

BOOMS AND DEPRESSIONS

To "Harry" from "Dwain"
November, 1932
with love.

Booms and Depressions

Some First Principles

By

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To
WESLEY CLAIR MITCHELL
THE WORLD'S ACKNOWLEDGED LEADER
IN THE STUDY OF THE SUBJECT OF THIS BOOK

“Money, as a physical medium of exchange, made a diversified civilization possible. . . . And yet it is money, in its mechanical more than in its spiritual effects, which may well, having brought us to the present level, actually destroy society.”

SIR JOSIAH STAMP

(From Foreword to the English edition of *The Money Illusion* by Irving Fisher)

PREFACE

This book grew out of an invitation to speak on the Depression of 1929-32 before the American Association for the Advancement of Science and is an elaboration of my address at the meeting of the Association, held at New Orleans, Jan. 1, 1932.

The vast field of "business cycles" is one on which I had scarcely ever entered before, and I had never attempted to analyze it as a whole.

The scope of the present work is restricted, for the most part, to the rôle of nine main factors, not because they cover the whole subject, but because they include what seem to me to be the outstanding influences in the present, as well as in most, if not all, other major depressions.

By this restriction it has been possible to make the book much shorter and, I hope, much more intelligible to the lay reader than if it set out to be an exhaustive treatise on an inexhaustible subject.

At any rate, the nine factors are so inherently and obviously related to each other that we are not compelled to resort entirely to empirical correlation. Empirical studies are important and essential in this field; but, by excluding those which apparently have no rational basis, it is possible to mark out a clear cut set of "first principles."

The results of the analysis here presented seem largely new. But, being so unfamiliar with the immense literature, I decided to submit the first draft of this book in mimeographed form to a number of authorities, several of whom

had given much of their lives to the study of the so-called business cycle. With few exceptions these have found in the theory much that they regard as both new and true.

Yet, as I could not, without years of searching, be sure how far any or all of what to me seems new may have been anticipated by previous writers, I leave to others to determine how far this book is the original contribution which it is intended to be.

As will be seen, the main conclusion of this book is that depressions are, for the most part, preventable and that their prevention requires a definite policy in which the Federal Reserve System must play an important rôle. This problem is of even greater importance than the problems of our old national banking system which led, after two generations of delay, first to the Aldrich Report and then to the establishment of the Federal Reserve System.

In my opinion, no time should, in this case, be lost in grappling with the practical measures necessary, including international coöperation, to free the world from such needless suffering as it has endured since 1929.

If this very practical task is not soon undertaken in earnest, nor brought to a successful conclusion before another such disaster overwhelms the world, we may expect that a great body of informed public opinion will then hold specific individuals responsible. In short, ignorance cannot much longer serve as an excuse for neglecting this greatest of all practical economic problems.

But, having myself only recently acquired such knowledge as I possess on the subject, I have felt constrained, in this book, studiously to avoid casting blame on those who, here and abroad, might, had they done the right things, have prevented the depression.

I am indebted to several of my own students for helpful criticisms, Lester V. Chandler, J. Edward Ely, Florence

Helm, Harold D. Koontz, J. N. Lindenberg, Taulman A. Miller, Jr., and Hildreth Winton.

I also wish to thank the many economists and others who have kindly read and commented, in a general way, on the first draft, including, James W. Angell, Leonard P. Ayres, J. M. Clark, Victor S. Clark, John R. Commons, John H. Cover, Alfred Cowles, III, W. L. Crum, H. C. Cutting, Davis R. Dewey, Charles E. Duryea, Lionel D. Edie, Henry W. Farnam, Warren F. Hickernell, Jacob H. Hollander, W. I. King, R. R. Kuczynski, William C. Lee, Edmund E. Lincoln, H. L. McCracken, Ernest M. Patterson, Nicholas Raffalovich, Malcolm C. Rorty, E. R. A. Seligman, Carl Snyder, G. F. Warren, Frederick V. Waugh, E. B. Wilson, Ivan Wright, Quincy Wright, and Edgar H. Yolland.

I wish especially to thank the following who, evidently at personal sacrifice, gave considerable time and thought to studying, in a detailed and intensive way, part or all of the manuscript,—Harry G. Brown, J. D. Canning, C. O. Hardy, Harold L. Reed, N. J. Silberling, and Charles Tippetts.

Finally, I wish to thank my associate, Royal Meeker, who has assembled most of the factual material as well as scrutinized the entire manuscript and helped in rewriting it, and my brother, Herbert W. Fisher, who at every stage has helped in the exposition, from a layman's point of view, in the endeavor to make an obscure subject clear. With his help I have tried to write the book in such language that "he who runs may read."

IRVING FISHER

New Haven, Conn.

July, 1932

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PART ONE
THEORETICAL

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- II. FIRST THREE OF NINE MAIN FACTORS
- III. REMAINING SIX MAIN FACTORS
- IV. STARTERS
- V. "THE" BUSINESS CYCLE?
- VI. OTHER THEORIES

CHAPTER I

INTRODUCTION

WHAT IS A DEPRESSION?

A DEPRESSION is a condition in which business becomes unprofitable. It might well be called The Private Profits disease. Its worst consequences are business failures and wide-spread unemployment. But almost no one escapes a degree of impoverishment. Some of the mightiest and best managed enterprises, such as railroads, are among the worst sufferers. If they do not break, it is often only because they are saved by their reserves. Many rich stockholders, too, are compelled to live on reserves; while many persons who had lived modestly are compelled to live from hand to mouth; and many who already lived from hand to mouth become jobless and live on charity, or die, or become thieves. In a word, a depression is a form of almost universal poverty, relative or absolute. And though this poverty is transient for society as a whole, it is, for countless individuals, tragically permanent.

THE RECENT PICTURE

A great orator of New England has put it thus:

“A few months ago, the unparalleled prosperity of our country was the theme of universal gratulation. Such a development of resources, so rapid an augmentation of individual and public wealth, so great a manifestation of the spirit of enterprise,

so strong and seemingly rational a confidence in the prospect of unlimited success, were never known before. But how suddenly has all this prosperity been arrested! That confidence, which in modern times, and especially in our own country, is the basis of commercial intercourse, is failing in every quarter; and all the financial interests of the country seem to be convulsed and disorganized. The merchant, whose business is spread out over a wide extent of territory, and who, regarding all his transactions as conducted on safe principles, feared no embarrassment, finds his paper evidences of debt, and acceptances and promises which he has received in exchange for his goods, losing their value; and his ability to meet his engagements is at an end . . . and loss succeeds to loss, till he shuts up his manufactory and dismisses his laborers. The speculator who dreamed himself rich, finds his fancied riches disappearing like an exhalation.

