrections which constitute management.

This management is analogous to steering an automobile. If, at the start, the money automobile is entirely off the road, in the deflation ditch, the first movement, reflation, is to get it back on the road and this movement must be a relatively big one. Stabilization consists of the subsequent small corrections constantly required to steer the car and keep it going in the right direction.

Velocity Control

We have seen that, under the 100% system, loans could go freely up and down without requiring any similar action on the part of deposits. Consequently, over-indebtedness and other influences, even when operative, could no longer swell and shrink the volume of circulation.

But, while the volume of the circulating medium would thus be freed from disturbances, the velocity of circulation might still be subject to various untoward disturbances. For instance, after a period of over-indebtedness and speculation, there might still be a stampede of distress selling and therefore increased hoarding; that is, there might be a slowing of velocity.

The effect of this on the price level, however, would be much smaller than if the volume of circulation were also affected; and even the velocity effect on the price level could probably be offset by a suitable increase in volume.

Finally, the latest and best studies on velocity show that, in normal times it varies little; and, even in booms and depressions, its variations are smaller than usually supposed, except for speculative transactions.

Nevertheless, it might fortify the efficiency of the Currency Commission if it were given power to influence hoarding and dis-hoarding and velocity of circulation generally, even though it should never become necessary to use that power.[3]

[3] See *Stamp Scrip,* New York, Adelphi Co., 1933. Although as yet there is little experience available for study, such experience as there is seems clearly to indicate that *dated* stamp scrip operates materially to accelerate circulation. No experience with *changing* the stamp tax is available. It may be added that the main object of stamp scrip, as of any other emergency currency, is not to increase velocity (V) but to increase trade (T).

The 10% System Relatively Unmanageable

It is true that reflation and stabilization are possible under the present, 10% system, as truly as under the proposed 100% system.

A convincing proof of this (as to stabilization) consists of the experience of Sweden. Since 1931 Sweden has succeeded, by adjusting rediscount rates and open-market operations, in maintaining [4] her official index number of the cost of living stable within 1¾% and usually within 1%. It should be said, however, that Sweden has the advantage over the United States of a unified banking system. Even if other countries could, under the 10% system, approach Sweden's success in stabilization and even if Sweden can continue her success indefinitely, the 100% system has other advantages, notably the advantage to Government finance; while there seem to be no disadvantages even to bankers as a group.

So far as the above condones the 10% system at all it does so only on condition that it be "managed." That is, the present terrible evils could be largely corrected by money management alone, just as they could be largely corrected by the 100% system alone. Many of my correspondents are content with one or the other of these two. While

[4] See *Stable Money, a History of the Movement,* by Irving Fisher, Adelphi Co., 1934.

either alone would work wonders, both would, in my opinion, be the ideal to be sought.

In summary, we may say:

1. The 10% system alone (i. e. without any stabilization plan) can be disastrous in the future, as it has been in the past.
2. The 100% system alone (i e. without any stabilization plan) would probably work fairly well.
3. The 10% system combined with a stabilization plan can work very well—as it has in Sweden, for instance.
4. The 100% system combined with a stabilization plan would work best of all, to say nothing of its advantage to Government finance.

Comparing these four we may call them: (1) bad; (2) good; (3) better; (4) best.

The superiority of the fourth combination is especially evident in the initial correction—reflation, as is well illustrated in the present depression. Open market operations in the form of Federal Reserve bond buying have been tried for the purpose of reflation; but the only large effect has been to "clutter up" the Federal Reserve Banks with unwanted stacks of United States bonds and to supply the member banks with "excess" reserves which they either would not use (because they were afraid to lend) or could not use (because merchants would not borrow).

The result was that President Hoover's and President Roosevelt's bond buying, which would, under the 100% system, have been immediately effective so far as adding to the *amount* of public circulating medium was concerned, proved, under the 10% system, for long periods almost ineffective. That was the situation for several years, everybody *waiting for somebody else to go into debt* to the banks in order to supply the public with the circulating medium which *all* needed. Finally the Government stepped in and itself went deeply into debt with the banks.

Such must often be our predicament so long as we have a system under which our circulating medium is a by-product of private debt. The time when nobody wants to go into debt is the very time when we most need money and so most hope that somebody will kindly accommodate us by going into debt. Few will do so, despite all the official urging and coaxing and despite the low rates of interest.

It is a case of leading a horse to water without being able to make him drink. Or it is like "pushing on the lines" to make the horse go. Or, to revert to the automobile simile, the gap in the present system between a 10% and a full 100% reserve is like the slack in a loose steering gear. Under the 10% system the first turning of the steering wheel has no effect on the car. So you turn further until, suddenly, the car veers too much; and later when you try to correct it, it veers too much in the op-

posite direction. A loose steering gear may get the money car out of the deflation ditch only to land it in the inflation ditch and then back in the deflation ditch, and so on, back and forth in a "business cycle."

To see the whole picture clearly is so important that still another simile is offered. The reserves, and deposits under the 10% system, are related like the long cylinders or sheaths constituting a telescope. Just as a physical telescope may consist of three sliding cylinders, so does the money telescope, the member bank being in the middle, between the Federal Reserve Bank and the public. A sort of "telescoping" of reserves and deposits occurs through the making and paying of loans.

When member banks extend loans to the public by credit they increase the public's deposits.
" " " call loans of the public by credit they decrease the public's deposits.
" " " get loans from the Federal Reserve by credit they increase their reserve.
" " " pay loans to the Federal Reserve by credit they decrease their reserve.

With this picture before us, we see that a loan of credit from the Federal Reserve Bank to the

member banks increases their surplus reserves—reserves above the legal minimum—so that they *can,* in turn, extend more loans to the public. If they *do* extend them, and do so to the limit, and if the Federal Reserve has also extended its credit to the limit, so that the telescope is extended to the limit, the borrowers are, as we say, "over-extended," and the deposits are inflated to the maximum—which means an almost incredible inflation. As I write, there is fear of just such credit inflation.

On the other hand, if member banks pay their loans to the Federal Reserve and get paid by the public, telescoping occurs in the opposite direction resulting in an almost incredible deflation. As the reader can calculate for himself from the reserve ratios, the telescope if extended to its maximum, will be about 30 times as long as at its minimum. (See diagram, page 50.)

All that saves us from such enormous telescoping back and forth between inflation and deflation is the discretion (individually exercised) of bankers, and that discretion is not enough to save us from, at times, telescoping ruinously. The bankers do not, it is true, wait till the telescope bumps against the limits; before that, they begin to exert a pressure to stop the movement. But their efforts are cushioned and uncertain.

Under the 100% system there is no telescoping, no "play," only a rigid resistance to movements either way until the Currency Commission changes the set-screw, as required by the legal criterion.

In short, under our 10% reserve system, the first effect of raising or lowering the discount rates is "lost motion." The only change is in the reserves, that is, in the internal machinery of the banking system, not in the public circulating medium and the price level. The effect on the price level is felt only after the enlarged or reduced reserve has, finally, affected the loaning of money or the purchasing of investments by banks and so affected their deposits; and it requires time to go through these stages, especially when the banks are in a state of fear due to their short reserves. The principles of the foregoing discussion were illustrated by the tables in Chapter IV.

The 100% System Easily Managed

Under the 100% system there would be no such "slack." This fact would make quantity control easy. The Currency Commission would have before it each day an exact record of the money outstanding and of all coming in and going out. There would be no unruly loan-made deposits to guess at —the mintage of thousands of banks.

If money became scarce, as shown by a tendency of the price level to fall, more could be supplied instantly; and if superabundant, some could be withdrawn with equal promptness. The adjustments would be smaller than are now necessary and the stabilization would be more precise.

These points may be elaborated. If the Commis-

sion offered to buy of a bank, the bank would not, as it does now under the 10% system, sell bonds merely for the purpose of keeping the proceeds idle as an increase in its reserve and to gain more liquidity for itself, without passing the money on to the public through loans and investments. For the bank would already be 100% liquid and could have no possible object in getting any more cash. If it should sell any bonds at all, this could only be in order to pass the proceeds on by lending or investing at a profit. If it could not (as banks generally complained in 1933 and 1934 that they could not) find sound outlets for its money, it would not sell at all, and the Commission's money would have to overflow into other channels, that is, flow at once to the general public. It would flow where it was most needed.

Even if we were to concede that the money could in some cases be wanted for hoarding purposes, the Commission would not be balked. For, unlike a bank, the Commission would, under its legal responsibility, given to it in form of a mandate by Congress, keep right on buying until the effects were felt in restoring the price level and the purchasing power of the dollar.

It would make no difference how much money would have to be issued to obtain this objective. It would make no difference whether business men wanted to borrow or not, as it does make with the banks. It would make no difference, as it does make with the banks, whether the securities it bought

had a high or a low yield. In short, nothing could prevent the Commission from pushing money into actual circulation. Reversely, nothing could prevent the Commission from withdrawing money when such an operation was needed.

Thus the main difference to be stressed here, between the two systems, is that the 100% system would not have to waste any time in a depression filling up reserves. A 10% reserve is like a tub only 10% full. A 100% reserve is like a tub always full, so that any more water *must* overflow. While, under the 100% system, it would thus be far easier to get out of a severe depression than under the 10% system, the most important advantage of the 100% system (which will be elaborated in Chapter VII) is that there could not *be* so severe a depression in the first place!

The Commission, in its operations to prevent booms and depressions would watch the official index number. Threats of a price level disturbance could be detected by watching not only the official index (that of the cost of living itself) but also other indications, such as the indexes of wholesale commodity prices, basic commodity prices, sensitive commodities, farm products, non-farm products, producers' goods, consumers' goods, raw materials, finished products; stocks, bonds; production, consumption, trade (including foreign trade); inventories; costs and technological improvements and consequent profits, losses, failures;

debts; employment, unemployment; rates of interest. Information on these and other indexes might supply valuable warnings as to when and in what direction to make adjustments so as to obtain the best results.

Under the 100% system, the growth of the country and of business, being subject no longer to the big jolts of booms and depressions, would probably be much more rapid *on the average* than now. And the banks would share in this added prosperity. Their total business would eventually far exceed their present business.

The growth of the country would be largely registered by the growth of savings and investments and these two (savings and investments) would keep more nearly synonymous than they are now; for the correspondence between them would not be so much interfered with as it is now—that is, interfered with in boom times by loans unwarranted by savings, and in depression times by savings hoarded instead of invested.

What to Buy and Sell

What would the Currency Commission buy or sell? As noted, only occasionally, if at all, would it buy, i. e. rediscount, promissory notes, and then only when asked to do so by the Federal Reserve Banks. It should get rid of such promissory notes as promptly as possible, substituting, if need be, Government bonds or other eligibles. In fact it would,

as already stated, be better not to allow private promissory notes to be dealt in by the Currency Commission at all. As to securities, the Commission should be legally restricted to dealing only in such securities as the Federal Reserve Banks are allowed to buy and sell.

Theoretically, of course, the Commission might deal in anything which can be bought and sold, and could thereby get the same stabilizing results. But the relative effects on individual prices would differ, especially the immediate effects, according to what items were dealt in. So would the effects on interest rates. There would also be obvious practical objections to allowing any and all goods indiscriminately to be dealt in.

Usually the ideal items would probably be short term Federal Government securities as well as foreign exchange and the precious metals.

The 100% System and a Great War

There is one obstacle which no monetary system for stabilization can overcome, and that is a great war. Under the conditions of fiscal stress precipitated by a sufficiently great war, there would doubtless be resort to inflation. For, when it comes to a choice between maintaining stable money and "maintaining national existence," the former would, and should, lose.

The stabilization system here described would be no exception. The course of events in such

a breakdown of the system might be somewhat as follows:

First, the Treasury, in order to get funds for prosecuting the war, would, we may assume, tax the people to the limit and sell its bonds to the limit. Both of these procedures would draw *pre-existing* money from the public into the Treasury from which point it would be disbursed for ammunition, soldiers' pay, food, and other war expenditures. So far, the Currency Commission would probably not need to alter the quantity of money. It should be remembered that, even if the bonds were sold to banks, no new money would be created thereby, such as now happens under our 10% system. That is, the money which the banks would advance to the Government would not be credit money created by them; for they would have no power to create it. It would have to be pre-existing money.

The time would come, however, if the war were great enough, when the Government could no longer collect any heavier taxes nor float any additional bonds except at a low price—i. e. at a high rate of interest; and later it could not float them at all. Then Congress would have to pass a law permitting the Treasury to issue money (or requiring the Currency Commission to buy more bonds with *new* money) *regardless of the price level,* which would thenceforth rise. This would be inflation. Stabilization would cease forthwith.

But this breakdown would, at any rate, not be

unwitting. It would be the result of express Congressional action, making a deliberate choice of evils.

Thereafter the war would be fought by inflation as usual, which is to say at the expense of people having relatively "fixed" incomes. On these classes the high cost of living with wages, salaries, interest, and rent, lagging behind would, as it did in the World War, virtually amount to an income tax of 50 per cent or more. This would be an indirect tax and only dimly recognized as a tax or even as an act of Government. Probably in that surreptitious way alone can Governments obtain the funds needed for a modern great war, because of its tremendous cost.

But, under the system here proposed, the public would at least come nearer to seeing what was happening. In the long run, such clear sight would help the world by making people better realize what war means economically. Aside from the initial destruction of wealth, war means inflation and later deflation, both of which are wasteful if not ruinous.

The total after-costs of the World War since 1920 to the United States alone in terms of lessened productivity have been estimated by Professor Frank G. Dickinson of the University of Illinois (according to newspaper reports) at over 200 billion dollars.

Summary

1. The 100% system could be either unmanaged or managed according to a specific rule.
2. If unmanaged, the dollar would be less erratic than it is now.
3. If managed, the dollar could be made far more stable than by any other means.
4. Assuming management, the Currency Commission would perform three successive tasks: installation, reflation, stabilization.
5. The Commission might well be given power to control hoarding and velocity generally, though it might never have to exercise that power.
6. The 10% system is so unstable that, under it, management of the price level is difficult—especially reflation, as shown by recent efforts.
7. Management would be more easy and accurate under the 100% system.
8. The Currency Commission should deal little or not at all in private loans and as much as possible in short term Government securities.
9. A sufficiently great war would break down any stabilization system.

Chapter VII

BOOMS AND DEPRESSIONS

Introduction

We have now seen how the 100% system would work. But the question remains: what good would it do?

By far the chief importance—at this writing, at any rate—of the 100% system would be its power to mitigate the present depression and, in the future, to lessen not only depressions but the booms which lead to depressions. Even without a permanent Currency Commission, the 100% system would, as has been shown, be helpful; but, in what follows, a Currency Commission is presupposed.

I have previously stated my main conclusions [1] on such economic disturbances, but had not at the time of stating them given attention to the 100% system.

[1] See *Booms and Depressions,* New York (Adelphi Co.), 1932. A short summary of this and other writings, "The Debt-Deflation Theory of Great Depressions," was published in *Econometrica,* Vol. I, No. 4, October 1933. The present chapter is, in the main, a summary of this summary.

Booms and depressions can doubtless, to some extent, be cured and prevented without recourse to the 100% system, but, if my analysis is correct, not so surely, quickly, and easily as under the 100% system; for an underlying cause (or pre-condition) of great booms and depressions is the 10% system itself, as shown in Chapter IV.

The following analysis will show what I regard as the important role played, in this way, by the 10% system. There are, of course, many other factors playing more or less important roles and often put forward as complete explanations.

As explanations of the so-called business cycle, or cycles, when these are really serious, I doubt the adequacy of over-production, under-consumption, over-capacity, price-dislocation, mal-adjustment between agricultural and industrial prices, over-confidence, over-investment, over-saving, over-spending.

I venture the opinion, subject to correction on submission of future evidence, that, in the really great booms and depressions of the past, each of the above-named factors has played a subordinate role as compared with two dominant factors, namely (1) *over-indebtedness* (especially in the form of bank loans), to start with, and (2) *deflation* (or appreciation of the dollar), following soon after; also that, where any of the other factors do become conspicuous, they are often merely effects or symptoms of these two.

Though quite ready to change my opinion, I

have, at present, a strong conviction that these two economic maladies, which may be called the "debt disease" and the "dollar disease" are, in the great booms and depressions, more important causes than all others put together.

The Roles of Debt and Deflation

Disturbances in these two factors—debt and a rise in the purchasing power of the monetary unit —will set up serious disturbances in all, or nearly all, other economic variables. On the other hand, if debt and deflation are absent, other disturbances are, in my opinion, powerless to bring about crises comparable in severity to those of 1837, 1873, or 1929-35.

No exhaustive list can be given of the secondary variables affecting, or affected by, these two primary ones, debt and deflation; but they include especially seven, making in all at least nine variables, as follows: debts, the volume of circulating medium, its velocity of circulation, price levels, net worths, profits, trade, business confidence, interest rates.

The second of these variables, the circulating medium, is, as we know, especially subject to variation under the 10% system.

The chief interrelations among these nine chief variables may be derived deductively, assuming for simplicity that, to start with, general economic equilibrium is disturbed by only the one factor of

over-indebtedness, and assuming that there is no other influence, whether accidental or designed, tending to affect the price level.