* * *

"Already, in many a huge fabric that but a few days since resounded with the roar of enginey, all is silent as in a deserted city. Already many a great work of public improvement, upon which multitudes were toiling to bring it to the speediest completion, that commerce might rush upon its iron track with wings of fire, is broken off, and stands unfinished, like the work of some great conqueror struck down amidst his victories. Already want, like an armed man, stands at the threshold of many a dwelling, where a few days ago, daily industry brought the supply of daily comforts.

* * *

"What more may be before us in the progress of God's judgments—what tumults—what convulsions—what bloody revolutions—we need not now imagine. It is enough to know that this distress is hourly becoming wider and more intense; and that no political or financial foresight can as yet discover the end.

* * *

"Amid these present calamities, and these portentous omens of the future, it is not strange that many minds are seeking, and all voices are debating, the cause and the remedy."

A truer picture of 1932 could scarcely be found. Yet this speech was delivered 95 years earlier, on the 21st of May, 1837, by the Reverend Leonard Bacon, from the pulpit of Center Church in New Haven, Connecticut!

THE MYSTERY OF A DEPRESSION

Similar utterances have been made during other depressions, especially those of 1857, 1873, and 1893. And yet, despite all these duplications of experience and despite the enormous mass of literature on depressions which they have brought forth, a banker in 1931 could say: "This depression is beyond me."

A depression seems, indeed, to fall upon mankind out of a clear sky. It scorns to choose a moment when the earth is impoverished. For, in times of depression, is the soil less fertile? Not at all. Does it lack rain? Not at all. Are the mines exhausted? No; they can perhaps pour out even more than the old volume of ore, if anyone will buy. Are the factories, then, lamed in some way—down at heel? No; machinery and invention may be at the very peak. But perhaps the men have suddenly become unable or unwilling to work. The idea is belied by the spectacle of hordes of workmen, besieging every available employment office.

Perhaps, then, the world has become over-populated. But how could that happen in so short a time? When the calamity starts there seems to be (at least in America) enough of every good thing to go around; everybody

wants it, and nearly everybody wants it enough to work for it; yet some cannot get it, and many who can get some of it must be content with less.

There are those who ascribe this individual impoverishment to the very fact of collective wealth—not over-population, but “over-production”—too much food and too much of all else.

Later in these pages there will be more about this. It is enough here to note that those who, at the beginning of a depression, cry “over-production” and expect recovery as soon as over-production ceases usually become disillusioned when later almost universal poverty appears. If, in 1932, anyone thought there was still over-production, he should follow his own argument all the way through as follows: “How do I know there is over-production of goods? Because more goods are for sale than the public will buy. And why, then, will the public not buy? Because they haven’t the money. Why haven’t they the money? Because they are not earning it. Why aren’t they earning it? Because they are not producing: men and machines are idle!” But if *non*-production is the trouble, why call it *over*-production?

Perhaps the secret, then, is to be found in the machinery of distribution. Between the producer and the consumer there must be a chasm in need of a bridge. But no; at this very moment, the Hudson River has a brand new bridge. There are plenty of *physical* bridges, and the railroads that cross them are in good condition. As for ships and ship-canal, they are as well equipped as ever, and as eager to serve—only the shippers are few.

There is, however, another distributive mechanism whose name is money. There is no more reason why this money-mechanism should be proof against getting out of

order than a railroad or a ship-canal. Moreover, profits are measured in money. If money, by any chance, should become deranged, is it not at least possible that it would *affect all profits, in one way, at one time?*

CHAPTER II

FIRST THREE OF NINE MAIN FACTORS

OVER-INDEBTEDNESS

(The First Main Factor)

DEBTS are tied in with the money mechanism. In fact, what is called the "money market" is really the debt market. Most kinds of pocket money, such as bank notes, take the form of debts to the bearer. Bank checks, which the depositor thinks of as representing his "money in the bank," really represent a debt of the bank to the depositor, and usually the depositor obtains his checking account by going into debt to the bank.

Debts are essential to both production and distribution. Even in "normal" times,—that is, in times of neither boom nor depression,—practically every adult person is in debt, if only for last week's groceries. The primitive notion which associates debt with the pawn-shop, and regards the debtor as a victim of misfortune is, of course, quite erroneous, especially in this modern world. The really typical debtors of today are the alert business men and corporations. Every business balance sheet has its "liabilities."

Yet for individuals, for corporations and for society as a whole, debts have differences of degree. In each case debts may be too much or too little. The golden mean or point of equilibrium is a matter of balancing opposed considerations. Each person decides for himself how far it is well to go into debt, or how long it is well to stay in debt, just as he decides how far it is well to save or to spend, or how

much of his income it is well to apportion to clothes and how much to food. As in other economic adjustments, so in the adjustment of debts, the individual stops "at the margin" where, in his judgment, the desirability of a further expansion of his debts is balanced by the undesirability of further sacrifices and risks. In each case, the point of equilibrium is where opposed considerations balance.

Where do they balance?

Chance is inseparable from life. Every transaction is a taking of chances, and over-indebtedness is whatever degree of indebtedness multiplies *unduly* the chances of becoming insolvent. Everyone who is not a gambler, provides himself with a margin of safety. He puts a buffer between his debts and the collector. This buffer is the difference between assets and liabilities. Corporations call it "capital and surplus." But the sufficiency of the buffer is not solely a matter of quantity. It must be varied according to the quality of the assets. It must also be varied according to the quality of the liabilities. Slow assets and quick liabilities (such as call loans) require a larger buffer than quick assets and slow liabilities. The quickest asset, and therefore the safest when pressure comes, is cash. The quickest liability, and therefore the most unsafe in times of pressure, is the call-loan. Over-indebtedness is largely a question of dates of maturity. The entire set-up of assets and liabilities, therefore, has to be considered,—and not only the ratio between the two sides of the capital account, and between current assets and current liabilities, but the ratio between the two sides of the income account; the ratio between the income and the assets, between the income and the debts, between the income and the balancing item of capital and surplus. A balance sheet is the result of anxious efforts to weigh correctly these and many other considerations.

CRITERIA OF OVER-INDEBTEDNESS

Banks, in extending credit to different sorts of borrowers, have to consider questions of liquidity and of safe margins on collateral. Credit men, accountants, lenders on real estate, brokers, governments and legislators, all have some sort of standards of over-indebtedness. The standards are somewhat rough. The line of balance is more or less a twilight zone; but an entire book could be written about the history and the current practice of stopping the debts at a point which is neither too rash nor too conservative.

Can a more definite criterion be devised for the community than the individual? In any event, such guides will have to be considered as the ratio between the nation's income and certain fixed expenses, like taxes, rent, and interest; the ratio between the income and the accumulated volume of outstanding debts; the ratio between debts and the gold on which the banks (in a gold standard country) base their loans. As low income endangers the debtors, low gold endangers the creditor banks, which then begin to press the debtors. On these last two criteria—national income and national gold reserve—some interesting remarks have been made by Mr. Warren F. Hickernell.¹ He concludes that, at a given moment, the outstanding total of bank loans and investments should not exceed one half of the country's income for one year; and that the country's gold should always be at least equal to 9 per cent of the outstanding bank loans and investments. The overstepping of either of these limits, Mr. Hickernell regards as jeopardizing the solvency of an undue proportion of the community.

This national gold buffer is exposed to one adverse

¹ *What Makes Stock Market Prices?* by Warren F. Hickernell, Harper & Bros., 1932.

chance seldom considered by either lender or borrower—the chance of the mal-distribution of gold internationally. Such mal-distribution may be caused by a one-sided condition of international indebtedness, both public and private, and by tariffs which prevent international payment in goods and compel payment in gold. If these or other causes should drain a country of too much of its gold, the banks of that country would begin to cancel loans, including some which looked conservative enough when made. Thus, what was not over-indebtedness may be transformed into over-indebtedness by depriving the creditor banks of sufficient gold or sufficient access to it. Thus an unexpected rise in the tariff of one country, say the United States, renders unsafe a volume of indebtedness to that country from another country, say Germany, which without that rise would be safe, simply because the creditor has made it hard for the debtor to pay.

Over-indebtedness means simply that debts are out-of-line, too big relatively to other economic factors. If the debts are out-of-line relatively to only a few unimportant factors, little harm may result. The great disturbances come when the debts are decidedly out-of-line with practically everything—including assets, income, gold and liquidities (i. e., quickness or slowness of assets and liabilities.)

THE DEBT CYCLE

What, now, are the consequences of a mistake of judgment on the part of debtor or creditor or both? First, consider the individual debtor. If he has not borrowed enough, he can, under normal conditions, easily correct the error by borrowing more. But, if he has gone too far into debt,—especially if he has misjudged as to maturity dates—freedom of adjustment may no longer be possible. He may

find himself caught as in a trap. If he cannot pay his debt when it comes due, he will try to put off the evil day. Governments and corporations accomplish this by refunding their maturing and short term obligations. But this is not always possible and if insolvency threatens the debtor, the creditor often makes matters all the harder by pressing for payment.

Ultimately, of course, the over-indebtedness, whether of one individual or of a whole community, will be wiped out, with or without business failures. But sometimes the liquidation, or the psychology accompanying it, does more than restore a normal debt situation. Those debtors who have burned their fingers by over-indebtedness, and those creditors who have burned theirs by over-lending—especially if the two groups comprise most of the community—become over-cautious, and end in an undue reaction against borrowing. Then the pendulum may gradually swing back, caution may again be thrown to the winds, and over-indebtedness again prevail. The pendulum may even swing back *beyond* the point of equilibrium, where people will again go too far into debt, but presumably not so much too far as the first time. This swinging back and forth may go on indefinitely, constituting a debt cycle; but, unless some outside force intervenes, each successive swing of the pendulum will have less scope than the last.

NINE MAIN FACTORS

This, however, is not the whole story of the expansion and contraction of debts. If it were, no one would think of devoting a whole book to it. But it happens that the cycle tendency of debts is the initiating one of at least nine main cycle tendencies which carry in their vitals much of the tragedy of economic life. The nine are listed here, and

each will be discussed on its downswing to Depression, before the upswing of any of them is considered; for the first task is to see how the debt-structure, once erected, may topple into the trough of depression and take us with it.

Following are the nine oscillating factors to which reference has just been made:

1. The Debt Factor
2. The Currency-Volume Factor
3. The Price-Level Factor
4. The Net-Worth Factor
5. The Profit Factor
6. The Production Factor
7. The Psychological Factor
8. The Currency-Turnover Factor
9. Rates of Interest

The depression tendencies of the first three of these factors (Debts, Currency, and Price-Level) are closely locked together, and the key that locks them is distress-selling.

DISTRESS SELLING

When over-indebtedness, whether by sheer bulk or by rashness as to maturity dates, is discovered and attempts are made to correct it, distress selling is likely to arise. That is, in order to protect the creditors, some of the possessions of the debtor may have to be sold—his stocks, his bonds, his farmlands, or whatever his available assets may be. The debtor may choose, on his own responsibility, to facilitate liquidation by selling some of his property, even though he never pledged any of it for the debt; or his bank or his broker may cash in on the debtor's collateral; or the mortgagee may foreclose the mortgage; or the

debtor may go into bankruptcy, and the trustee in bankruptcy may then auction off his assets. In short, the debtor becomes the victim of distress selling either on his own initiative or on the initiative of his creditors.

Distress selling perverts the operation of the law of supply and demand. Normally, sales are made because supply-and-demand has worked out a price attractive to the seller; but when the seller is in distress, the sale is made for precisely the opposite reason; not the attraction of a high price, but the compulsion of a low price, which threatens his solvency. The danger or the fact of insolvency is the all-important consideration in distress selling.

When a whole community is involved in distress selling, the effect is to lower the general price level.

VOLUME OF CURRENCY

(The Second Main Factor)

This excessive eagerness on the selling side of a market may seem enough to explain how distress selling tends to lower the price level; but it is not the fundamental influence. In fact, the buyer largely gains the spending power which the seller loses, and spending power is what sustains prices. But the *stampede liquidation* involved in distress selling has a radical effect on the price level, by actually shrinking the volume of the currency—that is, of “deposit currency.”

Deposits are the balances on the stubs of check books—the “money” which people have in banks and which they transfer by check. A typical depositor deposits neither gold nor silver nor any other money but merely his promissory note. What he thus accomplishes is to trade his debt to the bank for a debt from the bank to himself; the object being

that he may get something which will circulate. His own note will not circulate, but the bank's deposit-liability to him will. Against this, he can draw checks which, in his own business circle, will be accepted almost as freely as legal-tender money. In short, he converts his own non-circulating credit into the bank's circulating credit. New "money" is thereby created, not by the mint nor the Bureau of Engraving, but merely by the pen and ink of the banker and his customer. But when the customer *pays* his note, he undoes the whole transaction; that is, he wipes out an equal amount of circulating credit. In this respect, the payment of a business debt owing to a commercial bank involves consequences different from those involved in the payment of a debt owing from one individual to another. A man-to-man debt may be paid without affecting the volume of outstanding currency; for whatever currency is paid by one, whether it be legal tender or deposit currency transferred by check, is received by the other, and is still outstanding. But when a debt to a commercial bank is paid by check *out of a deposit balance*, that amount of deposit currency simply disappears.