Assuming, accordingly, that, at some point of time, a state of over-indebtedness exists, this will tend to lead to liquidation, through the alarm either of debtors or creditors or both. Then we may deduce the following chain of consequences, in nine links:

(1) *Debt liquidation* leads to *distress selling* and to

(2) *Contraction of check-book money,* as bank loans are paid off, and to a slowing down of velocity of circulation. This contraction of checking deposits and of their velocity, precipitated by distress selling, causes

(3) *A fall in the level of prices,* in other words, a swelling of the value of the dollar. Assuming, as above stated, that this fall of prices is not interfered with by reflation or otherwise, there must be

(4) *A still greater fall in the net worths of business,* precipitating *bankruptcies* and

(5) *A like fall in profits,* often turning them into losses, which, in a "capitalistic," that is, a private-profit, society leads the concerns which are running at a loss to make

(6) *A reduction in output, in trade, and in employment* of labor. These losses, bankruptcies, and unemployment, lead to

(7) *Pessimism and loss of confidence,* which in turn lead to

(8) *Hoarding and slowing down still more the velocity of circulation.* The above eight changes cause

(9) *Complicated disturbances in the rate of interest*—in particular, a fall in the nominal rates of interest, that is, the rates expressed in terms of money, and a *rise* in the real rates of interest, that is, the rates translated into terms of commodities which money will purchase.

This deductive reasoning has been largely confirmed by inductive studies. Evidently, then, debt and deflation go far toward explaining a great mass of phenomena in a very simple, logical, way.

It should be noted that practically *all the events listed occur through* a contraction of check-book money.

But the above chain of causes, consisting of nine links, includes only a few of the interrelations among the nine factors. There are other interrelations which can be demonstrated both rationally and empirically, and doubtless still others which cannot, at least as yet, be formulated at all. There must also be many indirect relations involving variables not included among the nine groups.

One of the most important of such interrelations, one which is independent of any changes in the price level, is the direct lessening effect on trade caused by a lessened circulating medium and its lessened velocity. That is, a shortage of money such as the recent shortage of 8 billion dollars of check-book money, *slows down trade at once without waiting*

to do so through a falling price level. One evidence of this is the fact that trade has been revived locally by emergency money without any raising of the price level.

In actual chronology, the order of events varies, of course, from the above order, and there are numerous reactions and repetitions of effects.

The contraction of check-book money, "(2)", while a cause of "(3)" to "(8)" inclusive, is itself an effect of "(1)." It is doubtless also affected by many of the items which it affects. Any exhaustive statement as to the order of cause and effect is impossible.

Debt and Deflation Aggravate Each Other

It is conceivable that over-indebtedness might stand alone, that is, be unaccompanied by a fall of prices. This supposes that the tendency toward falling prices has been somehow counteracted. This might happen from anti-deflationary forces (whether by accident or design) such as increased quantity of circulating medium. The resulting "cycle" would then be far milder than when both the debt disease and the dollar disease exist at one time.

Likewise, when a deflation of the price level results from other causes than debt, that is, when the dollar disease exists alone without any debt disease, the resulting evils are much less. It is the combination of both—the debt disease coming first and

precipitating the dollar disease—which works the greatest havoc.

This is because the two diseases act and react on each other. Medical men are now finding that a pair of diseases are sometimes worse than the mere sum of both, so to speak. And we all know that a minor disease may lead to a major one. Just as a bad cold leads to pneumonia, so over-indebtedness leads to deflation.

The deflation effect is largely due to the inadequate bank reserves under the 10% system. In Chapters III and IV we have seen how liquidation of bank loans and withdrawal of cash destroys check-book money. This deflation of money, in turn, deflates the price level and business.

And, vice versa, the deflation of the price level, caused by the debts, reacts on each debt. Each dollar of debt still unpaid becomes bigger. A lower price level means a bigger dollar. The liquidation may even defeat itself. While it diminishes the number of dollars owed, it may not do so as fast as it increases the value of each dollar still owed. Then, *the very effort of individuals to lessen their burden of debt increases it, because of the mass effect (of the stampede to liquidate) in magnifying each dollar owed.* Then we have the great paradox which seems to me to be the chief secret of most, if not all, *great* depressions: *The more the debtors pay, the more they still owe* in terms of real commodities. The more the economic boat tips, the more it tends to tip. It is not tending to right itself. It has tipped so far that it is capsizing.

In this "capsizing" type of depression, the worst of it is that real incomes are so rapidly and progressively reduced. Idle men and idle machines spell lessened production and lessened real income, and real income is the central factor in all economic science. Incidentally, this under-production occurs at the very time that there is the illusion of over-production.

What Is Over-Indebtedness?

In this rapid survey, I have not discussed what constitutes over-indebtedness. Suffice it here to note that (a) over-indebtedness is always relative to other items—to national wealth and income, to bank reserves in general, and to gold in particular, when a gold standard exists; and that (b) over-indebtedness is not a mere one-dimensional magnitude, to be measured simply by the number of dollars owed. It must also take account of the distribution in time of the sums coming due. Debts due at once are more embarrassing to the debtor than debts due years hence; and those payable at the option of the creditor, than those payable at the convenience of the debtor. Thus, debt embarrassment is especially severe in the case of call loans and in the case of early maturities.

But for practical purposes, we may roughly measure the total debt embarrassment of the people by taking the total sum currently due, say within the current year, including rent, taxes, interest, installments, sinking fund requirements, maturities and any other definite or rigid commitments for payment on principal.

And this is where the 10% system comes in and starts most of the trouble; for a great mass of the debts currently due consists of short-term, demand, and call, bank loans.

Illustrated by the Depression of 1929-35

The depression out of which we are now (I trust) emerging is an example of a debt-deflation depression of the most serious sort. The debts of 1929 were the greatest known, both nominally and really, up to that time, and some ten billions were call loans.

They were great enough not only to "rock the boat" but to start it capsizing. By March 1933, liquidation had reduced the debts nominally about 20 per cent, but had increased the business man's dollar, measured in wholesale prices, about 75 per cent, so that his *real* debt, that is, the debt as measured in terms of commodities, was increased about 40 per cent [(100% — 20%) × (100% + 75%) = 140%].

Unless some counteracting cause comes along to prevent the fall in the price level, such a depression as that of 1929-35 (namely a depression in which the more the debtors pay the more they still owe) tends to continue, going deeper, in a vicious spiral, for years. There is then no tendency of the

boat to stop tipping until it has capsized. Ultimately, of course, but only after almost universal bankruptcy, the indebtedness must cease to grow greater and begin to grow less. Then comes recovery and a tendency for a new boom-depression sequence. This is the so-called "natural" way out of depression, via needless and cruel bankruptcy, unemployment and general poverty.

On the other hand, if the foregoing analysis is correct, it is almost always economically possible to stop or prevent such a depression, simply by substantially restoring the volume of money which has been destroyed, which means reflating to substantially the proper price level, and then maintaining that level unchanged. The creation of more money increases buying, which includes buying labor, i. e. re-employment, raises prices, increases profits and so, again increases employment.

That the price level is controllable is not only claimed by monetary theorists but has recently been evidenced, for instance, in Sweden, England, Norway, Denmark, Australia, Argentina, Japan. American and the more recent Belgian experience may also be cited.

If this is true, it would be as silly and immoral to "let nature take her course" as for a physician to neglect a case of pneumonia. It would also be a libel on economic science, which has its therapeutics as truly as medical science has.

If reflation could reverse the deadly down-swing of deflation after nearly four years, when the disease

was gathering momentum, it would evidently have been still easier to stop it earlier. In fact, under President Hoover, recovery was apparently well started by the Federal Reserve open market purchases, which revived prices and business from May to September 1932.

Unfortunately, the efforts were not kept up and recovery was stopped by various circumstances, including the political "campaign of fear."

It would have been still easier to prevent the depression almost altogether. In fact, in my opinion, this would have been done by Governor Strong of the Federal Reserve Bank of New York, had he lived, or by his successors after his death, if his policies had been embraced and then pursued consistently by other banks and by the Federal Reserve Board. In that case, nothing worse than the first crash would have occurred. We would have had the debt disease, but not the dollar disease—the bad cold but not the pneumonia. The deflationary tendency described in Chapters III and IV, under the 10% system, would have been overcome.

It would have been still easier to effect prevention. This would have been easiest of all had there been a 100% reserve system in 1929; for, in that case, there would have been no need for open market operations to produce large "excess reserves," i. e. reserves above 10%. Reserves to start with would already have been not only above 10%, but 100%, and any open market operations would have acted on business and the price level directly

and promptly instead of, as now, merely piling up unused reserves, which are powerless to act until a good deal of slack is taken up.

Debt Starters

The over-indebtedness hitherto presupposed must have had its starters. Over-indebtedness may be started by many causes, of which the most common appears to be *new opportunities to invest at a big prospective profit,* as compared with ordinary profits and interest. Such new opportunities occur through new inventions, new industries, development of new resources, opening of new lands or new markets. When the rate of profit is expected to be far greater than the rate of interest, we have the chief cause of over-borrowing. When an investor thinks he can make over 100 per cent per annum by borrowing at 6 per cent, he will be tempted to borrow, and to invest or speculate with borrowed money. This was a prime cause leading to the over-indebtedness of 1929. Inventions and technological improvements created wonderful investment opportunities, and so caused big debts. Other causes were the left-over war debts, domestic and foreign, public and private, the reconstruction loans to foreigners, and the low interest policy adopted by our Federal Reserve Banks for the adventitious purpose of helping England get back on the gold standard in 1925.

Thus each case of over-indebtedness may have

its own starter or set of starters. The chief starters of the over-indebtedness leading up to the crisis of 1837 were connected with lucrative investment opportunities from developing the West and Southwest in real estate, cotton, canal building (led by the Erie Canal), steamboats, and turnpikes opening up each side of the Appalachian Mountains to the other. Of the over-indebtedness leading up to the crisis of 1873, the chief starters were the exploitation of railways and of western farms following the Homestead Act. The over-indebtedness leading up to the panic of 1893 was chiefly relative to the gold base which had become too small, because of the injection of too much silver; but the panic of 1893 seems to have had less of the debt ingredient than most cases, though deflation played a leading rôle, with cumulative effect because of a previous quarter of a century's almost continuous deflation.

When the starter consists of new opportunities to make unusually profitable investments, the bubble of debt, especially bank loans, tends to be blown bigger and faster than when the starter is some great misfortune, like an earthquake causing merely non-productive debts. The only notable exception is a great war and even then chiefly because, after it is over, it leads to productive debts for reconstruction purposes.

This is quite different from the common naïve opinions of how war starts depression. If the present interpretation is correct, the World War need never have led to a great depression. It is very true that

much of the war-time inflation was probably unavoidable because of the exigencies of governmental finance; but the subsequent undue deflation could probably have been avoided entirely.

Four Psychological Phases

The public psychology of going into debt for gain passes through at least four more or less distinct phases: (a) the lure of big prospective profits in the form of dividends, i. e. *income* in the future; (b) the hope of selling at a profit, and realizing a *capital* gain in the immediate future; (c) the vogue of reckless promotions, taking advantage of the habituation of the public to great expectations; (d) the development of downright fraud, imposing on a public which had grown credulous and gullible.

When it is too late, the dupes discover scandals like the Hatry and Kreuger scandals. At least one book has been written to prove that crises are due to frauds of clever promoters. But these frauds could seldom, if ever, have become so great without the original starters of genuine opportunities to invest lucratively. There is probably always a very real basis for the "new era" psychology before it runs away with its victims. This was certainly the case immediately before 1929.

Concluding Remarks

The general correctness of the above "debt-deflation theory of great depressions" is, I believe,

evidenced by experience in the present and previous great depressions. Future studies by others will doubtless check up on this opinion. One way is to compare different countries simultaneously. If the "debt-deflation theory" is correct, the infectiousness of depressions internationally is chiefly due to a common gold (or other) monetary standard and there should be found little tendency for a depression to pass from a deflating to an inflating, or stabilizing, country.

A study[2] has been made to test the last named hypothesis and it has been found to be substantially correct. For instance, it was found that, in the depression of 1929-35, when one gold standard country had a depression with a rising value of gold, all gold standard countries were practically sure to catch the contagion, because prices fell alike in all. But silver standard countries and countries with a managed paper currency escaped, as their price levels were rising or stable. Later when American silver purchases raised the value of silver, thus raising the value of the Chinese silver money, China, with her silver standard, began to have a depression

[2] See "Are Booms and Depressions Transmitted Internationally Through Monetary Standards?" *XXII Session de l'Institut International de Statistique,* London, 1934, by Irving Fisher (reprints, 460 Prospect Street, New Haven, Conn). See also (same author) *Stabilizing the Dollar,* Macmillan Co., New York 1920, Appendices, pp. 285-397, and "A Compensated Dollar," *Quarterly Journal of Economics,* February 1913, pp. 213-235.

exactly as gold standard countries had had depression from a rising value of gold.

In the above analysis it is clear that one essential link is a reduction in check-book money. In still more detail it was shown in Chapter IV how such a reduction is caused by the contest for cash between banks and the public.

If the reader is convinced that this analysis is substantially correct, he cannot but be convinced also that the 10% system is largely responsible for the development of depressions. For, under a 100% system, the liquidation of bank loans could not, as we have seen, reduce the quantity of money by a single dollar. With plenty of money, there could be no great fall of prices, and without a fall of prices, the subsequent links in the depression chain would be almost non-existent.

Moreover, under the 100% system, the depression could never get so big a start since the preceding boom and over-indebtedness would not be so great.

This does not mean that, under the 100% system, there would be no booms and depressions whatever. It means simply that they would be vastly less severe. The 100% system would not prevent the little ripples, but it would probably prevent all, or at least, most, of the great overwhelming waves.

Chapter VIII

SIGNIFICANCE TO BUSINESS

The "Accommodation" of Business

In flattening out booms and depressions, there would be two specific services rendered by the 100% system to business—including industry, agriculture, labor, and every other economic interest. These two great services would be: providing a dependable unit for time contracts and freeing the supply and demand of such time contracts—specifically loans—from the interference now caused by booms and depressions.

The first of these two functions—stabilizing the dollar—has been described in the last two chapters. The present chapter will be devoted to the second of the two functions—rectifying the supply and demand of loan contracts. This is what was aimed at in the Federal Reserve Act, under the head of "accommodating business."

Many will find it hard to believe that the 100% system could facilitate bank loans; for they think that the 10% system facilitates these loans by manufacturing loan funds out of thin air. In Chapter V we have seen several reasons why this argu-

ment is fallacious. In particular, we have seen that, even if the quantity of money were kept stationary, bank loans could, under the 100% system, expand with savings, to any legitimate extent. Savings, which of course increase with prosperity, would not only not be killed, but would be nurtured into new life and growth, with the growth of prosperity under the 100% system.

The added savings, in order to constitute loanable funds, could, besides being in the form of savings or time deposits, be in the form of added bank capital. And, besides these two forms, they could take many other forms, such as investments in investment trusts.

As has been said, it is not a healthy situation when banks lend money without being sure there is already money to lend. And the 10% system is only tolerable when, as in fair weather, the Smiths who borrow happen to match the Joneses who save and pay. We have also seen that, under the 100% system, we would take no chances that these two might not balance; they would have to balance, for the banks could not lend money unless they had money in hand to lend—either their own or that of somebody else wishing to lend it.

The only alteration in the supply of money would be through the Currency Commission in the interest of the nation and in accordance with some specific criterion for insuring that interest. It could no longer be merely in the interest of a bank, a merchant, or a speculator.

What the Accommodation Would Cost

But would not the accommodation cost the borrower more under the 100% system, inasmuch as he might have to get his note rediscounted once, if not twice? At any rate, would he not have to pay a higher rate of interest because of the 100% system?

Perhaps the *nominal* rate would rise at first, and perhaps not. But, in any case, the *real* rate would certainly fall; because (assuming that the system was started in a depression, which is the only time it could, in practice, probably be adopted) the first act of the Currency Commission would be to raise the price level. During such "reflation" the rate of rise of the price level (rate of fall of the dollar) would have to be subtracted from the nominal rate of interest (i. e. the rate in terms of money). Only thus could the real rate, or rate in terms of goods, be calculated.

For instance, if, on a one year loan, the nominal rate were 6% and if the price level rose in that year (i. e. the dollar fell) 1%, the *real* rate of interest would be only 5%. That is, the borrower who today borrowed, say, $100 at 6%, would next year repay $106 but these 106 next year's dollars would be worth only $105 of this year's dollars.[1]

After reflation would come the advantages—to debtor and creditor alike—of greater stability.

[1] See: Irving Fisher, *The Theory of Interest*, New York, Macmillan Co., 1930.

Under the 10% system, the unreliability of the dollar incessantly raises and lowers the rates of interest—especially the *real* rate. In a boom, while the dollar is depreciating, the real rate is often below zero—temporarily a benefit to the borrower, but luring him into excessive debt and ending in depression and deflation with a real rate of interest sometimes above 50%.

Even were it true that the nominal interest rates under the 10% system are lower than they would be at first under the proposed 100% system, this cheapness is now a delusion and a snare, mainly because the 10% system entails booms and depressions. Under such a system, the borrower loses far more than he could gain by nominally easy money, supposing this to be provided. He often loses his solvency; he often can get no loan at all at any price; often he cannot renew a loan when he most needs to and when he had been promised a renewal —and would not have borrowed without such a promise. The average small borrower would, in the long run (which would include depressions) probably be better off under the 100% system, even if he had to pay a nominally high rate all the time instead of the low rates which I would expect to prevail under the 100% system. He would always have loans available at some price, whereas now he often finds none available at any price whatever. It is when this happens—when the business man cannot get, or get extended, the loan he so much needs—that he suddenly finds his business in the

hands of the banker. This is usually harmful to the business man, the banker and the public.

The 10% System Distorts Interest

Under the 10% system, the borrowing and lending do not usually come into equilibrium at the proper rate of interest to clear the market.

This is chiefly because, as has just been seen, changes in the price level play havoc with the rates of interest, especially the real rates. But it should also be noted that, even when the price level is, for a time, successfully stabilized under the 10% system, the very effort to accomplish this by manipulating the rates of interest,[2] in the face of the handicaps of that system, necessarily requires some distortion of the rate of interest from normal, that is, from the rate which the mere supply and demand of loans would have produced. This is because, when the Federal Reserve Banks raise or lower the rate of interest for the purpose of preventing inflation or deflation, such raising or lowering necessarily interferes somewhat with the natural money market.