Thus to pay a debt at the bank tends to contract the circulating medium. But this tendency is, in normal times, neutralized by a counter-tendency. For generally, as fast as some bank debtors pay off their debts, the extinguished currency is replaced by new depositors who obtain new credits. When, however, by reason of a general state of *over-indebtedness*, there is a stampede of liquidation, then the new borrowings will by no means suffice to restore the balance, and there must follow a net shrinkage of deposits, or "credit currency."

In this process of contracting credit currency, commercial bank debts are the only kind of debts directly involved. Yet other debts may aggravate the process of contraction.

A man may owe very little to his bank, and yet owe so much in other directions that, in order to reduce the total, he will choose to pay off his bank debt. Or a debtor, without any bank debt at all but owing money abroad, may have a deposit in a bank—say, a thousand dollars—and withdraw it in gold to pay some of his foreign debts. When he does this, he deprives the bank of the lawful right to issue credit currency to an amount far in excess of the thousand dollars thus withdrawn.

This sort of contraction by means of cash drawn from banks may be on a large scale, especially if the debtor is a bank or a savings bank, which, in order to replenish its own cash—gold, silver, or paper—so as to meet a run by its depositors, may draw on other banks. Even public debts—debts of city, state or nation—may have a contracting effect on deposit currency, through the pressure of taxes upon citizens already in debt. This pressure, to be sure, is spread over so many people that its effect is light in proportion to the huge size of the public debts, but the pressure is always there, and often reveals itself, not only in the ways mentioned but in tax-sales with all the usual effects of distress selling.

Credit currency is recorded in the statistics of the Comptroller's Office, under the heading, "Individual deposits subject to check without notice." Its shrinkage is of vast importance; for, in the United States at least, credit currency is the most important kind of Twentieth Century currency. It transacts nine-tenths of the country's business, and, when it is deflated, the general price level tends to fall, because, with less funds less buying can be accomplished.²

² This is in accordance with well known principles. See, for instance, *The Purchasing Power of Money*, by Irving Fisher (Macmillan, New York, 1931).

THE PRICE LEVEL

(The Third Main Factor)

Thus, the volume of the most important circulating medium is tied to the volume of debts, especially debts at the banks, one of the most important kinds; so that a sudden disturbance of this debt-volume is passed on to the currency-volume and consequently passed on to the general price level; for, as all authorities agree, an increase in the volume of currency tends, in some degree at least, to raise the price level and a decrease, to lower it. What we now have to consider is the way in which a changed price level changes the burdensomeness of all outstanding debts—in a word, changes *real* debts, as distinguished from nominal or money debts.

“REAL” DEBTS

There are few people today who do not grasp the difference between nominal or money wages, on the one hand, and “real” wages, on the other. Let money wages remain unchanged, and we all acknowledge that, if the cost of living rises, real wages fall; or, if the cost of living falls, real wages rise. We know that money wages may rise and yet real wages fall, as in the case of Germany’s post-war inflation. For real wages are the budget of goods—the composite of commodities—the “living”—which the money wages will buy. Only by translating money wages into real wages can we express the true economic state of the nation.

This same principle applies to debts. Though a debt be paid with the same number of money dollars, yet these dollars, when prices are falling, will cost the debtor more goods. To earn them, he must sell more goods. In other

words, when the price level falls, each dollar, to all intents and purposes, is a bigger dollar.

For instance, suppose a farmer contracts a debt when wheat is \$1.00 a bushel, and pays it when wheat is 50 cents a bushel. Obviously, to him the dollar has doubled in terms of wheat; he must use twice as much wheat to pay each dollar of his debt. That is, when the price of wheat is halved, the farmer's *real* debt is doubled. Likewise, if the general price level is halved, the real debt of the average man is doubled.

And this is but half of the debtor's predicament; for first, he gets fewer of these bigger dollars for his goods (while owing the same number of them on his debts); and second, his security is worth fewer of these bigger dollars in the market, and therefore worth less in the eyes of his creditor. The creditor is unaware of receiving more than he is properly entitled to, and the debtor is unaware of paying more than he properly owes. One gains and the other suffers—but both suffer from what is about to be discussed as the Money Illusion.

THE MONEY ILLUSION

Few people look at money for their explanations, because most people simply look *through* money, think in terms of money, take money for granted, assume that a dollar is always a dollar. Since we measure everything else in dollars, it does not readily occur to us to measure the dollar itself. Few people realize, for instance, that the depression dollar of 1932, as compared with the pre-depression dollar of 1929, became really a dollar and two thirds; and still fewer realize the tremendous significance of this fact. Yet its significance is all the greater just because it is not clearly realized.

The real meaning of a unit of money is the goods which that unit will buy. Instead of measuring goods by dollars, the economist is accustomed to measure dollars by goods—not by any one article of goods such as bread, but by the general budget of goods such as food-stuffs, clothing and cloth, furniture and houses, building materials, services, amusements and so on. When the price of bread alone changes, this is presumably due to some change in the quantity or quality of wheat, and not to any change in the dollar. But when a thousand other prices change at the same time, and all change in the same direction, or all change *on the average* in the same direction, we are, in general, justified in saying that the dollar has changed in the *opposite* direction.

Nevertheless, the Money Illusion³ goes on telling us that the dollar stands still while other things move. This Money Illusion is analogous to the illusion of a passenger on a train who seems to see the landscape rushing past him. It is analogous to the illusion of sun-rise and sun-set, which makes the earth appear fixed with the sun swinging 'round it once a day. So when prices change, we forget the money on which we ride and ascribe the change to something outside—the goods, the merchant, the consumer, the producer, the fertility of the earth—anything at all except the money in terms of which we think.

German money, after the World War, furnished a good example. We in America, measuring everything in dollars, said the mark had fallen. But Germans, measuring everything in marks, said the dollar had risen. In 1922, I visited Germany and took particular pains to learn from many representative citizens how they accounted for the skyrocketing of German prices. Practically all ascribed it to

³ See *The Money Illusion* by Irving Fisher. (The Adelphi Company, New York, 1928.)

some misbehavior on the part of commodities, or to the after-effects of the war, or to the Allied blockade, or to the wastefulness of the new German government, or to almost any cause but the important one; which was, of course, that the German government was paying its debts and other expenses with new paper money manufactured for the purpose.