In fact, after Governor Strong died, his stabilization efforts almost died with him, just because, in pursuing his stabilization policy, he had trodden on the toes of bankers by thus using the rate of interest for an ulterior purpose, "upsetting the bond

[2] See, in Chapter VI, "The 10% System Relatively Unmanageable."

market" and often "cluttering up" the Federal Reserve Banks with Government bonds not really wanted by them for investment purposes but practically thrust upon them by Strong's policies. It is true that the hostility thus aroused was chiefly because Strong's critics did not appreciate the importance of general stabilization; but it was also partly for the very legitimate reason that, under Strong's management, the rates of interest did not reflect the state of the loan market as they should; there was necessarily some slight distortion.

The 100% System Facilitates Loan Equilibrium by Making the Rate of Interest What It Appears to Be

Under the 100% system the stabilizing function of the Currency Commission would be carried out with far less disturbance to interest rates—even to the nominal or money rates—than is required under the present 10% system. Interest rates would seek their level in a natural way according to the supply and demand of loans, and real rates would not be perverted by misbehavior of money. The Currency Commission, merely in performing its one function of maintaining the purchasing power of the dollar, would, incidentally and automatically, register more nearly than is now possible, the correct rates of interest.

It is easy to see why this should be true—that is, why interest rates should be more normal under

the 100% system than they can be under the 10% system.

In the first place, the open market operations would not be as great as they are now. They would always be trivial in comparison; because there would be no wild fluctuations in the volume of money to be combated.

In the second place, as long as the dollar were kept stable, the rates of interest, that is, the terms on which this year's dollars exchange for next year's dollars or those of later years, would more easily seek and find their proper levels without being disturbed by upsets in the price level and the value of the monetary unit.

Let us follow, in detail, some of the influences affecting the rate of interest.

We know that borrowing tends to raise the rate of interest and lending to lower it; likewise that selling bonds (or like obligations to pay money) tends to raise the rate of interest realized on them (by lowering the prices of the bonds) and buying them tends to lower the rate. Selling bonds and borrowing money are equivalent; as are buying bonds and lending money.

With these facts in mind, suppose that, because of a changed psychology (say through some wonderful old fashioned thrift campaign), savings were to grow beyond the capacity of the member banks to find borrowers, thus making the supply of loanable funds, at a given interest rate, greater than the demand, so as not to clear the market.

The result of such a situation ought to be a reduction in the rates of interest, and under the 100% system this would actually be the result.

The banks, flooded with loanable funds, would go to the Federal Reserve Banks and buy bonds (or pay off loans). The Federal Reserve Banks inundated, in turn, by the flood of funds received for these bonds would go to the Currency Commission and buy bonds (or pay off loans). The Currency Commission, in turn inundated with this purchase money and wishing to put it into circulation (to avoid impounding it and producing deflation), would become an active bidder in the open market for bonds and other investments; this extra bond buying or lending would lower the rate of interest, thus discouraging lending and encouraging borrowing. The result would be to curb the excessive supply of loanable funds and to stimulate the deficient demand, until there was again an equilibrium between the supply and demand, and the market was cleared at a lower rate of interest.

Under the 10% system, on the other hand, savings would partly go to paying off commercial-bank loans; and to reduce loans means to reduce checking deposits which means to *reduce the price level*. The effect on the rates of interest would be to reduce them nominally but to increase them really in terms of commodities—a highly abnormal result.

To see the analogous abnormal result in the reverse direction, suppose that because of a changed psychology, the demand for loans exceeded the

supply. Suppose, for instance, that, under the influence of the recent new-fangled spending philosophy there had been a decrease of savings. The result of such a situation ought to be a rise in the rates of interest, and under the 100% system this would actually be the result. The member banks would be asked for more loans than they had money for. They would then apply for loans or rediscounts, to the Federal Reserve Banks which would apply, in turn, to the Currency Commission, which would apply to the public, that is, would become a borrower, or would sell bonds in the open market. All this extra borrowing or extra bond selling would tend to raise the rate of interest; for the sales of bonds, or other claims on the future, would tend to reduce their prices, which means to raise the rate of interest realized in these bonds. When the rate of interest was raised sufficiently to bring the excessive demand for loans down and the deficient supply up, until the two met, the market equilibrium would be regained.

Under the 10% system, on the other hand, the result of such a new and excessive demand for loans might be to swell short term loans of commercial banks, thereby swelling the checking deposits and *raising the price level*. The effect on the rates of interest would be to raise them nominally but (because of the change of price level) lower them really in terms of commodities—a highly abnormal result.

Or, if the change in demand or supply of loans

was not from a changed psychology such as was assumed above, increasing or decreasing thrift, but from changed opportunities for investment, the results under the two systems would also diverge. Under the 100% system the results would again be normal, because uninterfered with by the price-level disturbance. But, under the 10% system, price-level disturbance would again mess up the results.

Suppose, for instance, there were an increased demand for loans because of great expectations of profit to be had through the purchase of common stocks in companies exploiting new and wonderful inventions. That is, people could borrow at a rate much lower than the rate of profit which they expected to make through dividends. Under the 100% system, little harm would result, because the rate of interest, both nominal and real, would rise and restrain the borrower and because there would be no rise in the price level to deceive him into more and more borrowing.

But under the 10% system we would have a rising price level and a boom. The real and nominal rates of interest would then part company. The real rates would fall when they should rise; and the victims would wake up to find that, instead of investing savings, they had been investing imaginary or manufactured funds lent them out of nothing except their own promissory notes. This was what happened in 1929.

Normally, be it repeated, investments come out

of savings. If investments are made out of borrowed money, they should at least come out of somebody else's savings. But, under the 10% system, they may, for an ominous period, seem to come out of thin air, that is, out of inflation. During the war, I remember a speaker urging his audience to buy Liberty Bonds. "You need not save to do this," he assured them, "nor stop spending. You can borrow from your bank all the money you need to pay for the Liberty Bonds you buy. If the bank asks for collateral, they will accept the Liberty Bonds which you buy with the money which they lend you for buying them. It's a sort of perpetual motion." This meant, of course, inflation.

Such "investments" did not come out of the savings either of the so-called "investors" or of the so-called "lenders" (the banks), but, in effect, came out of the forced savings, i. e. reduced consumption, of the public from the resulting higher cost of living.

This sort of false investment and shifted sacrifice is exactly what happens under the 10% system, whether in a Liberty Bond campaign or in a vogue for stock-market speculation. Under the 100% system, not only will savings and investments go hand in hand, as they should, but real and nominal interest will also go hand in hand, as they should. Both investment and interest will follow supply and demand normally, unperverted by changes in the value of the dollar.

In short, to restore to the rate of interest its

proper significance and its function of clearing the loan market would be one of the merits of the proposed 100% system.

Progressive Lowering of the Rate of Interest

Thus, under the 100% system, stabilizing the dollar and allowing the rate of interest to be regulated on true business principles, would be consistent undertakings. And, in a growing society, with the consequent need of a constantly increasing money supply to keep the dollar from appreciating, it is clear that the Currency Commission would, usually, be on the buying side (using new issues of Commission Currency) and that, as its buying would be of bonds and other obligations that would pay fixed sums in the future, such buying (i. e. lending) would exert a steady pressure upward on their prices and therefore downward on the rate of interest represented in those prices.

That is, under the 100% system, there would be, on balance, an annual creation of money which would, in effect, be issued in the form of loans—that is, in purchases of interest-bearing securities. This money-creation would not be inflationary, but confined to the needs of business at the maintained value of the dollar.

This annual increment of loans and the like, from the issue of new money, would be slight. Moreover, as is clear from the preceding discussions, this slight annual increment of loans made with new

money could be greatly added to, not to say, overshadowed by, the volume of savings, irrespective of any new money. The real determiners of the rate of interest would thus be, not so much the operations of the Currency Commission, as those general fundamental principles noted in the title page of my *Theory of Interest* where the rate of interest is said to be "determined by impatience to spend income and opportunity to invest it."

The really great influence affecting interest, which would come from the 100% system, would be the influence of uninterrupted accumulations of savings, resulting in a gradual progressive lowering of interest rates.

Lengthening Loans

An incidental but important effect of the 100% system would be to lengthen the average life of bank loans. Under the 10% system the banks often try to make the terms of loans short to suit themselves, although the borrower wants them longer. That is, the banks need to be "liquid" and to be able, on short notice, to get money in, so as to strengthen their shaky reserves.

Evidently this is another defect of the 10% system and a very serious defect. The length of loans should be such as primarily "to accommodate business," not such as primarily to accommodate banks. As a result of the 10% system—adapted, as it is, to the precarious situation of banks with short reserves

and big demand deposits—bank loans are today abnormally short in term.

Many capital loans are needed, *more* than are available. In fact, in order to get business, commercial banks often have to promise, in advance, to renew their short loans. Usually the promise is oral and, if inconvenient to keep, is easily broken, often breaking the borrower as well. Sometimes borrowers keep accounts at a number of banks in order to shift, or "rotate," loans which they need to extend. But when all the banks want payment at once, the borrower's needs cannot be satisfied by shifting loans.

Under the 100% system, this difficulty in getting renewals, one of the present great drawbacks to business, would not be so much in evidence. The borrower would be better able to stipulate in advance for the length of loan he desired, because his own business requirements would not be overborne by the "liquidity" requirements (which practically means reserve requirements) of the banks. Moreover, the schedule of payments would not be a fiction, as it so often is now, but a program, like the schedule of payments into a sinking fund on long term bonds, something to be adhered to as a matter of course.

The present system of ostensibly short term loans is especially disappointing in a depression. Recovery from depression requires long capital loans, not short commercial loans. But the banks require the

opposite. Hence the allegation of business that it can't get loans, and, of banks, that they can't make them.

And in depressions loans tend to become frozen in spite of the banks. Mr. Hemphill observes that, in previous depressions, recovery has begun with the more venturesome banks, usually in country districts, starting the ball rolling by giving their customers what they wanted—capital loans. These banks have practically all been wiped out by the present depression, making that type of recovery impossible.

Thus the 10% system is incapable of giving the long term capital loans which the business and industrial world needs, and those banks which attempt to grant such long term loans get snuffed out.

And not only depressions make loans frozen and so make banks fail. Even in normal times there is a progressive tendency toward frozen loans. If at first only 5% of a bank's portfolio consists of renewals, it will not be long before another 5% will creep in because capital loans are the ones most needed and most asked for while the bank, hungry for business, will grant them to some extent in spite of itself. They will do this under the guise of short term loans with promise of renewal. In this way another 5% is soon added. Thus, with constant additions to long term loans and few subtractions, the tendency is to make almost the whole

portfolio frozen in the end. The result is a progressive tendency toward non-liquid assets while the liabilities—demand deposits—remain fluid.

Until recently this progressive tendency of our commercial banks to freeze has been offset in part by the annual creation of new banks adding to the circulating medium; for, when the public is well supplied with circulating medium they tend to borrow and deposit all the more. But with the cessation of the creation of new banks the tendency to freeze becomes dominant.

Thus the long term loans problem has many serious sides, and the fact that the 100% system would make such loans possible and safe is not the least of the merits of that system.

Less Loaning—More Investing

In keeping with longer loans would be an encouragement of investing in preferred stocks or common stocks. This is simply one step beyond the replacement of demand deposits by time deposits. Commercial banking would gradually tend to become investment banking in all its forms and perhaps in new forms corresponding to what the public wants instead of what the bankers, in their 10% strait-jacket, now need.

All this does not mean that borrowing would cease or even that short term borrowing would cease; but simply that the relative importance of short term loans in bank portfolios would decrease. Under our present system, short term loans often become frozen loans.

Summary

The significance, then, to business of the 100% system would include: (1) a stable dollar; (2) the mitigation, or even practical abolition, of *great* booms and depressions; (3) facilitating normal loan operations, with supply and demand balanced, and with loans always available *at a price;* (4) keeping the nominal and the real rates of interest together; (5) making savings and investments more nearly equal; (6) permitting a steadier and greater accumulation of savings and steadier, as well as ultimately lower, rates of interest; and (7) adjusting the length of loans so as to accommodate the business man rather than the banker.

CHAPTER IX

SIGNIFICANCE TO BANKING

Reimbursing Commercial Banks

As stated in Part I, the banks should be reimbursed in some way, at least at the start, for being required, under the 100% system, to keep idle (from their standpoint) the additional reserve of new money substituted for the earning assets which they would be required to hand over to the Currency Commission.

At first it might seem that this compensation would be very great—nearly equal (except in the case of Federal Reserve Banks) to the earnings from the assets bought by the Currency Commission. In fact, these earnings might seem to be the exact measure of the loss sustained. But further consideration suggests that a very much smaller amount would be ample, in fact that, in the long run, the banks would experience no net loss but would realize a gain.

In the first place, under the present system, the bankers must devote a great deal of time, effort, and expense to keeping track of the transfers and balances of the checking depositors. Under the

100% system the depositor might be required to pay a small service and warehouse charge to the bank for keeping his money and for keeping track of its transfers by check.[1] In Germany, where the operation of the Postal Checking System has furnished a precedent of many years' successful operation of a 100% system, a law was passed in December, 1934, which provided for such service charges and greater control by a Government Credit Control Bureau over the creation of credit by the banks. This Central Bureau has the power to determine the use and amount of service charges.

At the present writing it appears that the banks could reach 100% simply by selling 10 billions of Government bonds, thereby foregoing some $300,000,000 of annual interest which could be more than balanced by a service charge for each individual checking deposit account.[2]

[1] Or the cost might well be borne, in whole or in part, by the Currency Commission on the same principle of public service which has resulted in removing "brassage" charges at the mint and substituting gratuitous coinage at the expense of the government. Still a third way (letting the banks continue for awhile to receive the revenues from their displaced assets) is noted below.

[2] Banks already apply a service charge when the average monthly balance in an account falls below a certain minimum. This minimum balance and the service charge vary according to location and type of banking of the bank and the activity of the account. The larger banks even maintain Analysis Departments which calculate the actual cost to the bank of individual accounts.

In the second place, under our present system, banking is a very risky affair. The 100% system would reduce this risk to zero in the case of the checking-deposit business; for the banks would no longer be compelled, at times, to make their reserves sufficient by suddenly and drastically calling loans. This means that they would no longer suffer from those periodic losses which now come inevitably because of great depressions.

In the third place, and, as a consequence of the risky nature of banking, some of the securities held by the banks, being highly liquid for fear of runs, now earn next to nothing. Under the entirely riskless 100% system, such securities could essentially be replaced by assets earning bigger returns.

In the fourth place, whatever income would be lost from winding up the business of lending short term money on the basis of deposits subject to check would eventually be made up—probably several times over—by increased lending of longer-term money on the basis of time, or savings, deposits, not to mention increased investments.

In view of these considerations, it is not likely that the profits of an average bank, operating under the 10% system for a period of 10 to 20 years, including depressions, can amount to much. In fact, if they did, we would see a great rush of capital into the commercial banking business. Instead, we have seen thousands of such banks failing.

Even in the best years, bank profits are less than would appear at first glance. On June 30, 1926, the

individual deposits subject to check in National Banks were given as $9,800,000,000, their capital and surplus as $2,600,000,000, and their entire net profits as $249,000,000. At least some of this profit would continue under the 100% system; for the banks would still be free to lend their own capital and surplus. If a normal return on their own capital and surplus of $2,600,000,000 is 5%, or $130,000,000, and if more than this sum could be earned under the 100% system from savings-deposit business and otherwise, this would leave less than $119,000,000 (out of the $249,000,000) to be attributed to the privilege of lending the reserves several times over. $119,000,000 would be equivalent to only about 1.2% of the $9,800,000,000 of checking deposits in 1926, which was an unusually prosperous year.

This means that the banks' original inherent advantage of being allowed to lend out the actual money deposited with them ten times over has long since been exhausted. The really big profit was squeezed out long ago. The very effort, under competition, to get that profit has reduced it—by offering interest on deposits and otherwise.

As was noted in Chapter III, today a newly established bank, starting with, say, one million dollars of actual money deposited in it, could not possibly, as many falsely suppose, show a balance sheet of $1,000,000 reserve and $10,000,000 deposits (and $10,000,000 loans and investments). Instead all these three figures would shrink nearly

to one-tenth—that is, nearly to $100,000 reserve and $1,000,000 deposits (and $1,000,000 loans and investments). The reason is that the bank cannot prevent most of the money spilling over into the other banks of the country.

Computing Fair Reimbursement

Of course, the question of a fair appraisal of the loss caused by replacing earning assets with non-earning assets is too technical to be fully discussed and perfectly solved here. Banking experts would have to work it out on the basis of existing records, including bad years as well as good—records of such items as profits, losses, failures, dividends, assessments, interest paid by the banks on checking deposits as compared with interest paid to them on loans, requirements for a minimum deposit as a precondition for a loan, and the market price of bank stocks as compared with their liquidation value.

But we need not wait for such expert appraisal; for we need not, at least to begin with, install the 100% system in its purest form. The "compromise" plan described in Chapter II could be adopted almost overnight as a temporary expedient or even as a permanent solution of the problem. Under this plan, Government bonds would count as cash.

It would be necessary only to limit properly the volume of the bonds which could be so used by the banks as a whole. The simplest limitation would be

to keep that volume at a fixed figure. Above this fixed amount every additional dollar of check-book money would have to represent an additional dollar of actual money, just as, according to the English law, beyond the prescribed amount of Government securities held by the Issue Department of the Bank of England, every additional pound sterling of notes must represent an additional pound sterling of gold.