Yet Germans are no more prone to the money illusion than others. Over a generation ago, when England was on the gold standard and India on the silver standard, General Keating, in conversation with an Indian merchant, mentioned the then recent fall in the value of the silver rupee. The Indian merchant was non-plused. He said that he had never heard of any fall of the rupee, although he had agents all over India. After a pause, he added, "But my agents have mentioned the rise of the pound sterling. Perhaps that is what you are thinking of."

Sometimes both observers (even if one be an American) are equally deluded. Before the World War, an American woman owed money on a mortgage in Germany. After the war, she went to the German bank and offered the amount which she conceived to be due—\$7,000. "But," said the banker, "The debt is in marks, not dollars—it is 28,000 marks; and today that comes to about \$250."

"Oh!" she said, "I am not going to take advantage of the fall of the mark. I will pay the full \$7,000." The banker, thinking in terms of marks, could not see the point. Indeed, the fair-minded American lady only half saw it, and "cheated" her creditor after all; for even American money was worth less than when the debt had been contracted. To pay the full amount in terms not of marks, or dollars, but in terms of the purchasing power which she had borrowed, the lady should have paid not \$7,000 but \$12,000. Yet, had the German banker known this and sug-

gested it, the lady's indignation at such an "unfair" suggestion would doubtless have exceeded the banker's astonishment at receiving 28 times as much as he thought was due.

GOLD AND CREDIT

When it comes to gold money, we are even more apt to be deceived. The reverence for gold, as if it were something ultimately stable, is a form of ancestor worship. Money was invented by primitive man, unconsciously; and modern man has taken it for granted ever since. A certain amount of evolution has been at work upon money, but very little conscious invention. The first great step in its evolution was the unconscious trying-out of one substance after another—oxen, wampum, silver, gold. Gold finally prevailed, not for any stability of purchasing power, but for sheer physical convenience. Stability was scarcely thought of, until something else came on the scene to afford a means of comparison. That something was paper money. Gold is not so easily inflated as paper; but gold is by no means stable. It comes out of mines, subject to the will of mine-owners and to the accident of discovery; and if a dozen new gold mines should open at one stroke, the influx of gold would tend to depreciate the purchasing power of each individual gold dollar and of every paper dollar redeemable in gold. And this very thing has sometimes happened—with serious effects on the price level.

Moreover, and conversely, gold has now become dependent on paper money and checks. When modern man invented the check system, he did not dream that deposits subject to check would come to be regarded as money. But to all intents and purposes they are money, and they largely determine the purchasing power of gold. A gold dollar and a dollar-check and a paper dollar, so long as

they are mutually exchangeable, must all have equal purchasing power; but that power depends upon the influence of all, not of gold alone; and the checks, or deposits, furnish so much the greater volume that their total effect on the purchasing power of gold, though few people except economists realize this important fact, is incomparably greater than the effect of the gold on the checks. And, by the same token, disturbances of deposit currency disturb the price level far more than do the very considerable disturbances of the gold supply.

The price level aberrations hitherto mentioned were all cases of inflation. But deflation, which furnishes the principal key to a depression, is equally stealthy; and the Americans of 1932 who talked of low prices instead of swollen dollars were just as befuddled as the Germans of 1922 who talked of high prices instead of shrunken marks. It is time that we knew how to detect the dollar when it indulges in either of its stealthy monœuvres—whether shrinking or swelling.

THE INDEX NUMBER

There is now available a statistical measure which ought to go far toward dispelling the money illusion. This measure is the "index number" of prices. Its function is to measure the *average percentage change* in prices; that is, the change in the *general price level*, or *general scale of prices*.⁴

⁴ There are, of course, many sorts of index numbers differing in the method of averaging (whether arithmetic, geometric, aggregative, weighted or simple), in the field covered (whether stock prices, or commodity and, if the latter, whether wholesale, retail, general), and in the assortment of samples representing that field (whether 100 commodities or 500, whether largely food and farm products or not). The best developed index number is that of the United States Bureau of Labor Statistics for wholesale prices, using 784 commodities weighted in proportion to their importance in trade, the averaging being done by the

Such act of measuring should bring home to us the difference between the scale of prices and an individual price. The scale of prices (or the general price level) is analogous to the scale of a drawing or a statue. To say that, in a certain statue of Abraham Lincoln, the right leg is too long is to say that it is too long *relatively* to the other leg, or to the arms, or body, and is quite different from saying that the *scale* of the statue as a whole is more than life size; and there is the same distinction between saying the price of wheat is high relatively to other commodities and saying that there is a high general price level, or scale of prices. The Law of Supply and Demand regulates prices *relatively to one another*; but money is the medium in which Supply-and-Demand *registers*; and if the whole scale of prices moves, it is usually because this registering medium has moved.

Or we may think of money as a changeable lens, through which price-changes are seen. Prices may all change *en masse* at the same time that they are changing relatively to one another. The money lens magnifies all prices without interfering with the action of supply and demand on any price. What the index number has done, therefore, is to show up (to an unfortunately limited number of observers) the difference between a mass movement of prices and the individual price movements.

Changes in the price level and changes in the dollar are reciprocal. For instance, if a new price level (or scale) is double the old price level (or scale), the new dollar is half the old dollar—or has lost 50 per cent of its purchasing power. This scale-principle was never better illustrated than in German hotels during the period of the greatest

aggregative method. For discussion of these differences and especially of the formula problem, see *The Making of Index Numbers*, by Irving Fisher, Houghton, Mifflin & Co., 1927.

post-war inflation. A so-called "multiplier" was supplied by the hotel; and, by means of it, each guest could translate ⁵ the printed prices on his bill of fare. He found the price of his dinner listed as, say, "6 marks," and the price of his room as "9 marks"; but, before he paid his bill, these figures had to be multiplied by the "multiplier." This was a factor, or index, representing the price level, or scale of prices, and varied from day to day, going up as the mark went down. It had nothing to do with the real price of the dinner, either in terms of labor, or relatively to the price of the room. Whether the multiplier was 100,000 or 1,000,000 made no difference to these relations, but only changed the dinner and room from 600,000 and 900,000 to 6,000,000 and 9,000,000. The multiplier, or index, saved the trouble of too frequently reprinting the price lists when the price level was changing so fast.

The almost universal failure to distinguish between a price and a price *level*, or *scale* of prices, is responsible for untold confusion of mind on the subject of this book. This confusion is characteristic of most speeches and writings on economics, including the pronouncements of editors, officials, business men, and bankers, and even of some who bear the title of economists but who have not, for some reason, separated supply and demand on the one hand from the "equation of exchange" on the other.⁶ The concept of a price level, its measurement by an index number, and its reciprocal, the purchasing power of the dollar, are pre-requisites for understanding what happened in 1932.

⁵ See *The Money Illusion*, by Irving Fisher (The Adelphi Co., 1928), pp. 48-9.

⁶ See *The Purchasing Power of Money*, by Irving Fisher, (Macmillan, 1931).

THE VICIOUS SPIRAL DOWNWARD

We are now in a position to explain the statement that a disturbance of the price level—or (as we may now express it) the alteration of “the real dollar”—*reacts* on the debt situation which first caused the alteration. When a whole community is in a state of over-indebtedness, the dollar reacts in such a way that the very act of liquidation may sometimes *enlarge the real debts instead of reducing them!* Nominally, of course, any liquidation must reduce debts, but really (by swelling the worth of every dollar in the country) it may swell the unpaid balance of every debt in the country, because the dollar which has to be paid may increase in size faster than the number of dollars in the debt decreases. And when this process starts, it may go on and on, much after the fashion of a vicious circle. First, mass payment by the weaker debtors swells the whole community’s dollar, and so weakens the financial position of stronger debtors; whereupon, many of these rush to liquidate too, thus further swelling the dollar, till it weakens the position of still stronger debtors; whereupon many of *these* in turn rush to liquidate, thus further swelling the dollar and weakening still other debtors—and so on in a vicious circle; or, rather, in a vicious spiral *downward*—a tail spin—into the trough of depression.

TWO PARADOXES

After the weak, or rash, or improvident debtors (or their creditors) have started the vicious spiral, we can scarcely blame the others individually for going on with it, through further liquidations, even though every liquidation makes bad matters worse—accelerating the tail spin. For, granting that mass liquidation has once started, each

individual who does not join in will come off still worse. For, even if he stays out, his ten thousand neighbors will liquidate just the same, and thereby swell his dollar—and thereby swell his *whole* debt instead of *part* of it.

The same principles apply to creditor banks. When a bank calls a loan, it helps deflate the credit currency; but other banks, equally scared, would deflate it anyhow; and if one bank stayed out, its debtors would go insolvent before they could be dunned. In a word, the banks, too, are forced into cut-throat competition for cash or “liquidity.”

THE MAIN SECRET

When over-indebtedness thus goes so far that the resulting mass liquidation defeats itself, we have the paradox which, as I think, explains the so-called mystery of depressions—at least of many depressions. It is more than the fact that the dollar, when thus expanded, adds to the burden of every debtor. It is rather that this expanding dollar may (and sometimes does) not only grow, but grow *faster than the reduction of the number of dollars of debt*. When this happens, liquidation doesn't really liquidate, so that the depression goes right on—until there are sufficient bankruptcies to wipe out the activating cause—the debts.

SUMMARY

We have now mentioned, on their depression side, the cycle-tendencies of three of our eight economic factors.

1. Debts (their liquidation)
2. Volume of Currency (its contraction)
3. The Dollar (its swelling—usually considered in terms of a shrinking scale of prices).

Of these three depression tendencies, the second (cur-

rency contraction) is important only as a connective process between the other two—which two should be called

The Debt Disease (too much debt)

The Dollar Disease (a swelling dollar)

That the dollar disease—falling prices—is the main secret of great depressions is confirmed by the observations of Professor Wesley Clair Mitchell and Dr. Thorp to the effect that depressions last three or four times as long when prices are falling and are very short when, by some good fortune, an up-tide of prices intervenes.

THE DOLLAR DISEASE IS NEEDLESS

But the mere fact that the debt disease may lead to the dollar disease does not prove that it must do so. The dollar disease will be unavoidable only “if other things remain equal.” Should other elements in the body of the currency not remain equal—should gold coin, for instance, become copious in the nick of time—this gold *inflation* might counteract the credit *deflation*. Prices might even go up instead of down; that is, the dollar might dwindle instead of swell. And the same result might come from paper inflation—for instance, by way of financing a war.

And it should be equally clear that deflation, or dollar bulging, is not an “Act of God” with a special mandate to baffle the human race. We need not wait for a happy accident to neutralize deflation. We ourselves may frustrate it by design. Man has, or should have, control of his own currency.

Such a control, so exercised as to neutralize the influences which tend to swell the dollar, would, of course, not avert from any rash initial debtor the measured consequences of his own rashness; but his punishment would be due to the nature of his separate debt and would, there-

fore, be chiefly confined to himself and perhaps a small circle of associates. The rest of the community would not suffer from any vagaries of the universal dollar. And even the rash debtor has a right to pay his debt in the same dollar in which he contracted it. It is manifestly unfair to require even a rash debtor to pay \$1.50 or \$2.00 for every dollar he really owes. The principle of simple justice implied in the term "real wages" is no more applicable to wage earners than it is to debtors.

In a word, if we *must* suffer from the debt disease, why also catch the dollar disease? If we catch cold, why let it lead to pneumonia?

CHAPTER III

REMAINING SIX MAIN FACTORS

NET WORTH

(The Fourth Main Factor)

BUT, assuming for the present, that neither accident nor human currency-control has forestalled the Dollar Disease, let us trace its further consequences through the series of economic factors, of which we have thus far discussed but three:

1. Debts—their liquidation
2. Currency—its contraction
3. The Dollar—its swelling (usually considered in terms of a falling price level).

The fourth factor is Net Worth.

The fall of prices reduces the money value of a business man's assets (except cash and debts due from others), while his liabilities, being debts, remain "fixed." Therefore his net worth, which is the excess of assets over liabilities, must shrink. Indeed, it will shrink *faster* than the assets do, because net worth is smaller than the assets, and yet takes the entire loss. Net worth is squeezed between the upper and the nether millstone; and often it passes below the zero mark, pushing the owner into business failure.

PROFITS

(The Fifth Main Factor)

Profits are, in the same way, squeezed between an upper and a nether millstone. Profits are the spread between the

receipts which fall when prices fall and the expenses which are, if not quite fixed, at any rate less responsive to the assault of deflation than prices are. These relatively unyielding expenses in the profit account include interest, taxes, rent, salaries, and to a less extent wages. The more unyielding the expenses the worse they pinch.¹ In this way, profits are reduced,² and often turned into losses—just as net worth is reduced and sometimes turned into failure and bankruptcy.

A depression might be defined as the contraction of net worths and profits.

So our list lengthens to:

1. Debt Liquidation
2. Currency Contraction
3. Dollar Swelling
4. Net Worth Reduction (turned sometimes to failure)
5. Profit Reduction (turned sometimes to losses)

But, once more, it should be noted that the drop, both in net worths and in profits, will be largely forestalled if the drop in the price level is forestalled.