Under this plan, it would be further provided, as indicated in Chapter II, that the bonds could be exchanged for cash at a moment's notice or, what amounts to the same thing, that they could be used as collateral for emergency loans from the Federal Reserve Banks with interest.[3] At maturity, the bonds would be refunded; or other sources of revenue, such as service charges, would be substituted for the interest on the bonds.

The issue of the new money (or credit) would involve no new taxes and the exchange of interest-bearing obligations for non-interest bearing obligations would even reduce the taxes. We could, therefore, well afford to be generous to the banks; but it would be wasteful to give the banks any unreasonable reimbursement. And, under this compromise plan, a main source of revenue for the banks, the $300,000,000 of interest which they now derive from Government bonds, would be retained intact, for the present at least.

[3] With such super-liquidity, the banks would have every incentive to lend at low rates of interest.

There are many who might be inclined to ask why any sort of reimbursement is suggested for diminished earning power of the banks when much of the present earning power originated in the exercise of a "usurped" prerogative of government, namely to create money. The answers are two. First, so far as possible, any sincere feeling, even if it may, to some others, seem unjustified, on the part of the bankers that they were being unjustly treated, should be removed. (And this conciliatory arrangement would reduce in turn the possibilities of delay due to the opposition of bankers.) Secondly, not only most professional bankers but all who hold bank shares, the general public, have bought those shares in good faith and have a "vested interest" which should be respected, even if a drastic commandeering of check-deposit banking could injure them only temporarily, as would be true. They are "innocent purchasers for value."

Reimbursing Federal Reserve Banks

In the case of the Federal Reserve Banks nothing should, it seems to me, be paid for "goodwill" beyond what, if anything, would be necessary to give them 6% on their capital. This was the profit originally intended and provided for in the Federal Reserve Act. This 6% limitation, for some strange reason, was afterward removed but now has been restored.

These banks were intended to operate regardless

of private profit, in order to help the member banks and general business. Any private-profit motive in central banking is always a source of danger. This is especially true under a 10% system. A central bank, in order to serve other banks, must often take a course exactly opposite to that which would be the most profitable one for itself.

The private-profit motive of central banks has, consequently, become subordinate, even in the Bank of England, which ostensibly has always been a private bank entitled to private profits.

The "Float"

In calculating the deposits of a given bank and of the nation on the date chosen for reimbursement, a difficulty presents itself in the form of the "float," i. e. the checks in transit from one bank to another for collection. When a check for $100 on one bank is deposited in a second, it is credited to the depositor (in the second); but it cannot simultaneously be debited to the drawer (in the first)—it has to wait to arrive and be presented. Meanwhile the total deposits of the first bank (on which it is drawn) and so the total for the nation, are exaggerated by $100.

The most accurate way to arrive at the correct figure for checking deposits in each bank on a specified date, would be to forbid, from that date, for a reasonable period, any checks to be credited until they were collected, that is, to use the system of

"deferred credit." Another way would be, instead of using any particular date for calculating deposits, to take an estimated average, through a period of time, subtracting a fair estimated average of "float" against each bank from a fair average of its recorded deposits. And there are other ways.

100% Reserve Behind Bank Notes?

In the illustrative tables given in Chapter IV, bank notes (Federal Reserve notes and National Bank notes) were, for simplicity of exposition, treated like checking deposits and were assigned a 100% reserve in Commission Currency. But there would be little need of putting Commission Currency behind bank notes—one sort of paper money behind another. Of course, this *could* be done and then the old paper could be redeemed in the new so that ultimately only one form of money (Commission Currency) would exist in the country. Such a simplification would have a strong appeal to sentiment. But, from a practical standpoint, we might well be content to let these pre-existing bank notes alone, merely limiting them to the amount outstanding when the 100% law went into effect and including them as "lawful money," just as we have allowed the $346,000,000 of "greenbacks" to continue after limiting them to that figure sixty years ago. Similar considerations apply to the silver certificates and other items in our present miscellany of paper money. It is often well to let a sleeping dog lie.

Deposit Insurance

Two special banking reforms have recently been suggested: deposit insurance and branch banking; and the former (deposit insurance) has been largely provided for in a statute.[4]

As a temporary expedient, deposit insurance was a helpful measure designed to get us out of the depression. But, in the case of State banks, experience shows that insuring deposits has usually increased the risk insured against, by encouraging careless banking. That is, insurance against risk is apt to be relied on so much that the previous direct efforts to avoid risk are apt to be relaxed, especially if the direct efforts are costly, as they are under the 10% system.

For instance, there are expenses for investment experts, for credit studies, and for many other factors; and the tendency is to shirk these high costs as soon as the individual bank finds them unnecessary—as it does under a deposit guarantee. The result has often been to reduce the safeguards against risk while, at the same time, increasing that risk. Deposit insurance is at present adding safety, but that safety may yet turn into danger, if we retain the already inherently dangerous 10% system.

[4] Glass-Steagall Permanent Banking Law, being No. 66 of the 73rd Congress. See also the Banking Act of 1935.

In the case of deposit insurance, it is the big banks, not the little ones, which have reason to tremble. For it is the big banks which, in case of failure, will have to bear the brunt of the cost of deposit guarantee.

The 100% system would save them that cost No better deposit insurance could be had than a 100% reserve.

Branch Banking

Not only would the 100% system save the big banks from something which they dread; it would also save the small banks from something they have always dreaded—branch banking. The great virtue of branch banking is an added safeguard against bank runs and bank failures. This is a virtue indeed and, on account of it, if we adhere to the 10% system, branch banking should become general. But in this country, with its traditions of local independence, branch banking would, in many localities, be of doubtful benefit. It would spell absentee ownership and big-bank domination, both of which are particularly obnoxious in America. The 100% system would supply a much better safeguard against runs and failures than would branch banking.

The small independent banks, therefore, have special reasons for favoring the 100% system, both as affording the greatest safety and as affording an escape from the menace of branch banking.

Small Town Deposit Banking Under the 100% System

In a small town without other deposit-banking facilities, the Government might well take special steps to provide the facilities of checking deposits, by subsidies, or by using the Post Office, if that should seem the better way.

If in any community there would otherwise be a complete withdrawal of banking facilities, including loan banking, branch banking should be encouraged; for, in such cases there could be no valid objection by small banks or by anybody else. On the contrary, a small loan bank which would otherwise go out of business might be saved from so doing by the opportunity to become a branch of a large bank.

This is not the place to discuss in detail the American problem of small banks. I will only emphasize one point, that the 10% system is more dangerous where there are many independent banks than where there are few. Where there are few big banks with many branches, as in England, the bankers are more conscious of the pyramiding of loans described in Chapter III and guard against it.

It is significant that the United States is the only country which, in this depression, suffered from *general* bank failures, and accordingly we suffered more than any other country from contraction of check-book money.

In short, the need of the 100% system is far greater in the United States than in any other country. One of the best authorities in this field writes me as follows:

"I am very enthusiastic about the idea of equilibrating new savings and new loans (or investments) and agree with you fully that this is probably the most important foundation of a satisfactory monetary system. Indeed I think that it is the nucleus of both monetary and banking reform. In a country with an efficient central bank and a small group of efficient commercial banks (e. g. England or Sweden) I feel that such an ideal, once it is clearly realized, can be attained without any substantial change in the existing laws and regulations, and certainly without the enactment of a 100% reserve requirement. But, in the United States, with its thousands of heterogeneous banking institutions, I fully agree that a 100% reserve requirement is the best way of attaining the desired ideal. That is the real basis of my enthusiasm for the suggestion."

Avoiding Future Evasions

It has been suggested that, just as the (partial) 100% system, imposed on the Bank of England in 1844 as to notes, was evaded by recourse to checking deposits, so the 100% system as to deposits might be evaded in some way so that the danger of inadequate reserves would reappear.

We ought, therefore, to be on our guard to prevent any other sort of circulating media from becoming a means of evasion. Checking deposits of state banks would have to be controlled by the Federal Government, if not forbidden. That they will some day even be declared unconstitutional has been predicted in some interesting books [5] written by Mr. M. K. Graham, LL.D., a capitalist of Graham, Texas. Whether the Supreme Court would rule that granting checking deposits is technically "coining money" remains to be seen. Perhaps a quicker and better way of dealing with deposits of state banks would be to declare checking deposits a form of interstate commerce and therefore under the jurisdiction of the Federal Government.

Also time deposits or savings accounts might become a means of evasion, unless subjected to some new legal restraint. Especial care must be taken not to permit checks to be used against savings deposits.

Risks of Savings Deposits

On the other hand, savings accounts would be entitled to added safeguards because of their added importance under the 100% system.[6]

[5] *An Essay on Gold Showing Its Defects as a Standard of Value,* M. K. Graham, Texas, Hargreaves Printing Co., Dallas, Texas, 1925. Also see *Continuous Prosperity,* by the same author, Parthenon Press, Nashville, 1932.

[6] For instance, in order to forestall too frequent withdrawals: (1) the reckoning of interest due a "depositor," instead of being based on his average balance since previous reckoning, might be reckoned on his minimum balance since previous reckoning; (2) no interest might be given on de-

In general, the 100% system for checking deposits would tend to add some measure of safety to savings deposits; for the runs on savings banks usually follow contraction of the medium of exchange and the appreciation of the dollar, and, as we have seen, these deflations are largely due to inadequate reserves behind checking accounts and to the quick action of commercial banks to "rectify" the situation at the expense of the circulating medium. Moreover, the short term paper now used to back commercial deposits would become available for backing the savings and time deposits.

Nevertheless, there are strong reasons to believe, largely irrespective of the subject of this book, that a material strengthening of the savings bank provisions, especially as to requiring due notice of intended withdrawals, would, in many cases, be advisable. To discuss this in detail would take us too far afield. Suffice it to quote here the opinion of two able bankers, Mr. F. R. von Windegger, President, and Mr. W. L. Gregory, Vice President, of the Plaza Bank of St. Louis, who in a joint letter to me have endorsed the 100% plan:

"Most of those persons within the Federal System who

posits for which notice to withdraw has been given; (3) competition from Postal Savings banks should be removed or regulated; with the 100% system they would no longer serve any important purpose; (4) limitation should be put on the amounts withdrawable in one month, two months, etc.; (5) the bank should be given power to require extra notice of withdrawal in emergencies.

were actually trying to solve our bank problems had agreed before this last depression that insufficient reserves were carried on savings and time accounts and that the tremendous swing from demand to time accounts had been due largely to an artificial situation brought about by this discrimination in reserves. Actually all of us were treating our savings and time deposits as demand deposits and we still do, except in the matter of our time certificates of deposit. Regulations of the Federal Reserve Board now prohibit our paying or lending on certificates of deposit before maturity. Nevertheless we still pay our savings depositors on demand. It is significant that the heavy runs on banks were engineered by savings and time depositors. When the trouble was at its height in January of 1933, practically every bank in Saint Louis faced heavy withdrawals from persons who were savings depositors and had a minimum of difficulty with the checking depositors. This was true throughout most of the country.

"We believe that we will have to have an entirely new deal on savings accounts and certificates of deposit. We are willing to have you convert that department of our bank into something of the nature of an investment bank, but we can no longer allow our customers to make deposits as formerly. When they bring in their money for deposit in that department they must be told that the situation might arise when they could not be paid on demand or that it would be impossible to buy back the securities issued by the bank at par. What we are getting at is that we believe the banks should handle that department on a basis of issuance to the depositor of a certificate or note with a definite maturity.

"The customer would have to understand that he

could not demand his money at any time and be paid in full. He would have to understand that he is taking a credit risk and that his money will be re-loaned through proper channels, of course, but in such a way that he cannot, by demanding his money, force the savings banker into a drastic liquidation of his loans. Of course, some of this problem can be handled by regulation by the Commission and by arranging the maturities of the banks' obligations. This might mean paying higher interest for disposal of longer maturities."

It can scarcely be too much emphasized that a savings deposit, without the checking privilege, is vitally different from a checking deposit. The savings depositor seldom withdraws, even when withdrawal is made unnecessarily easy, because he prefers to accumulate at interest. Experience verifies this. Savings depositors habitually put money in each week or month, and do not take it out if this can be helped.

The expectation of interest is a great deterrent from any rapid circulation. In the Civil War $50 notes drawing interest at the rate of 1 cent a day were issued and were expected to circulate as money because interest could be so easily calculated that their value day by day was evident. But they would scarcely circulate at all—the 1 cent a day kept them from circulating.[7]

A savings deposit ought not to be called a deposit

[7] The opposite experience with Stamp Scrip is equally instructive. A tax of even one per cent a month acts as an effective prod to rapid circulation.

at all. It is not money, and is not ordinarily used as money. It is merely a "quick asset" like a Liberty Bond which can be more readily sold than ordinary assets. Quick assets could, theoretically, be used instead of money more easily than other assets. That is, barter would be easier for a Liberty Bond than for an unknown stock. But, in practice, even liquid assets are seldom thus used instead of money. They are usually first sold for money and the money then used for the purchase of other things. Savings deposits are no exception, as just indicated. Each dollar in a checking deposit buys about $25 worth of goods a year, while a dollar in a savings account seldom turns over once a year.

In Massachusetts the velocity of turnover of savings deposits of trust companies was at the rate of less than once a year in 1920, less than once in two years in 1924 and less than once in two years in 1931. For the same years the velocity of deposits in savings banks was less than once in 4, 4, and 5 years respectively. That is, demand deposits turn over 25 to 125 times as fast as savings deposits. A savings deposit is an investment, a loan by the "depositor." Even when it is repayable to him on his demand, and even when such demands come to be so numerous as to constitute a "run" on the savings bank, possibly breaking the bank, there is no destruction of our circulating medium thereby. The "innocent bystander" is not greatly harmed as he is when runs on commercial banks occur.

On the other hand, the mere liquidation of com-

mercial bank loans will, as we saw in Chapter IV, destroy a large part of our circulating medium, magnify everybody's dollar and so spread ruin almost universally. Moreover, if we were under the protection of the 100% system, any possible repercussions on the dollar from savings bank runs and failures could be offset by the Currency Commission, through its power to issue or recall money. Finally, be it again noted that, given stability of the dollar, runs on savings banks would be extremely rare.

The Change Would Benefit the Banking Profession

It has already been made clear that there need be no loss, even at the start, to bankers from being required to replace earning assets by non-earning assets and to tie up so much cash.

But the greatest advantages to bankers would be those incident to general prosperity. Bankers prosper as their customers prosper; advantage to bankers from positive and cumulative prosperity would come through their customers, in the form of savings accounts, trust accounts, investments, and otherwise.

It is undoubtedly true that the character of banking would be changed by the 100% system, but the change would be for the better—away from a precarious business with its present terrific ups and downs and toward the safe business of which bankers dream, free from booms and depressions and free from having to let an ostensibly short loan so often become a frozen loan.

If demand deposits were backed 100%, almost all other legal regulations of banks could be abolished.

What Bankers Think

Bankers have usually taken alarm at proposed changes in the banking system, including many changes that have turned out to be for their advantage. This fact has been commented on frequently by a number of economists—publicly, for instance, by Keynes of England and Cassel of Sweden, and privately by at least one of the best authorities in the United States. He cites to me a number of examples in which the bankers were at first on the "wrong side" of banking changes.

Therefore, it seems probable that many bankers, without taking the time to study the proposal for a 100% system, will oppose it. Several have already done so. Nevertheless, it is encouraging to note that a number of bankers are already in favor of it.

One reason why bankers in general will oppose the 100% system is that they do not realize the fool's paradise in which they are now living because of the 10% system. They are blissfully unaware of the risks they carry.

Chapter X

UNJUSTIFIED IDEAS IN BUSINESS AND BANKING

The Idea that the 10% System Makes Loans Easy to Get

There is a figure of speech which pictures the art of lending as a process of liquefying the borrower's assets—enabling his house and lot to circulate.

The most common objection to the 100% system which springs to the minds of critics is the idea that the 100% system would impair this art and tend to "dry up the sources of credit."

It should now be clear that the exact opposite is true. It is the 10% system, not the 100% system, which dries up the sources of credit periodically.

The illusion that the 10% system offers, as an advantage over the 100% system, the ease of obtaining loans is probably due to a very natural confusion between the credit creation *accumulated* through generations and *current* credit creation.

To put the matter in illustrative figures, we may suppose that in 1929 there existed a volume of deposit currency in round figures of 25 billion dollars. Suppose that the bank loans outstanding were

also 25 billions. If these loans averaged three months and were all punctually paid in full, the 25 billions would be lent and repaid four times a year, making one year's loan extension 100 billions.

But, in view of frozen loans and renewals with small "cut-offs" we may better suppose a much smaller figure, say, 50 billions. To provide for normal expansion, we may suppose that, while there are these 50 billions of new loans per year, the repayments of old loans are only 49 billions, so that the annual normal accretion is one billion. With this picture of 25 billions total volume, with a gross addition of 50 per annum and a net addition of one, we are in a position to see the confusions besetting the subject of "easy loan creation." Evidently the real source of the 50 billions annually lent cannot be the one billion of newly created money! Besides this lonely billion newly created (actually now it is even less than 1 billion) there are the 49 billions flowing in by way of repayment of old loans. This repayment is the main source of credit now, and it would still be the main source under the 100% system.

Even more grossly erroneous would be the idea that somehow the 25 billions of credit in existence at any moment are the real source of new loans, although this 25 billions was largely manufactured by the banks by annual accretions through previous generations. As has been seen, none of this accumulation would be lost under the 100% system. It would all be taken over and carried for-

ward by the Currency Commission—and *preserved;* but, under the 10% system, from 1929 to 1933 (four years) the 25 billions shrank in fact by nearly 10 billions or to about 15 billions. Had the 100% system been adopted in 1929, business men would have had the 25 billions available and unimpaired in 1933. And if the Currency Commission found that with only 25 billions the price level tended to fall, or the dollar to rise, it would have prevented this by increasing the 25 by, say, over one billion a year. Thus, in 1933, under the 100% system we would have had, say, 30 instead of 15 billions!