PRODUCTION, TRADE, EMPLOYMENT

(The Sixth Main Factor)

In a capitalistic, or private profit, system, it is the profit taker who usually makes the decision as to the rate at which his enterprise is to be run. Therefore, variations in

¹ It follows that the pinch is especially felt by modern business because of its greater proportion of overhead and fixed expenses. If, as seems likely, business organization continues its tendency toward more fixed charges and less running expenses, its profits will be more and more sensitive to changes in the price level.

² This effect may be mitigated or escaped when through inventions, technological improvements and improved scientific management, expenses are greatly reduced.

profits, or in the expectation of profits, lead the business man to vary correspondingly the general policy of his enterprise.

When his profits are squeezed too thin for comfort, naturally he will cut his production and release some of his employees, so that the community's general out-put, trade and employment, will take a slump.

That is, current out-put varies with current profits.

Thus, currency contraction reduces out-put by reducing prices and so reducing profits.

There is a special category of production, namely construction—or the production of new equipment, such as buildings and machinery, intended to increase the capacity for current out-put. Construction is much more sensitive to changes in profits than is ordinary production or current out-put. Construction increases fastest with the approach of a peak load, or a strain upon existing equipment. And it is not much more sudden in starting than it is in stopping. Right amid the new-equipment fever, at almost the first sign or forecast of impending trouble, new construction may abruptly fall. It falls earlier and faster than current out-put; and it produces a greater reaction in employment. In fact, construction affects the slump in profits, employment and so on, like an amplifier.

The derangement of this group of factors (production, trade, and employment) covers the most obvious and commonly recognized symptoms of a business depression. In fact, it is often called a depression of trade.

Again our list grows:

1. Liquidation
2. Currency Contraction
3. Dollar Growth
4. Net Worth Reduction
5. Profit Reduction

6. Reduced Production (especially of equipment) along with reduced Trade, and reduced Employment.

But once more be it noted: if something will only forestall the price deflation (the Dollar Disease), thus largely forestalling the reduction of Net-worths and of Profits, then the slump in Production, Trade and Employment will also, to a large extent, be forestalled.

In passing it may be noted that currency contraction also reduces the demand for goods by reducing purchasing power; thus demand and supply shrink together. That is, currency-contraction not only acts indirectly on production and trade through the above series of six steps but also acts directly by reducing the wherewithal for buying goods. This effect (of Factor 2 on Factor 6) would be felt even if there were no fall of prices; in fact, it would be greater. Also unemployment means reduced purchasing power.

OPTIMISM AND PESSIMISM

(The Seventh Main Factor)

All of the down movements thus far mentioned—especially the down movements of Net-worth, Profits, and Employment—have psychological effects. Already we have seen that shrinking net-worth leads to distress selling. But distress selling implies distress. A conscientious business man, caught too deeply in debt and forced into bankruptcy, may become despondent, even to the point of suicide. Distress also occurs when profits merely decline, though there may still be hope for a better future.

Yet those who reckon their net-worths and their profits are a very small class compared with those whose employment is affected by a depression; and to be employed or unemployed is, to the employee class, a question almost

of life or death. Therefore, a depression affects the moods of that class with especial force.

There are, of course, some persons whose incomes run opposite to the general trend. That is, certain bondholders and salaried folk have fixed and safe money incomes; and whenever prices fall, these incomes will buy more. In terms of real income, their fortunes have actually improved. But even most of these people share the general fears. In fact, they are the very type most accustomed to play safe and are, therefore, the most easily alarmed by general conditions. They begin to wonder if their incomes are safe after all. Indeed, they see some of their own class either out of employment or ruined by the ruin of the enterprises on which they had depended for their supposedly safe incomes. In a word, pessimism, in a depression, becomes practically universal.

Nor is this psychological movement only emotional. Partly it is intellectual as well; for it involves illusion and misjudgment. During depressions, the sober judgment of many people gives way to over-estimates of the degree and permanence of "hard times." And, as our estimates are largely guesses—guesses as to what other people will do or think, and as to what and how much they will buy or sell—there enters the element of mass psychology. Everybody's opinion is largely guided by the opinion of everybody else; even the people with the coolest heads will at least "fear the fears of other men" and contribute to the panic of which such fears are a part.

Our list now is:

1. Liquidation
2. Currency-Contraction
3. Dollar Growth
4. Reduced Net-Worth
5. Reduced Profits

6. Reduced Production

7. Increased Pessimism and loss of confidence.

But here again, if (by the checkmating of deflation) the failures and the unemployment be forestalled, pessimism and loss of confidence will also be forestalled.

THE VELOCITY OF CIRCULATION

(The Eighth Main Factor)

Hitherto, under the head of deflation, we have considered only the *contraction* of currency (meaning deposit currency). But now we come to the *slowing* of currency through pessimism. For, while distress liquidation is contracting deposit currency, the loss of confidence that accompanies the distress slows down *all* currency, bank deposits included; for scared people hold on to their money (of all kinds) a little longer—they spend it a little more slowly.

And here again, *all* kinds of debts (including public debts through the pressure of taxes) have their effect in slowing the turnover of currency, because all kinds of debtors (including taxpayers) are especially subject to caution and fear. Even buyers at distress-sales, who gain the buying power that the sellers lose, will be cautious and postpone their buying and hold on to their money a little longer.

It takes contraction and slow turnover together to make up the full dose of deflation. Suppose, for instance, that the currency, besides being contracted 50 per cent is slowed another 50. This means that there is only half the currency moving half as fast. Therefore, the currency as a whole will do only a quarter of its former work. Either Prices must drop three-quarters, or Trade must contract three-quarters, or else both Trade and Prices must drop in

some degree. And this combination effect is what usually happens.

No one incident unites both contraction and slowing so effectively as a stock market crash. A stock market crash wipes out great masses of credit currency with unusual suddenness; and, at the same time, it so stirs the cautious side of human nature that men hang on harder than ever to their available money of every remaining sort. In combination, these two sequels of a stock market crash (contraction and slowing of currency) constitute a dose of deflation almost as good (or as bad) as a bonfire of a large part of the nation's cash. A stock market crash is evil enough in itself; but it is not confined to itself. Through its double effect on the currency in which commodity prices are registered, it sets commodity prices sinking in sympathy with the stock prices—more slowly but also more injuriously to the foundations of the economic structure. And at last, something like a panic develops in the commodity market.

HOARDING, A SLOWING OF VELOCITY

Hoarding is a slowing of currency turnover of the extremest kind. It is the supreme manifestation of popular moods in a depression. Housewives and their breadwinners then become distrustful of everything except money. Bills and coins are confided to stockings or mattresses, or are put underground, or (in a larger way) stored in safety deposit vaults. Credit deposits may be hoarded too. In such banks as are considered safe, large credit deposits will be kept, but kept idle. Checking accounts, based on *cash* deposits, will often be changed into time deposits, bearing more interest than checking accounts. Finally, if there be any reason to fear for the

solvency of a bank, it will be subjected to a "run"; and the money, after it is withdrawn, will be hoarded at home.