If we take a boom period we find *undue* credit expansion. In either case the 10% system shows to disadvantage. It either creates credit too easily, or shuts it off too drastically. It either inflates or deflates the circulation, causing either a boom or a depression.

How could it be otherwise with some 50 billions new loans each year? How can we be sure, with thousands of individual banks, that exactly 49 billions will be liquidated or exactly 50 billions new loans created? Clearly the new loans might easily be 52 or the liquidation might be 47 or both, increasing the credit by, say, 5 instead of increasing it by 1, or the reverse changes might happen.

"Well," says the objector, "how about *normal* periods?" The answer is that normal periods have rarely existed under the 10% system. The continual ups and downs of the price level prove this. We

can follow our index numbers now for over a century and a half and find only one period of notable stability as long as seven years.

"But," says our objector, "that 15 billions in 1933 was a net product of the 10% system." Yes, and a very small one! It was like the net result of speeding an ocean steamer all day until something breaks and it has to stop the next two days for repairs. If there had been no big booms such as culminated in 1837, 1873, 1920, and 1929 and no big depressions following, the loans in 1933 would not have been 15 billions. They would have been more. How much more we can only guess.

"But," says the admirer of our 10% system, "surely there must have been *some* cases under the 10% system where an individual (in normal periods—neither boom nor depression) could get better loan service than he would have gotten under the 100% system, because, under the 100% system, the bank would be restricted to lending only money already existing and available for lending purposes. Without those restrictions there would surely be times when the banker would have performed a real service by creating the money he lent."

If there is any grain of truth in this view, it is that in rare individual instances under the 10% system (when there happened to be no tendency either to overextend or to overrestrict credit) the granting of a loan under the 10% system might take place a day or two more promptly than would

be necessary under the 100% system. But it is not true that, under the 100% system the money could not be created. As we have seen, it could be created by the Currency Commission. Under the 10% system it often happens that the banks *cannot* accommodate, whereas under the 100% system they could *always* do so.

The Idea of Tying Deposits to Business Debt

The Civil War gave us a "bond secured" currency of National Bank notes. In order to issue notes, the banks were required to hold an equivalent in United States bonds. Thus, the notes expanded or contracted as the Government debt expanded or contracted. Consequently the volume of this currency gradually shrank, as our national debt was gradually paid, quite regardless of the need of the country for currency. To this day, our National Bank-note currency is still tied to certain forms of the debt of the Government.

There is no logic in such a tie. The Government ought to be able to pay its debts without ruinously contracting the bank-note currency of the nation.

Business men woke up some years ago to the absurdity of thus tying together Government debt and bank notes; but too few of them even today recognize the analogous absurdity in its business manifestation, that is, so far as their own debts and bank deposits are concerned.

The average business man is inclined to think:

"Granted that Government debt should not generate money, yet business debts should do so, because such debts enlarge business, and larger business requires larger circulation. This is especially true of commercial loans. These are made when goods are bought, and paid when the goods are sold. The debts correspond to the business. They help make an elastic currency, expanding when business expands and contracting when business contracts."

The 100% system, with a Currency Commission, provides for expansion and contraction *in proportion to the national need*—that is precisely the meaning of a steady price level. On the other hand, under the 10% system, the business-expansion and debt-expansion are *not* in proportion, nor are the two contractions in proportion. Booms and depressions prove the contrary. It is quite true that money should expand and contract as business expands and contracts. That is the main concern of this book. But we need a more genuine matching of money and business than the debt-deposit tie-up can ever give us. An expansion of business loans usually causes check-book money to expand *faster* than business, as is usually shown by rising prices and profits. On the other hand, a liquidation of such loans usually causes check-book money to shrink faster than business, so that the price level and profits usually fall.

It was the mistaken tie between money and debt which spoiled the "elastic currency" dream of the

Federal Reserve System, as to Federal Reserve notes. And the same mistaken tie between money and debt is what prevents recovery in a depression.

People expect business to expand first and money to expand afterward, whereas, in a depression, business needs money to expand *with* and can, under our present system, get it only by going into debt, which few business men then want to do.

This situation, in which business expansion waits for money expansion while money expansion is compelled to wait for business expansion (to generate debt expansion), brings a deadlock. The Government may seek to break this deadlock by going into debt itself. But the business man, obsessed by the notion that business expansion must come first, does not greatly welcome the Government coming to his rescue, seeing little more than higher taxes resulting. He thinks that there is something natural and inevitable, not to say right and proper, in the deposit-debt tie and that he must accept all the consequences with equanimity as a dispensation of Providence in punishment for his supposed sins in previously going into debt too far, just as Orientals accept the plague or the cholera. But the true diagnosis and therapeutics will change all such psychology.

Under the 100% and Money Management system we could practically let business debts alone, to take care of themselves.

Whether they increased or not and whether any increase preceded recovery or followed it, the

needed increase in the quantity of the circulating medium could always be fully provided. This addition would mean more buying, and more buying would mean more buying of labor, or less unemployment. One effect would be to increase trade, another, to raise the price level—and both would spell recovery.

The elastic currency dream of twenty years ago has given place to an elastic credit dream today, which is just as illusory. The whole idea of leaving the elasticity to each of thousands of individual banks is fatuous. It sounds well to say that a short term business transaction requires more credit and that the local bank should be allowed to mint this credit and then extinguish it when the transaction is over. It also sounds well to assert that the only abuse is "speculation" and that this should "somehow" be stopped. But, as long as we leave the adjustment to the individual bank we cannot carry out such a program. Moreover, the program itself is defective; for speculation cannot and ought not to be wholly eliminated.

Moreover, as long as we retain the 10% system by which thousands of individual banks lend or refuse to lend, we shall have sometimes over-lending and sometimes under-lending for the nation as a whole. Under the 100% system, on the other hand, the true adjustment would be easy and without any substantial hardship to the individual borrower. If his credit was good he could get his needed loan with far more certainty than at present. The

mechanism described would be available and not subject to the frequent breakdowns of the present system.

The Idea that Business Expansion Ought to Raise Prices

The tie between money and debt explains the very common notion that an expansion of business tends, in and of itself, to raise the price level and that a contraction of business tends to lower that level. Many business men today consider such a correspondence between business and the price level as axiomatic, presumably because they are used to finding good business associated with rising prices. But, if the volume of the circulating medium were constant, the expansion of business, instead of tending to raise the price level would tend to lower it; and reversely, contraction of business, instead of tending to lower the price level would tend to raise it. It seems probable that, had we had such a constant money system through the generations, business men would have thought it axiomatic that, when business volume is large, prices fall and that, when business volume is small, prices rise.

Many people are so accustomed to think it natural and proper for the price level to rise when business improves and for the price level to fall when business recedes that they are shocked when anyone, in order to check "unnaturally" such rise or fall of the price level proposes to "tinker with

the currency" by checking inflation or checking deflation of money. But we ought to know that one of the chief reasons why changes in business bring about changes in the price level is the 10% system. This causes the banks, by means of business debts, to keep everlastingly tinkering with our currency and so causes unnatural inflations and unnatural deflations.

For, under the 10% system it is true, as we have seen, that an increase in business, by increasing commercial bank loans, and so increasing the circulating medium, tends to raise the price level. And, as soon as the price level rises, profits are increased and so business is expanded further. Thus comes a vicious circle in which business expansion and price expansion act each to boost the other—making a "boom."

Reversely if business recedes, loans and prices also recede, which reduces profits and so reduces business volume—again causing a vicious circle, making a "depression."

But, take away the 10% system and you take away these unfortunate associations between business and the price level.

Under the 100% system, combined with a stable money policy, money would *really* be gauged to accommodate business, expanding as business expands *but no faster*—constituting a true elastic currency. Loans would, of course, in a general way, expand and contract with business, but they would no longer affect the quantity of money in the

slightest degree. Under such a system the price level would neither rise nor fall materially, and not at all as a result of loans.

The Idea that Money Is Abundant in a Depression

Two popular notions, which, in times of depression, are widespread and devoutly believed by many bankers, are that "the trouble cannot possibly be a lack of money, since the public has more money than ever!" And again "it cannot be true that there is any lack of (check-book) money since the banks have excess reserves and more 'money' to lend than people want."

The error in the first statement (that the public has more money) evidently lies in overlooking check-book money, the chief circulating medium.

It is true that in a depression the public increases its *pocket-book* money by withdrawing it from the banks, being led to do so by the fear that the 10% reserves will not hold out. But for every dollar added to *pocket-book* money about ten dollars of check-book money has to be destroyed.

The error in the second statement (that the banks have more money) lies in overlooking the fact that this "more money" means only excess reserves relatively to deposits. A bank reserve does not circulate. It is not effective money.

As was indicated in Chapter I, the depression of 1929-35 saw a contest for cash, which added 1 billion to pocket-book money but subtracted 8 billions from check-book money. The banks' reserves were enlarged *relatively* to deposits subject to check by reducing these deposits.

Such errors, and dodging between pocket-book money, check-book money and bank reserves, could not go on if check-book money and pocket-book money were made interchangeable, as they would be under the 100% system.

Confusing Money and Money to Lend

Those who do not see that the *crux* of a great depression is usually lack of money fall into another fallacy. They confuse abundance or scarcity of money with abundance or scarcity of money *to lend*. Money (however we measure it) is, at any instant of time, not all available to the loan market. Some is about to be spent for living expenses, some for investments of miscellaneous sorts. Only a part is available for lending—loanable funds.

In a depression, the failure to borrow is not at all because people already have too much circulating medium but because they already have too much debt.

Normally, loans ought to be merely the borrowing of money by one person of another; and what money is added to one ought to be subtracted from the other. Shifting money from one of us to another ought not to change the quantity of money for us all. The so called "money market" should be simply the market for loans from Jones to Smith,

not the source of the circulating medium for Jones *and* Smith. Intrinsically, loans have nothing to do with putting more money or less money into circulation.

The true abundance or scarcity of money is never registered in the loan market. It is registered by the index number of prices. If prices rise it means that money is abundant. If prices fall it means that money is scarce.

Evidently money may paradoxically go begging in the "money market" (that is, loan market) and be called "cheap" (that is, obtainable at low interest), when, really, money is scarce and therefore dear relatively to goods—that is, has a high purchasing power per dollar, as shown by an index number.

Ideas as to Reflation

In spite of all the prevailing confusion of thought, there does sometimes emerge a half-way recognition of the need, in a depression, for more money in the form of checking deposits. There are many who shudder at any increase of "currency" —actual hand-to-hand or pocket-book money— but who would nevertheless like to have what the former Secretary of the Treasury, Ogden L. Mills, called "controlled credit expansion"—i. e. expansion of check-book money. In their opinion, an increase of pocket-book money would be wrong,

while an increase of check-book money would be right.

We sometimes find the very same people apparently objecting to *currency* inflation for two diametrically opposite reasons:

(1) because it would cause a great rise of prices, "like Germany's";

(2) because "it would be futile," that is, because the new money would merely gravitate into the banks and pile up as idle reserves.

That is, they object both because it would raise prices and because it could not raise prices!

The Idea that Money Management Should Be Left to the Banks

But the chief reason for the lack of opposition to deposit inflation and for the fierce opposition to *currency* inflation, is probably neither that currency inflation would raise prices nor that it could not raise prices. The chief reason is probably the bankers' own financial interests. That is, the bankers and the larger group who absorb the bankers' psychology are terribly afraid of *Government* currency expansion, but not afraid of *bankers'* deposit expansion.

Apparently the motive force giving strength to public sentiment against "tampering with the currency" is the fear that the Government may enter the banking business. As to strictly banking func-

tions, the present writer agrees with the bankers that the Government should keep out. But *monetary* control is not properly a banking function. Under the 100% plan, monetary control, combined with a stable money policy, would not be left to the unorganized and irresponsible rule of banks, each a little private mint.

The Idea that "Gold Is the Best Standard"

There are still conservatives who imagine that a fixed *weight* of gold is a fixed *value* of gold. In this simple faith, they would have us cling to the gold standard because it is supposed to be "automatic." Yet we go to a great deal of trouble to regulate our standard yardstick, keeping it at a constant temperature, under a glass case, in the Bureau of Standards—"tinkering" with it all the time, in order to keep it constant. If we are to have a sound and stable dollar, we must "tinker" with it all the time —but in a purposeful way and not in a random way as at present, when so many banks do the tinkering independently. For, even the gold standard is never really automatic, but requires active management by central banks to maintain redemption.

Ideas as to Redemption

Under the original gold standard all money whether gold or paper, was supposed to derive its value from gold as a commodity. The parity between gold (both as commodity and money) and all other money was supposed to be maintained by their interchangeability—you could melt gold coins, or convert paper money or check-book money into gold coins and then melt the gold coins, into commodity gold, just as an Indian woman could convert wampum money into wampum as an ornament. In primitive times, this convertibility into gold bullion really meant something; and it continued to have some importance as long as gold was an important part of our circulating medium; but such convertibility today is useful only to the importer or exporter of gold or to an occasional jeweler or goldsmith. Otherwise, today such melting and conversion are relatively unimportant. The legitimate needs of gold redemption are few and far between and are easily met by discretionary redemption as now arranged for under the present law.[1] Moreover *convertibility* even for such legitimate purposes is not, and never has been, as important as stability of value. So far as convertibility ever had any useful purpose it was to prevent over-issue and inflation.

Over 99% of our people are not interested in gold redemption except when, as in 1933, such redemption does harm through hoarding. The only sort of redemption which is of vital interest every day to millions of people is the redemption of their check-book money in pocket-book money. These people want to know that their particular checks

[1] Of January 30, 1934.

on their particular bank are as good as the pocket-book money common to all people.

In modern times the privilege of indiscriminate redemption in gold has done harm, because there is so little gold available for redeeming so large a mass of other money, including check-book money, to say nothing of the promises to pay bonds in gold.

The situation became preposterous. When there was a raid on gold reserves, the banks, in order to meet the demands for gold from the public, had to get gold from the public; and the results of such demands on gold were greatly to increase its value.

A gold standard, in the sense of an unlimited liability to redeem paper money in gold, is analogous, in its destabilizing influence, to the 10% system, with its unlimited liability to redeem check-book money in pocket-book money. We have one inverted pyramid under another with a tiny apex of gold at the bottom.

But the greatest danger in the obligation of gold redemption comes from international demands. Within countries people accept, and even prefer, paper. As long as we have a gold standard with a fixed-weight gold dollar, this international danger is very real, as the "raids" on the Bank of England showed in 1931.

Relative Stability of Gold and Paper

Stability of value must not be sought hereafter in convertibility into gold, since gold is very unstable, and this unlimited convertibility into gold only makes it the more unstable. Stability of value must be sought in managing our money, according to a definitely prescribed rule.

One of the best by-products of the depression of 1929-35 is the disillusioning of the business man as to the fancied stability of the gold standard. A Chicago University Memorandum on the 100% principle put the matter very well as follows:

"The gold standard has always been a fair-weather system, functioning smoothly only so long as convertibility really matters to no one concerned. It can hardly survive a serious war anywhere; and most countries discard it readily under pressure, whether of war or depression."

In the same vein a recent important Report of the Columbia University Commission says: [2]

"It is an entirely fallacious notion that paper standards are uncontrollable. It is strange that such statements should still be made by monetary authorities in the light of experience with paper currencies in the past few years. During the periods when England has been off gold, from 1797 to 1821, from 1914 to 1925, and again since 1931, the paper currency was never abused by inflationary excesses. In fact, in terms of their internal purchasing power, paper currencies have shown themselves far more stable than gold currencies during the last

[2] *Economic Reconstruction,* Report of the Columbia University Commission; Robert M. MacIver, Chairman. Columbia University Press, New York, 1934, pp. 40-41.

two years, despite the critical difficulties of the times and the grave temptations they offered to governments to indulge in inflationary finance. Between September 1931 and the banking panic of 1933 it was not the pound sterling, the Canadian dollar, the Scandinavian currencies, etc., which were unstable, but the American dollar, the franc, the mark, and other gold currencies. The paper money of the 'sterling area' retained a remarkably steady purchasing power—altogether too steady, in the opinion of those who would like to have seen a deliberate expansionist policy adopted to correct the previously deflationary trend of prices—while gold underwent an outrageous appreciation in value."

Again we note the influence of bank psychology by which the public have been misled into believing that Government-issued money is certain to be abused, and that the Government should do nothing about money, except once and for all, to specify the weight and fineness of the gold dollar.

It is interesting to note that, recently, in the public prints, on the occasion of a meeting between Mr. Roosevelt and the American Bankers Association, Mr. Jackson E. Reynolds, president of the First National Bank of New York City is referred to as having "asked whether the nation could afford to tie its hands in regard to the currencies of the world by saying that the present gold content of the dollar would never be changed." This attitude represents a great advance of thought in business and banking circles.

Perhaps the greatest monetary event after the World War will turn out to be the abandonment of a fixed weight of gold as a standard of value and the substitution of a market basket of typical goods —a "market basket dollar." The complete solution of the money problem would be for each country to stabilize the internal value of its own currency and for all countries concertedly to fix the price of gold. When, after long periods, it should become necessary to change this price this also should be done concertedly. In such a way each monetary unit would be kept stable in domestic purchasing power as well as in foreign exchange.

Before leaving this notion that gold redemption is the source of stability we may note that redemption in gold has long been not only a fetish but, in some cases, a fiction, especially as to our silver certificates, which are not (or not at any rate until the vaguely stated law of 1900) convertible into gold but only into silver of less value (as bullion) than the certificates themselves.

A 100% Reserve in Gold Could Be Provided

If we really want to have a full-fledged gold standard we should have a 100% reserve of gold. This would be going back literally to the goldsmiths' days. Theoretically, it could be done, and very easily, by sufficient "devaluation" (that is, diminution in weight) of the gold dollar. Just as the Government raised the price of gold to $35 an

ounce (i. e. reduced the gold dollar to 1/35 of an ounce instead of about 1/21) so it could, theoretically, raise the price of gold to a higher figure, even, say, to ten times $35 an ounce (i. e. reduce the gold dollar to 1/350 of an ounce). Of course, practically, such a large and sudden change would be extremely undesirable.

It is evident that the gold in the Government's vaults would then be ample to provide a 100% reserve for the banks without using any paper whatever, except warehouse certificates for the gold.

But such an all-gold 100% system could be achieved only at the expense of further disrupting foreign exchange; and there would be other valid objections.

A 100% system using paper money or credit of the Currency Commission would be just as effective as a 100% system using gold, as well as less troublesome and clumsy; for, as stated, convertibility into bearer money is the sort of convertibility which is wanted in our modern world—not convertibility into gold ornaments. The ultimate standard of value lies not in one commodity only (gold), but in all commodities, as registered in an index number to be stabilized by action of the Currency Commission. The only monetary use left for gold is to serve as a bridge between currencies of different countries to facilitate international settlements. This can be done, as it is being done now, under the law of January 30, 1934, through discretionary redemption, with occasional revisions of the price of gold.

The Idea that Low Reserves Are an Economy

It is said that low reserves are an economy of gold. A banker, objecting to the 100% reserve idea, said: "Who ever heard of a 100% reserve?" He was taken aback when the familiar fact was brought to his attention that, for generations, we had had a 100% reserve behind gold certificates. He had never objected to that nor had he suggested that the Government should "economize" this "idle" reserve by issuing more paper money against it, which could easily be done. It was evidently only the bankers' reserves which he wanted to have "economized."

The truth is, of course, that short reserves have proved to be a very false economy; what little is saved thereby in good times is lost many times over "when winter comes." The banker needs to consider the whole banking system and not simply his own individual actions.

I found that this persistent notion that short reserves are an economy is, from force of habit, applied even to the paper money in credit reserves proposed in the 100% system. Why require a 100% reserve even of paper or credit? Would not 50% or, at any rate, something less than 100% be good enough? It was largely this idea which defeated the 100% proposal when it was advocated for the Banking Act of 1935.

In the first place, there would, in this case, be no "economy." That is answer enough. If we want to remedy inadequate reserves at all, why not make

them fully adequate while we are about it? It would cost no more except that trivial cost of printing, and anything short of 100% can never be quite as good. A reserve of 90% would have no advantage over a 100% reserve to anybody, while it would have at least slight disadvantages, even mechanically. And, psychologically, a 100% reserve is certainly superior to any less reserve. It is the only reserve which everybody can understand; whereas the instant any lesser figure is used, even 99%, the psychology of it leads to a desire to lessen it still more. A full 100% reserve has the status of a *trust fund, the real owners of which are the depositors.* A 99% reserve would have to be considered, like a 10% reserve, as belonging to the bank.

A banker friend writes: "Is not the risk like the risk of fire or life insurance predicated on the reasonable expectations, based on experience, that all the insured will not die at the same time; and that fires will not break out in all buildings simultaneously?" To this there are several very good answers.

Doubtless the analogy exists; and if there were any real economy in short reserves, their safety would be calculated on actuarial or fire-experience analogy.

But, besides the risk of the individual fire or bank failure, there is a "conflagration risk" and in the case of banks there is no hedging possible analogous to re-insurance. The fact is, my banker friend overlooked the really important risk which is not of bank failures at all. The risk of bank failures could

be nearly eliminated if we were willing to adopt the banking methods of other countries—especially branch banking. The really important risk is the risk of fluctuations in business and employment, the risk of booms and depressions. The banker may succeed in saving his own skin; but even in England he does this through winning the contest with the public for cash, which contest injures the public. It traces back, as we have seen, to the short reserve system.

Finally, if we are to submit the reserve problem to the test of experience as the banker quoted suggests, the result is certainly damning to the present system.

We must never forget that not the "safety" of the bank, but the safety of the purchasing power of the dollar is the important thing. We need the very best safeguard against inflation and deflation and that is the 100% system.

The Idea that the Dollar Never Changes

This is "the money illusion" and the chief obstacle to monetary reform. Why stabilize what is already believed to be stable? Almost everyone assumes his own country's money to be stable in value. He measures every price in that money but does not know how to measure that money itself (by an index number) or even think of doing it. He only sees other countries' money change in terms of his own.

"Many years ago, when England was on the gold standard and India still on silver, General Keating of England fell into conversation with a Hindu merchant. The General mentioned the fall of the Indian rupee. The Hindu raised his brows, 'Fall of the rupee? I haven't heard of that. Why, in fact I have agents all over India, and not one of them has advised me of a falling Indian rupee.' Then, after a moment's reflection, he added, 'Oh, perhaps you mean the rise of the English pound!'

"As a matter of fact, both the Englishman and the Hindu were partly right, for according to the index number, the purchasing power of the rupee had fallen—that is, the rupee had fallen as compared with goods—and the purchasing power of the pound had risen—that is, the pound had risen as compared with goods; but neither change was responsible for the entire gap between them. Both men were victims of the money illusion. Neither could detect any motion in the boat on which he himself rode." [8]

The Idea that the Price of any Commodity Is Determined Solely by Its Supply and Demand

"The price of wheat is not fixed by the demand and supply of wheat *alone*. It is *partly* fixed by the demand and supply of money. Money is, for most people, overlooked entirely as a price determiner. That is where people make a big mistake.

[8] *Inflation?*, by Irving Fisher, Adelphi Co., 1933, p. 47.

"The trouble is, we forget money just because we think in terms of money. If the price of wheat were expressed in terms of anything else than money, we would not make such a mistake. Suppose that the price of wheat were expressed in terms of copper or of silver bullion. Suppose, for instance, that a bushel of wheat were worth three ounces of silver. It would be silly to say that a rise in this price of wheat in terms of silver must be entirely due to an increased demand for wheat or to a decreased supply of wheat. It might just as well be due to an increased supply of silver or to a decreased demand for it.

"This is evident. It ought to be just as evident when the price of wheat is expressed in gold. A gold dollar is [1933] almost exactly one twentieth of an ounce of gold; and when the price of wheat is a dollar a bushel, it is the result not only of the supply and demand of wheat, but also of the supply and demand of gold ounces or gold dollars—and of the substitutes for them, namely paper dollars and the dollars we have in banks and pay out by check.

"And the effects of these two supply-and-demand influences can be sharply distinguished. The supply and demand of *dollars* fix the *general, or average, price level,* and the supply and demand of *wheat* fix the extent to which the price of wheat is *out of line with the general, or average, price level.* When the general price level rises 10 per cent and wheat rises 13 per cent, only the extra 3 per cent is

due to the supply and demand of wheat. The 10 per cent is not due to wheat at all, but to money.

"Most people still imagine that all of the fall in the price of wheat since 1926 is due to a super-abundance of wheat. This is not true. Most of the fall was due to the scarcity in the supply of dollars circulating. This cause explains the fall from 100 to 55—the fall of *the general level of prices, wheat included.*" [4]

The Confusion between a Price and a Price Level

An individual price and a price level are as distinct as a wave and the sea level, and the causes are just as distinct. The general price level goes up and down with monetary inflation and deflation, just as the level of a lake rises or falls with the amount of water in it. But the price of wheat goes up and down with its demand and supply just as the height of a wave is great or small according to the wind.

Summary

We see that there are many nebulous and fallacious ideas prevalent which hold back true monetary reform. Among them are:

(1) The idea that, under the 10% system, loans are facilitated by the power to manufacture impromptu the loaned money.

[4] "When Inflation is Not Inflation," by Irving Fisher, *Liberty*, Vol. 10, No. 37, September 16, 1933, p. 40.

(2) The idea that checking deposits are naturally and properly dependent on bank loans.
(3) The idea that the price level naturally and properly rises and falls with business expansion and contraction.
(4) The illusion that money is abundant, when it is really scarce (and the reverse).
(5) The confusion between abundant money and abundant loan-funds.
(6) The idea that currency expansion is wrong while checking-deposit expansion may be right.
(7) The idea that the value of the dollar never changes.
(8) The idea that the price of any commodity is determined solely by its supply and demand.
(9) The confusion between a price and a price level.
(10) The idea that Government should leave all expansion and contraction to bankers.
(11) The idea that gold is the best standard.
(12) The idea that redemption in gold is essential.
(13) The idea that gold is inherently stable and paper inherently unstable.
(14) The idea that raising reserves should be raising the gold reserves.
(15) The idea that low reserves are an "economy."

These fifteen are not the only confusions or fallacies which might be enumerated. But they seem to be the only important ones standing in the way of the 100% system.

CHAPTER XI

SIGNIFICANCE TO GOVERNMENT

The 100% System Not Government Banking

As already pointed out, the 100% system would involve only a nationalization of the *monetary* function (now usurped by the banks)—not a general "nationalization of *banking*." Money is properly a governmental function and is partially performed through our minting of gold, silver, nickel and bronze coins, our printing of U. S. notes ("greenbacks"), silver certificates, and other forms of Government paper money, and through our laws in general on money or the monetary standard.

As noted in Chapter I, our Constitution makes the regulation of money a Congressional prerogative. This function is, in essence, the control of the dollar as a unit of value, just as it is the function of the Government, performed through the U. S. Bureau of Standards, to control the yard as a unit of length, and the kilowatt as a unit of electricity. Providing business with units for measuring its transactions is essentially a function of Government. To perform this function properly, *all* forms of circulating medium must be under the same control,

including bank notes and checking deposits. Originally the Government more nearly controlled money than it does now. The present anomaly came about by gradual stages, first by permitting bank notes and later (and what is more important) by permitting checking deposits. Today the important "mints" are our thousands of checking banks.

These should not be permitted to continue unrestricted creation and destruction of money. But there is no corresponding need of taking away from the banks their proper function as lenders.

Properly speaking, under the 100% system, the only *banking* function that would be performed by the Currency Commission would be rediscounting. As we have seen, even this function would be performed only on rare occasions, and it would be better if it were not authorized at all. If it were performed it would be only as a safety valve to help out the banks themselves, not to compete with them, and only on the initiative of the Federal Reserve Banks.

We have also noted that any such promissory notes as would reach the Currency Commission would have had to run the gauntlet of two banks—a member bank and a Federal Reserve Bank—and that these banks alone, not the Currency Commission, would, just as now, take the responsibility of extending, or not extending, the loans according to their merits as profitable investments. Thus the banks would continue, as they should, to guide the flow of capital into the most promising channels of

investment. The Currency Commission would have no choice[1] but to rediscount, if as and when requested.

The only discretion of the Currency Commission would be as to settling the rate to be charged; and this rate would be fixed only to help control the purchasing power of the dollar, and would be impartially imposed on all Federal Reserve Banks alike.

So far from nationalizing the banks, the 100% system might afford the banks the only escape from nationalization. For if, in another decade, we should have another depression like the one we have just been passing through, the banks would probably find themselves permanently in the hands of the Government. It would be better for the banks to give up gracefully their usurped function of minting money (in the form of bank notes and checkbook money) and be content to conduct their strictly banking business, unmolested and uninterfered with by booms and depressions—so largely of their own making.

[1] But evidently this would not necessarily require any increase in circulating medium; for as fast as the Currency Commission rediscounted, i. e. bought promissory notes, it could, if it wished, sell bonds. The buying of one and the selling of the other would offset each other so far as affecting the volume of money is concerned. Thus, the compulsory exercise of its rediscount function need not interfere with its function of controlling the volume of money. In other words, while the Federal Reserve Banks would dictate the amount of rediscounting, the Currency Commission would dictate the amount of the C. C. in circulation.

The 100% system would afford protection both ways; for it would also safeguard the Government against the domination of the banks. In times of war or similar stress, banks become creditors of the Government and are thereby in a position to acquire undue control over its policies. By some close observers in Washington it is commonly believed that, ever since the Civil War, the Government has been too much influenced by banks—by "Wall Street" as the expression is—without the general public knowing who pulls the strings.[2]

As to the Federal Reserve

The Federal Reserve System was supposed, among other things, to rescue the Government from such banker control. This was an aspiration of President Wilson's. It was for that reason that the Federal Reserve notes were called "Obligations of the United States." But actually this was merely a phrase and little more than a nominal concession to Mr. Bryan, then Secretary of State, in order to gain his support. These notes give the United States no advantage—on the contrary, they only impose a contingent liability.

As the scheme now works out, the Federal Reserve Banks have virtually swapped their non-interest-bearing Federal Reserve notes (and other

[2] Professor Soddy, a believer in the 100% principle, inveighs against "bankers as rulers" in *Wealth, Virtual Wealth and Debt.* (Dutton, New York) 1926, p. 163.

Federal Reserve credit) for United States Government bonds. What is needed is virtually to swap back.

It is often thought that the Federal Reserve System should perform the monetary function and stabilize the dollar. But, for this function, the Federal Reserve System is ill fitted in organization, personnel, inclination, and tradition. Moreover it has other important functions to perform—especially rediscount—and these other functions often conflict with the function of stabilization. The Federal Reserve cannot stabilize without sometimes offending its masters, the member banks, as did Governor Strong when he tried to stabilize. On the other hand, it cannot, under the 10% system, do a straight banking business, that is, primarily for profit, to suit bankers, without sometimes unintentionally producing inflation or deflation and so doing harm to the nation. Efforts to do a banking business and, at the same time, to stabilize the price level have, in the end, failed dismally. They have resulted in vacillation, uncertainty, confusion, and disagreement within the System. They have been like trying to serve two masters.

Even with a Governor Strong at the helm the best way (and without such a governor the only way) to avoid great depressions completely and permanently is for the Government to relieve the Federal Reserve System of the unwelcome duty—hitherto largely shirked and never legally imposed—of stabilizing the dollar.

Currency Commission Like the Supreme Court

The Currency Commission should be independent like the Supreme Court, so that the purchasing power of our dollar may be kept stable despite banking operations and despite United States Treasury operations. Mr. James H. Rand, Jr., President of Remington Rand, Inc., in favoring Mr. Vanderlip's Monetary Authority Bill, well said:

"No Government should permit such coercive power over its own credit to be held by any one group or class as the privately owned Federal Reserve System holds today.

"No Government should delegate to private interests the control over the purchasing power of money.

"This issue must be faced and settled. There can be no complete restoration of confidence until the conflict between private and government control over money is ended."

The Effect on the National Debt

In the process of putting 100% cash behind bank deposits, the Currency Commission could and should, as previously noted, concentrate on buying Government bonds. Any other securities, such as corporation bonds, if bought, should be gradually disposed of, and Government bonds substituted, so far as possible. By owning (in the person of its Currency Commission) its own bonds, the Government would thus reduce its debt.

Eventually (unless prevented by such a catastrophe as the World War) there would probably be a complete elimination of Government debt. This could take place without any formal *destruction* of bonds ahead of their due dates. In fact, even if all outstanding obligations of the United States were to find their way into the hands of the Currency Commission, the simplest procedure would be for the Currency Commission to hold these intact until maturity. Maintaining the physical existence of the bonds during their "life" would supply the Currency Commission with easily saleable securities for use in case of threatened inflation. Meanwhile, the Currency Commission would, like every other bondholder, receive from the United States Treasury the interest on the bonds, which interest would then be turned back into the United States Treasury. Or rather, the two opposite payments would be bookkeeping offsets against each other. This would apply to principal as well as interest.

After Paying Government Debt, What?

If it should come to pass, some fine day, that the whole national debt had been paid off, what then? Would the Currency Commission thereafter, in order to offset any threatened deflation, be obliged, for the purpose of putting new Commission Currency into circulation, to acquire private corporation bonds or other property and, in spite of itself,

become the owner of an increasing share of the private wealth of the United States? By no means. The easier way for uniformity of method and accounting would be for the Currency Commission to buy newly issued Government bonds or other Government obligations, with mutual cancellation of interest between Treasury and Currency Commission.[3]

With such a policy, the problem of purchases of non-Governmental securities by the Currency Commission might not come up for many years, if ever.

In the end, it is at least conceivable that, with prosperity uninterrupted by any or many great depressions, the Government's main receipts would eventually come from the Currency Commission, merely by virtue of its efforts to prevent deflation by putting new money into circulation as business grows.

If such an embarrassment of riches should come about, what the Government would do with the increasing flow of money from the Currency Commission would be a matter which does not greatly concern us at this time. The money could, if desired, be used to reduce taxation and, in time, if

[3] The bonds, or other obligations, could be floated under the usual procedure of the Treasury and find their way later into the hands of the Currency Commission under the usual procedure of that Commission. The Treasury would then receive the purchase price from the public in pre-existing money, but the Currency Commission would issue *new* money for its purchase of the bonds from the public.

we wish to imagine so extreme a result, to abolish all Federal taxes.

Beyond that point, assuming it were ever reached, any further surplus could be used, if desired, for a veritable "social dividend," as proposed by certain writers approaching this subject from another angle. That is, in effect, money would be given by the people to the people, to supply the needs of growing business and prevent the fall of the price level which such growth would otherwise cause.

While such a rosy picture may never materialize, it is here presented not as a forecast but for two purposes:

(1) In order to show that the 100% system could go on indefinitely.
(2) To show that it is not dependent on the continued existence of a great Government debt, and would not require any change in routine or any accumulation of private securities in the hands of the Currency Commission.

In short, continuous prosperity, freed from the interruptions of great booms and depressions, would be reflected in our Federal Exchequer, as well as in the profits of all business, including banking. If, in spite of depressions, banks now prosper by creating money (such as Federal Reserve notes and checking deposits) and investing it in bonds, promissory notes, etc., the same privilege in the hands of the Currency Commission should prosper the

Government still more in the absence of depressions.

In a sense, the improvement which has been pictured in the Government's financial condition would be merely a remuneration for the supremely important Governmental service of managing money, or providing business with its most essential unit of measure, a stable dollar.

Is the Job too Big?

But would not this new proposed monetary Supreme Court have too great a task? Could any man or group of men be trusted to do the job?

The one convincing answer is: Sweden has stabilized,[4] why not the United States? Indeed, under Governor Strong's leadership (while he lived and was able to induce his colleagues in the Federal Reserve System to cooperate in the open market operations and adjustments of rediscount rates), the wholesale commodity price level in the United States was kept more stable than it had ever been before, or has ever been since.

Manipulation

Nor does there seem to be any justification for a fear that, under a prescribed criterion and method,

[4] See Kjellstrom, *Managed Money, The Experience of Sweden,* New York, Columbia University Press, 1934. See also Irving Fisher, *Stable Money, a History of the Movement,* New York, Adelphi Co., 1934.

a stabilization mandate would be evaded either by departing from the official index number or by manipulating its composition. There is, so far as I know, no justification for such a fear in recorded experience, whether recently in Sweden under Governor Rooth or ten years ago in America under Governor Strong, or still earlier, in so far as we can find partially analogous cases to study.

Discussing this problem fifteen years ago in *Stabilizing the Dollar* (pp. 244-246) I mentioned such a partially analogous case—the only one I have seen even remotely analogous—and said of it:

"If manipulation of prices is to be expected at all, we should expect to find it most in the Scotch Fiars prices already referred to. In this case money rents are determined by prices of wheat ('corn'). Complaints of unfairness have undoubtedly been made, but to leave money rent uncorrected was considered much more unfair. I have examined carefully the records of the one complaint of which I have found mention in the Yale University Library.[5] This complaint was simply that the jury was not wholly disinterested and did not take sufficient testimony. The system itself was not in dispute.

"Were the system very unsatisfactory it would

[5] In the "Report of a Committee of the Commissioners of Supply for Lanarkshire; Appointed to enquire into the procedure by which the Fiars of Grain for that country were struck, for the year 1816; together with such investigation of its principles and some suggestions for its improvement." Edinburgh, 1817. Recorded in Tract 579, Yale University Library.

scarcely have been continued through over two centuries.

"It should be further emphasized that, whatever slight danger now exists of abuse of Scotch Fiars prices, would be almost infinitely reduced by the plan here proposed; because, in that plan, we are concerned with great public markets, in big cities, with highly standardized grading of goods and standard price quotations instead of with small crude country markets, and because we have to deal with a large number of commodities instead of with only one. It is inconceivable that any sinister influence, in order to help the debtor or creditor, could manipulate a sufficient number of commodities to affect appreciably the index number. Even if someone could 'corner' a market and double the price of one commodity, this would not raise the general price level one per cent. To accomplish even such a feat is out of the question, while to corner or control a hundred commodities is unthinkable. Moreover, supposing such control of commodities possible, we are now more exposed to the danger of a corner in gold than we could be to a corner in hundreds of other commodities!

"The same argument applies to any supposed danger of misquoting of prices. Any *gross* misquotation such as doubling the true figures would be, of course, out of the question, while anything less would be of no use to the would-be rascal. And if there should be an effort to stretch some price quotations as far as this could be done without detection (which would be only a single per cent or two), the result would not affect the average more than a small fraction of one per cent, which likewise would not be enough to be worth while."

We have found no scandal in entrusting every other legally prescribed unit to a few men in the Bureau of Standards, though enormous contracts depend on these units.

The war experience shows that millions of wage and other agreements were based on official index numbers without a hitch.

A new safeguard against inflation and deflation alike would come from the very enactment into law of the proposed system, taking away from the bankers and, so far as possible, from the Treasury the power to inflate or deflate and, instead, giving to one central authority the sole power to regulate the quantity of money through buying and selling bonds, and always according to an exact measure. That authority could be made subject to impeachment in case of malfeasance in office. In fact, since the first edition of this book was published the Banking Act of 1935 has made the Open Market Committee almost such a central authority.

Finally, for the benefit of those who object to a "managed" currency and imagine that we still have an "automatic" one, it should be stated with emphasis that we have long ceased to have any "automatic" system. Our system was already full of discretion even before the Banking Act of 1935. In fact, this discretion came with our 10% deposit

banking system and applied to central banks in most countries, certainly in ours. The question now is not at all whether we shall have an automatic (unmanaged) or a discretionary (managed) currency. The question is whether we prefer an irresponsible management or a responsible management with a definite objective of stabilization. The chief fault in the new law is the lack of such an objective.

"Wall Street" Management

It should be evident that, since we can scarcely avoid[6] some sort of management, we ought to put more trust in a responsible management, restricted by law to narrow limits, than in an irresponsible one not so restricted and under which we have had far wilder excesses in both directions than we could expect even from a corrupt management. Could we imagine a corrupt management under the 100% system deliberately raising the wholesale price level between 1896 and 1920 from 47 to 167 and then lowering it to 55 in 1933? That is what has been done under the 10% system.

I am not one of those who attribute great sinister motives to the financial world, or who believe that "Wall Street" deliberately makes panics and crises in order to profit by the ruin of their country.

[6] As already indicated, if we were bound to avoid discretionary management, the 100% system (without any Currency Commission but with a fixed quantity of circulating medium) offers by far the best way suggested.

What is really the great trouble is that the present system is chaotic, a mob rule, a random steering without chart or compass. Certainly any management with a definite objective would be better. And, incidentally, such a management would save "Wall Street" from the bad reputation which it now gets whenever our shaky reserve system leads to a great upset.

Whether or not the faults of the 10% system be charged up merely to the system itself (as has been contended) or to the bankers who now operate that system (as supposedly ignorant, indifferent, or even malicious malefactors), certain it is that we must denounce the notion that bankers, because they deal in money, have any right whatever to control money — to manufacture and destroy money and so to lower or raise the value of the monetary unit of our nation. Such an idea is monstrous on the face of it—far more monstrous than the idea that stock jobbers have a right to water stock or cotton brokers to destroy half the crop, or that any other mercantile class should control the commodity in which it deals. The nation's monetary standard is of the same public concern as its other standards of measure. Bankers cannot rightfully, even if unwittingly, be allowed to tamper with the dollar as a yardstick of commerce any more than the old Hanseatic League could rightfully do as they did in tampering with the units of weight and measure which they used in their trading operations.

No Cure-All

The 100% system would be no cure-all for business fluctuations though it would help reduce them. Even including the provision for a Currency Commission it would afford no guarantee that loan banks and savings banks would be completely immune to runs and failures, nor that any such immunity would be enjoyed by investment houses, building and loan associations, insurance companies, commercial concerns, railways or any other persons or corporations except the checking banks.

Still less would the 100% system operate as a panacea for all the ills of the body politic. It would not solve all labor problems, the problem of monopoly, the problem of the distribution of wealth, nor many others. But it would remove what is probably by far the most prolific sources of bankruptcies, unemployment, and depression of trade.

What is important, the 100% system would make it easier to study all these other problems, uncomplicated by the money problem which now envelopes them as in a fog. What now seems dim and uncertain would then become sun clear. Many doubtful pieces of legislation have been hastily pushed through Congress, because the public, not being able to distinguish properly what is monetary and what is not monetary, ascribe wrong causes to their current troubles. They see the effects of a broken-down monetary system but do not trace

them to that source. They find unsold goods and think these must be due to "overproduction." So they fear "tinkering with the currency" and tinker, instead, with everything else.

As soon as we get a good monetary system we can more safely determine what else needs mending. To be able thus to see more clearly, and to diagnose more correctly, would be a powerful aid to all efforts to find and apply effective remedies. These might include safeguards for savings banks, regulation for security issues, legislation for public utilities, for hours of labor, for minimum wages, for company unions, and remedies for technological unemployment as well as for innumerable other ills and abuses, including the two biggest problems of all, the great problem of the distribution of wealth and the still greater problem of the distribution of political power.

The situation is such that delay in correcting the evils of the 10% system is dangerous. Aside from the deflation peril, we may begin soon to fear an inflation peril issuing from our ill-starred 10% system. With nearly 3 billions of "free" gold in the United States Treasury and nearly 2 billions of excess reserves of member banks on deposit with the Federal Reserve Banks, plus a supposed potential currency issue of 3 billions of Federal Reserve notes and about 2 billions of silver certificates—not to mention increasing purchases of gold and silver—we might have, theoretically, a *potential* inflation of bank credit of many billions.

The Capitalistic System

There has been a great deal of talk during the depression about the failure of the capitalistic system. A movement "to the left" always comes with deflation. It found expression in this country in "populism" in the deflation ending in 1896 and the Bryan campaign. But populism evaporated as soon as the price level began to be restored. In the middle of the last century a socialistic movement resulted from falling prices and disappeared with the lucky discovery and outpouring of new gold mines in California and Australia. Marx and Engels in this period recognized this relationship far better than the bankers did, and also specifically recognized that their propaganda lost its force, at that time, because of the gold discoveries.

In fact, an unstable monetary unit breeds radicalism, whether the movement be up or down, deflation or inflation, if it goes far enough. The French had an aphorism "after the printing press, the guillotine."

The capitalistic system is really the private profit system and profits are a difference between gross income and costs, including fixed charges associated with debts. Without a stable unit for measuring these items the profits expand and shrink and turn into losses without apparent rhyme or reason. In short, the private profit system requires, for its smooth working, stable money.

I am convinced that, without stable money, the private profit system will some day go. This means that the bankers, as long as they insist on operating or are permitted to operate, their 10% system, will be playing with fire. The best available safeguard against the overthrow of capitalism is the 100% system, combined with money management, to give us a stable dollar. Of all people, bankers should, therefore, favor this proposal if only in self-defense. Otherwise, by the irony of fate, they may some day be the ones to upset capitalism.

Here lies the chief significance to Government of the 100% system. If our Governmental system is to remain American, that is, is to permit the continuance of private profits and individual enterprise, and not be replaced by State Socialism, we must have a stable dollar; and that is what the 100% system, especially if coupled with money management, would achieve.

Stabilizing the dollar under the 100% plan is not of itself socialistic; nor does it tend toward socialism. It merely does for the dollar what has already been done for the yard, bushel, and other units used in commerce, as provided for, a century and a half ago, in our Constitution. Business, industry, agriculture, and banking require stable units of measure and no one but the Government can possibly furnish them.

Stable money will enable capitalism to function far more successfully than hitherto. This means that any modifications which may be required in

capitalism in the future will be far less than those with which it will always be threatened so long as the money question remains unsolved. At the present time our monetary system has broken down, primarily because it has been unworkable under the mob rule of twenty thousand private mints.

To reconstruct this monetary system, to recreate the missing money and thereafter to maintain it at a prescribed normal, is the greatest service Government can render business, as well as the most legitimate. It is not simply justifiable. It is indispensable.

APPENDIX I

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APPENDIX II

Comments of Two Bankers

The two bankers who first studied the manuscript of this book were Mr. F. R. von Windegger, President, and Mr. W. L. Gregory, Vice President of the Plaza Bank of St. Louis, St. Louis, Mo. I have their permission to quote the following from their numerous letters:

My first impressions, I think, naturally were to disagree with you on several points, but I would like very much to have an opportunity to think about your plan some more, and if it is not too much of an imposition, I would like to have you send me the draft of your complete manuscript.

* * * *

I ought to tell you that we have always conducted a commercial bank and that our deposits are nearly 90% demand deposits and that we have very little chance of developing a savings business. However, I think you will find that we can give you honest opinions despite this handicap.

* * * *

In my last letter I told you that we would send on our impressions of your plan just as soon as possible. During the interval since we wrote you, Mr. von Windegger and I have thoroughly discussed your 100%

System and this letter will represent our joint opinions after we have thrashed out some minor differences that we had. I might say that Mr. von Windegger read the book first and then gave it to me and that we both studied the plan independently until we thought we had it pretty well in mind and not until then did we talk over any part of it. Whether or not we are able to assist you by our remarks, I think you will find that our opinions were honestly conceived and that they are not now flavored by our selfish point of view. We realize, of course, that any knowledge we might have of this subject would come from experience and that our deficiencies in theory may lessen the value of our opinions. We have tried to avoid raising points which have already been answered by you. Because of the necessity for giving a large part of our time to active operation, we still feel that we have more thinking to do on this subject and we should like to be able to write any future thoughts we have to you at a later date, only on the principle that some of them may be of value to you.

Both of us have largely agreed that the present monetary system and the organization of our banks have been deficient. We have, I think, both approached the problem in the past from the social point of view rather than the economic, and our hopes for correction have largely been in the thought that our existing system should be placed in the hands of more honest administrators and that the evils could be largely overcome with the existing machinery. I think we had hoped that more men of Governor Strong's admitted ability would miraculously appear as saviors of our system. Not because we were selfish but because we overlooked it, we did not conceive such a system as the 100% System. Realizing

that we lived a lie, we did not see the obvious thing that the correcting of this lie would, at the same time, correct most of our evils. From this you will understand that although we were at first reluctant to admit that banks, good and bad, had definitely failed to control their credit system, on deliberation we have finally agreed on practically every major point in your system.

Specifically we realize that check-book money is a part of the circulating medium and as such it should be carefully controlled. Our previous system did not control this circulating medium and to that fact can be ascribed much of the grief we have had. We have long realized that money should be tied to a price level but without seeing the obvious answer that it would have to be divorced from loans. Nevertheless, on this point you are correct and that is the only solution if we are to properly manage our price structure. I don't believe that we need to confess to you, as president and cashier of a bank that has survived the bank runs of recent years, that the system of inadequate reserves has caused us more than one moment of real concern. It is not easy for a man who considers himself honest, and who tries to be honest, to realize that some day he might not be able to keep his promises to pay in full on demand.

Both Mr. von Windegger and I agree with you thoroughly that the gold standard is an antiquated and unnecessarily troublesome affair. We should long ago have outgrown that particular form of inadequate reserve. We believe that this depression should result in the elimination of the gold standard as an economic factor. Of course we all realize, as you have brought out, that for the moment at least it will be necessary to use the commodity gold in the settlement of international trade

balances, and in your Chapter Six you bring out the fact that it would be so used under your plan. We presume that you would insist that the management of gold and the value of the dollar in the foreign exchange market would be a function of your Currency Commission. There is such a relation between a proper internal control and this foreign exchange problem that a division of responsibility would be extremely dangerous. I feel certain that you agree on this point but I am wondering if it would not be worth while to elaborate on this so that there might be no doubt about it in the minds of your readers.

* * * *

You say that the C. C. money would not be fiat because it would be backed by government bonds and notes of the banks. I think I detect here your wish to avoid an issue with those who dislike fiat money. Of course I understand the political value of that position. I believe however that you would not be any more afraid of fiat money than we would be, always provided that the money was based on a price level and that only a sufficient amount of money would be permitted in circulation to take care of the needs of the people as a medium of exchange. Ultimately, of course, with the retirement of our government debt, our C. C. would become largely an unsecured currency. Please understand that neither Mr. von Windegger nor myself are alarmed by this prospect; certainly not if a properly constituted Commission, operating on a price level basis, would regulate the amount in circulation.

And so it seems that we are not as useful as we hoped to be. Our usefulness would become apparent when we could pick some definite flaws in the 100% System and

call these flaws to your attention so that you could correct them. Perhaps we are too much in agreement with you to be of real value. There are a number of details in the practical operation of the system which we believe might require some attention and from this point on we shall concern ourselves with these definite matters.

* * * *

You have suggested that the Commission might purchase the good will of the commercial bank by paying a profit to that bank for the handling of C. C. I far prefer your other alternative of having the bank obtain reimbursement by direct service charge to the customers. This suggestion is made for the reason that we in the banks know how greatly our depositors differ in the use they make of their accounts and in the trouble they cause the bank. Such particular cases as checks drawn against uncollected funds, and the carrying of small balances against an active account, could best be corrected by the service charge. I think justice would be done to all customers if the checking function were handled on a cost plus basis, the charge to be assessed against the individual making use of the service.

In Chapter Eight, in which you discuss the "Relation to Business," we are in agreement with you. We are sure that you are correct on the matter of interest and agree that, subject to the proper direction of a Commission, as indicated above, we would have a free market for loans which would permit interest rates to serve their real function. . . . We do think it would be of benefit in presenting your plan to elaborate somewhat on the manner in which the 100% System would, to a great extent, smooth out the business cycle. This would,

in our opinion, be the major contribution of your plan to business. Of course in making this suggestion we are always thinking of your average reader. We do not have the low opinion of the average American that is responsible for the output in our movie industry but we do know from everyday contacts that we have to cover even obvious points very carefully.

. . . both Mr. Gregory and myself have a very vital interest in your "100%" book, and would appreciate some word from you regarding its progress.

* * * *

Of course, we realize that the 100% System, upsetting as it does banking practice which has been in vogue since the days of the goldsmiths, is so very revolutionary that a mere mention of it will scare some of the old reactionary financial men into "Fits"; but to us here the basis of it seems so simple and practical that we would at least like to see it brought out into the open for discussion, backed by an explanation from its author.

I took the book home with me and Sunday night finished the "third reading." Mr. Gregory took it last night and will most likely finish it by the end of the week. We will then write you another joint letter.

* * * *

"Stable Money" proved to be a very interesting and illuminating book. I congratulate you on your clear, precise and non-technical style. Any thinking man should be able to understand it, and I cannot appreciate why anybody reading it should not be convinced. With a few minor exceptions, which we have noted on the

margin of your manuscript, I think the same thing holds true of the "100%" book.

I happen to be the head of the local chapter of the Robert Morris Associates this year, and intend to devote one evening to the subject of "Stable Money" and possibly later another evening to your "100% System." It is surprising to me how little bankers know of the fundamentals of their own business; also how "hide-bound" they are in their opinions.

Last winter —— gave a talk before the Round Table Club on the subject of "Sound Money." His weird climax, which was a cry of "Back to gold—*back to gold* —BACK TO GOLD," reminded me very much of the story of the preachers who used to meet every Monday in Atlanta, Georgia, to argue questions of theology. At one of these meetings the Methodist was dogmatically holding forth, "I think so and so, and I think so and so, and I think so and so." The Baptist preacher said, "Brother, when you say you think so and so, and you think so and so, and you think so and so, you're not thinking at all, you're merely rearranging your prejudices."

* * * *

The method in this case is the same which we followed before. We have each read the manuscript and have then discussed the points which occurred to us individually.

* * * *

Mr. von Windegger thinks that the average reader who is not familiar with the manner in which savings are converted into property rights will jump to the conclusion that there are not sufficient savings deposits in the country to take care of the volume of loans existing

at the time that the Currency Commission would begin to function. Of course we both, Mr. von Windegger and I, have understood thoroughly your explanation of the matter, but he still feels that some additional emphasis might be put on this point for the benefit of the reader who may be in possession of the Federal Reserve figures but either through laziness or inability, would not think the matter through to its conclusion.

* * * *

I wonder if it would be worth while in your book to emphasize again for the sake of the public, the fact that money or any other agent which becomes a medium of exchange is simply a convenience to bridge the barter gap, rather than an item of wealth. So long as people look upon money itself as wealth, they seem to want to tie money to some commodity, such as gold, and furthermore in periods of depression they want to convert all of their real wealth into the medium of exchange. Simply because money is used as a measure of wealth, they look upon money as the very highest form of wealth. Can we convince people, or would you want to, that money is a convenient carriage for the exchange of real wealth and that in itself it has no other value? Such a concept of money would make stamp scrip, mentioned on page 102, unnecessary and I think I have already said to you that I am sure it is not necessary to a properly managed monetary system, because an increase in the amount of paper money would accomplish the same thing.

* * * *

Both Mr. von Windegger and I were impressed with the improvement made over the first manuscript that

you permitted us to read. We were particularly pleased with Chapter Eight. We notice the statement made in two or three places that the 100% System could be instituted without a managed currency. Since we have been reading and thinking about your 100% plan, we have become so thoroughly converted to the plan used in conjunction with the managed currency, that we must here express the hope that you do not permit these two things to be divorced.

* * * *

We hope that you will be able to overcome the ignorance and prejudice with which it will certainly be greeted upon its appearance in book form. We both feel that the matter contained in the book has been presented in a concise and forceful way and in language that is easily understandable.

* * * *

If you reach the point where you believe that we can help you convey the message to our part of the country through the group contacts that we have, we shall be glad to have you give us permission to attempt to explain your System.

APPENDIX III

Bankers Often Oppose Their Own Interests

Some readers may be skeptical of the claim that the 100% plan would help the bankers, inasmuch as the rank and file of bankers will probably oppose it. To meet this skepticism, the following is quoted from Neil Carothers, writing in the New York *Herald Tribune*, Sunday, November 25, 1934:

"For more than 100 years the banks of this country have stubbornly and unwisely failed to keep abreast of the times—to the injury of their own well being and to the damage of the nation. They fought the banking reforms of the Second United States Bank and reaped their own destruction in the depression of 1837. They blindly fought every attempt to obtain common decency in bank note issue from 1830 to the Civil War, only to have every cent of profit from note issue taken from them by the national banking act of 1863.

"They balked like a sulky mule at every proposal for a more rational system from 1890 to the World War, only to have a Federal Reserve system forced upon them in 1913. Even then they obstructed every proposal for a unified system, and eventually got a hybrid two-system scheme, whose weakness was one of the causes of the collapse in 1929. It is not of historical record that the banks of this country ever got together on any platform or program whatever, except when they united in opposition to any change whatever."

APPENDIX IV

Amendments to the Banking Act of 1935

The following Amendments to H. R. 5357 (now the Banking Act of 1935) were recommended by Mr. Robert H. Hemphill.

1. ONE YEAR after the passage of this act, all individuals, firms, associations or corporations in the United States or territories thereof, engaged in the business of banking as defined by law and among other things receiving deposits of money or any substitute medium of exchange, withdrawable or payable upon the check or equivalent order of the depositor, upon demand or within thirty days, shall be required to hold said deposits in trust for said depositors in lawful money of the United States, on hand, or in the Federal Reserve Banks of its district, or with the Treasurer of the United States; PROVIDED HOWEVER, that said bank may at its own risk keep any part of said deposits invested in interest bearing bonds or notes of the United States Government, and the interest on said bonds or notes may be received and retained by said bank for its own use and benefit; PROVIDED FURTHER that any of said bonds or notes of the United States shall be eligible for discount at any Federal Reserve Bank at the par value thereof and at the interest rate borne by said bonds or notes, and after the date on which this act becomes effective the Federal Reserve Banks shall discount for

any bank in its district any of such bonds or notes upon application and shall discount no other obligations, all laws or parts of laws in conflict with this provision being hereby repealed.

2. AFTER THE PASSAGE OF THIS ACT, the Treasury of the United States may receive and hold for safekeeping and credit any funds in lawful money or bonds or notes of the United States deposited with it for the account of any Federal Reserve Bank and shall deliver such funds so deposited to the said depositor upon demand; or upon duly authenticated order of such depositor shall transfer the title to such funds to such other Federal Reserve Bank as such order may direct. Duly authenticated credit upon the books of account of the Treasury of the United States shall be legal reserve for any bank, banking firm or banking corporation in the United States or its territories or possessions, and the Treasurer of the United States shall, upon demand, issue and deliver to any depositor, non-interest bearing Treasury certificates against such credit in denominations of one, five, ten, twenty, fifty, one hundred, one thousand, one hundred thousand or one million, dollars, or such other denominations as the Federal Reserve Board may from time to time direct, and all such Treasury certificates so issued shall be legal tender for all public and private debts, and may be redeemed by the Treasurer of the United States upon demand in bullion gold or silver at the option of the Federal Reserve Board upon such prices, terms and conditions as the Federal Reserve Board may direct.

3. THE FEDERAL RESERVE BOARD is hereby directed to use all its powers and facilities to increase the circulating medium of exchange of the country until there

shall be in circulation (i. e. outside of banks and the Federal Treasury) including individual demand deposits in the commercial banks of the nation the sum of $250 per capita, in accordance with an estimate of the population as of the date of the passage of this act, to be furnished by the census bureau, and the Federal Reserve Board is further directed to use all its powers and facilities to maintain the said sum of $250 per capita in circulation unless this mandate is hereafter modified by further act of Congress.

APPENDIX V

Professor Angell on the 100% Idea

In a thirty-five page article [1] on "The 100 Per Cent Reserve Plan" Professor James W. Angell, Professor of Economics, Columbia University, severely criticizes all previous versions of the 100% plan. But if those whom he criticizes were to criticize his criticism, they might be equally severe. For he seems greatly to overstress the supposed faults of his predecessors' proposals, even when these proposals were almost identical with his own.[2] His positive conclusions are quoted below.

In a letter giving me permission to quote these, he writes:

[1] *Quarterly Journal of Economics,* November, 1935.

[2] The version noted at the end of page 140 of the first edition of this book, namely loaning reserves to the banks, without interest, is very close to Professor Angell's plan, especially if the "loan" were really a gift "in perpetuity" (see footnote, page 141, first edition). The chief difference seems to be that Professor Angell proposes to treat *all* the bank's assets alike, instead of allocating certain assets to the demand liabilities.

I agree, however, that a lien on all assets has decided practical advantages. This improvement seems capable of making the 100% idea not only palatable but positively desirable to the bankers, who will be the only important stumbling blocks standing in the way of the actual adoption of 100% reserves. Professor Angell has thus made a genuine and constructive contribution to the subject.

"I do not advocate the plan for its own sake; but advocate it simply as presenting what seems to me the easiest and perhaps the only practicable way of obtaining control over the total supply of 'money' itself."

Extracts from Professor Angell's Article

In the preceding pages a number of practical and theoretical defects were pointed out in the current 100 per cent plans. These defects seem to me sufficiently serious to invalidate the plans themselves. I think an alternative plan can be devised, however, which will achieve the desired results and yet at the same time be free of these defects. In the present brief compass, of course, it is impossible to present this alternative plan in detail, but the main heads can be outlined as follows:

1. I agree, as just indicated, that 100 per cent reserves of United States currency or some equivalent should be established behind the present demand deposit liabilities of the commercial banks. Instead of requiring the surrender of specific assets in return for the additional currency required to establish these 100 per cent reserves, however, I propose that the commercial and Federal Reserve Banks give to the United States government a general prior lien on their *total* assets equal to the value of the new currency received. This lien will carry no interest, and will be repaid or otherwise extinguished only slowly, if at all. The banks' present demand deposit liabilities will be made liabilities of the United States government itself (to protect the deposit holders against fraud), will be administered by the banks as agents of the government, and will in effect be warehouse receipts against currency. Since the banks will not own

this currency themselves, but will hold it in trust for the demand depositors, the banks will be unable to relend it. The present link between the volume of bank assets and the volume of circulating money will thus be broken. The internal administration of the checking accounts will be conducted precisely as at present, by the same staffs; creating separate corporations within the present banks to handle such accounts may not be necessary. Complete legal safety to demand depositors will be assured by these measures.[3]

2. Analogous arrangements will be applied to the present issues of Federal Reserve and National bank notes. All the present types of note currency should be merged in a single United States issue. Subsidiary metal coins should be backed 100 per cent by new United States notes.

3. Time and savings deposits in commercial banks will remain liabilities of the individual banks, but will be converted into negotiable interest-bearing time obli-

[3] One variant of the Chicago plan proposes that all checking accounts be transferred to and administered by the Post Office or some similar body, debentures being issued by the commercial banks in the amount of the accounts transferred. This resembles the prior lien above proposed, but would also entail complete disruption of all the existing arrangements for handling checking accounts. The plan now advocated leaves the present machinery undisturbed.

If an agent bank becomes insolvent, its remaining assets should be transferred to other institutions, subject to a United States lien of appropriate size; the demand deposits it had administered will be paid off in full in currency. A bookkeeping "loss" to the United States may be entailed, but this is immaterial.

gations maturing serially, say not more than 20 per cent within three months nor more than 40 per cent within a year (the interest rate can of course vary with the maturity). These time obligations will be issued, if desired, in small denominations. They will be backed by the totality of the banks' present assets, subject only to the general United States lien (which will not be exercised in any near future). The effective current protection given such time obligations, in terms of the volume of assets currently available for possible liquidation, will hence be much greater than that now given time and savings deposits (under Fisher's plan it would be *decreased*). The attractiveness of holding such obligations will also be greatly increased. There is hence no reason to anticipate a run by the present time and savings depositors at the time of transition to the new system, nor any material disruption in the capital and short loan markets.[4] The present holders of such deposits in commercial banks should be given an adequate period, however, say a year, to decide. If they elect to convert them into demand deposits or new currency instead of

[4] The transition to the new system will not itself alter the money-holding and money-using habits of the people. Part of the present time deposits in commercial banks doubtless really represent circulating money held temporarily idle, and would be converted into demand deposits. But part of the present demand deposits are effectively hoards held for protection against the recent actual and anticipated emergencies, and granted greater safety would be invested in the proposed new time obligations. The two sets of conversions, from time deposits to demand and conversely, should be roughly offsetting. As to the banks, there is no reason why they should attempt to shift their present portfolios greatly.

into time obligations, new United States currency should be issued for this purpose, and the prior lien which the debtor banks give the United States government will be correspondingly increased; this is preferable to compelling the banks to sell assets, during the transition period, in order to get the funds necessary for the conversion.[5]

4. Each commercial bank administering demand deposits as agent for the government will pay in to a common pool, annually or semi-annually, a proportion of its total earnings equal to the ratio between the original United States lien on its total assets and the value of those assets (as established by some predetermined procedure) at the date of the particular payment; and will receive back from the pool a sum proportioned to the fraction of the national total of demand deposits which it administered in the previous accounting period (and perhaps proportioned also to debits). This will recompense the banks on a reasonable basis for their services as administering agents, while at the same time avoiding charges to depositors. Interbank shifts of demand deposits will affect each bank's receipts from the

[5] This provision should itself prevent any panic flight from the present time and savings deposits in commercial banks: their convertibility during the transition period will be assured. Also, as just indicated, there are other grounds for expecting little net increase in the present quantity of circulating money as the result of conversions of time deposits. Conversely, however, if demand deposits are converted to time obligations, the quantity of money should not be *decreased* except so far as previously increased by the opposite conversion. Three per cent reserves against time obligations should be retained, at least for a time—chiefly for their psychological effect.

common pool, but not its payments thereto, and will not alter the United States lien on its assets. Part of any earnings above some stated per cent should probably be applied to reducing the United States lien.[6]

5. The present lending and investing operations of the commercial banks will continue substantially as at present,[7] as will the clearing and collection of checks. Interbank and interregional movements of funds, however, will produce only a one-for-one effect (not a multiplied effect, as often at present) on the supply of money in the regions concerned. Enduring interbank shifts of demand deposits will be followed at intervals by roughly equal interbank transfers of the United States currency held in warehouse behind such deposits.

6. Gold and silver will be used only for settling international balances. Their price in terms of currency will be varied only narrowly within periods of say a year. Inflows or outflows will be offset, within specified limits, by open market operations. If an outflow drains the country of specie the exchanges will thereafter depreciate (if the adverse pressure continues),

[6] Such payments, presumably to the Reserve Banks as agents of the government, should be reinvested at once in, say, U. S. securities, to leave the supply of circulating money unchanged.

[7] If a bank loan is repaid in currency or with a demand deposit in another bank, these will become the property of the creditor bank. If it is repaid with a deposit administered by the creditor bank itself, the deposit will *not* (as at present) be extinguished, unless the creditor bank prefers to hold currency; if not extinguished, the bank will become the owner of a deposit, backed by 100 per cent currency and ultimately the liability of the U. S. government, administered by its own checking department.

but this is less disadvantageous than forcing the domestic economic structure into conformity with the current balance of international payments and the accidents of current conditions in other countries. Purchases of specie should cease when some predetermined maximum holding is reached (preferably not much above the present figure), to prevent "inflation."

7. The total stock of currency, whether in outside circulation or warehoused against demand deposits, will be varied with the estimated secular growth of the population; and perhaps also, inversely, with the apparently gradual secular changes in the circular velocity of money.[8] In 1920-30, the two factors together would have entailed an increase in the stock of money of less than 1.5 per cent a year (perhaps an average for the decade of $350 millions a year). The increases should be frequent, and each hence small, to smooth their effects. They will be brought about through open market purchases of United States securities by the Reserve Banks; these purchases, however, will evidently be relatively unimportant. The Reserve Banks will also be given a *small* open market fund, perhaps $200 to $300 millions, with which to offset short-run pressures in the central money markets. Apart from these gradual secular changes and small short-period fluctuations,[9] the stock of currency will be held constant.

The principal working features of this proposed plan are hence, first, the conversion of the present demand

[8] On this last proposal see my article, referred to above, in the Cassel volume.

[9] And also with the possible exception of the initial "reflationary" increase, discussed near the beginning of section III, above.

deposit liabilities of the commercial banks into similar liabilities of the United States, but backed 100 per cent by currency and administered by the commercial banks as agents; second, the grant to the United States of a lien on the commercial banks' assets equal to the liabilities thus taken over; third, the conversion of the present time and savings deposits of the commercial banks into negotiable serial obligations of varying maturities; and fourth, the virtual stabilization (apart from a relatively slow secular shift) of the total supply of circulating money. Despite the extensive changes in legal relations involved, these proposals require rather little alteration in the actual operation of our present monetary and banking arrangements. In particular, they require in themselves no transfer of existing bank assets to the United States, no forced sales of such assets, no liquidations of existing banking institutions, and no large changes in banking staffs or even in day-to-day banking procedures.

The adoption of these proposals will, I believe, achieve the fundamental objectives at which the 100 per cent plans examined in previous sections all aim. They will make currency and demand deposits completely "safe" in the legal sense, will end the present dependence of the quantity of money on the volume of bank assets, and will permit a rational control of the total size of the stock of money itself. At the same time, they avoid the practical and logical difficulties apparently inherent in these other plans. The plan just outlined gives no invitation to political abuse; it is certainly not inflationary; there is no reason to fear that its adoption would be attended by serious disturbances during the transition period; and it sets up a simple procedure for the man-

agement of the money supply over time which, I believe, would yield substantially better results than the others examined above. It would not, of course, eliminate business cycles and other major economic fluctuations. The roots of these fluctuations are numerous and widespread, and many of them reach far beyond the workings of the monetary system as such. But by removing much of the reciprocally aggravating effects which are characteristic of the present relations between business activity and the stock of money in periods when the two are changing in the same direction, this plan would greatly reduce the amplitude and severity of the fluctuations themselves. The plan would thus go far toward making money really "safe," both against an evaporation of the money holder's nominal claim (as in the case of bank failures), and against sudden large changes in its value. It would thus also go far toward making economic activity reasonably stable. This last, it seems to me, should be the principal ultimate goal of all broad proposals for monetary and banking reform.

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100% (Hundred per cent) System see under "H"
10% (Ten per cent) System see under "T"