It should be clear that hoarding, once introduced, becomes a tremendous factor in the vicious spiral, and can continue it with or without over-indebtedness. Hoarding lowers the price level. The lowered price level hurts business (debts or no debts); hurt business increases fear, and the fear increases the hoarding.

THE TWO PARADOXES AGAIN—APPLIED TO HOARDING

We have seen, with respect to the contraction of the currency by mass liquidation, how debtors and their creditor-banks, by making, or trying to make, things better for themselves individually, make things worse for themselves collectively. The same applies to the slowing of the currency by hoarding. Every man who hoards does it for his own protection; yet, by hoarding, he aggravates the very condition that started his fear. This is especially true when his panic puts panic into the banks. They sometimes make runs, so to speak, on their customers before the customers can make runs on them.

In fact, banks find themselves engaged in a race for "liquidity." They begin to call their loans; but by calling loans, they help further to extinguish deposit currency. Moreover, the cash which each bank collects comes largely out of other banks; and these, in turn, have to replenish their cash, which they can do only by, in turn, calling loans, thus further extinguishing currency. This hoarding of money by banks has a magnified effect on deposit currency; for every dollar of reserve in a bank may support, say, ten dollars of loans. When, therefore, one bank forces another bank to surrender one of its physical reserve dollars, it forces a potential reduction of ten dollars of deposit

currency. Even the bankers often fail to appreciate this ten-fold effect, because the initial effect of a physical dollar withdrawn is only one dollar of deposits withdrawn.³

POSSIBLE CONSEQUENCES OF CONTRACTION
AND HOARDING

If all deposits were thus extinguished, as is not impossible theoretically, then the only circulating medium remaining would be physical, hand-to-hand, or pocket, money. There would then be a 90 per cent shrinkage in the circulating medium, and a slowing down of such currency as remained. The price level might readily sink to less than one-tenth of what it had been, despite a reduction in the volume of trade. Then almost all business men in debt, including farmers, would be completely ruined.

We thus again add to our list:

1. Liquidation
2. Contraction
3. Dollar Growth
4. Reduced Net-Worth
5. Reduced Profits
6. Reduced Production
7. Pessimism
8. Hoarding and a general slackening in the velocity of circulation, both of deposits and of physical money.

But here again, if deflation—or the swelling of the dollar (due to both the contraction and the retardation of the currency) be checkmated, the slowing of velocity and hoarding will be checkmated too. For instance, an increase in volume, if sufficient, may conquer a decrease in Velocity.

³ The details of the magnifying process have been set forth by Dean Chester Phillips of Iowa University in his *Bank Credit* (Macmillan, 1920) and have recently been further worked out mathematically by Professor James Harvey Rogers of Yale University.

RATE OF INTEREST

(The Ninth Main Factor)

Debts bear interest. Consequently, a cyclical tendency in debts will involve a cyclical tendency in interest rates. In a word, as borrowers grow discouraged and therefore scarce, interest (in the large centers at least) tends to go down. Nor can we say of this disturbance of interest rates, as we have said of other cycle-tendencies, that if the deflation were annulled, the disturbance of the interest would be entirely forestalled. For the cycle-tendency of debts carries with it *directly and necessarily* a corresponding tendency in interest rates. This, however, is relatively harmless.

"REAL" RATES VS. MONEY RATES

But here enters another paradox: the inconsistency between this nominal or money interest and *real* interest. If, last year, I borrowed 100 dollars and am to pay 105 this year, my *nominal* or money rate of interest is 5 per cent. But if, meanwhile, the dollar has swollen so that, when the due date arrives, 105 dollars have become worth 106 of last year's dollars, my *real* interest is not five per cent but six per cent.⁴ In a depression, therefore, when interest is *meant* to be low, the real interest amounts, sometimes, to over 50 per cent per annum! ⁵ The really important dis-

⁴ The distinction between the money rate of interest and the real rate of interest is like the distinction between money wages and real wages, and between money debts and real debts. But it is more complicated, and so more often overlooked. We translate money wages into real wages or money debts into real debts *at one point of time*. But to translate money interest into real interest we must take account of at least *two* points of time, namely the time when the debt is contracted and the time (or times) when it is repaid. For further analysis, see Chapter XIX of *The Theory of Interest* by Irving Fisher (Macmillan, 1930).

⁵ But the various nominal rates themselves move unequally. The pes-

turbance is this discrepancy between real interest and money interest; and *this* would be forestalled if the deflation were annulled.

DEFLATION THE ROOT OF ALMOST ALL THE EVILS

We see, then, that if the liquidation were prevented from bulging the purchasing power of the dollar—that is, if the dollar was safe-guarded—all the other depression consequences in our list (except as to money interest) would be forestalled, and the consistency between money interest and real interest would be preserved.

Practically the only evils would then be the disturbance in the debts themselves and in their money interest; and these would be relatively tame affairs. Of a depression as we know it, there would be little left.

CHRONOLOGY OF THE NINE FACTORS

Our nine factors have been set forth in the following order:

1. Debt Liquidation
2. Currency Contraction
3. Dollar Growth
4. Net-Worth Reduction
5. Profit Reduction
6. Lessened Production, Trade, Employment
7. Pessimism and Distrust
8. Retarded Circulation
9. Lowered Money Interest—but raised real interest.

simism of the lenders causes them, for *inferior* borrowers, to *raise* their rates, instead of lowering them—at least to raise them relatively to the rates allowed on safer loans. That is, in a Depression, any natural divergence between the two classes of loans is increased.

But, while the order of the nine major events as above set forth is a good pedagogical order, it is not a strictly chronological order. Its principal departures from chronology lie in the items of interest and pessimism, both of which, if treated chronologically, should come earlier. Pessimism was purposely delayed in the exposition until all the chief reasons for it had been catalogued. It was then inserted once for all. Perhaps, more than any of the other factors, it really comes in progressively all along the line. The first touch of liquidation has a depressing effect on moods; and this first approach of the pessimistic mood retards circulation.

Even the very start of the liquidation may be the psychological discouragement—either of the debtor or the creditor—from a realization that the debts they owe, or the debts owing to them, are too high and should be reduced. This realization may be borne home by many causes; but the chief cause may well be that earnings, current or expected, have begun to disappoint the excessive expectations which originally led to the debts. It is often said that the “turn of the cycle” may be due to a very trivial precipitating cause. Anything which causes a slight revulsion of mood may be the last straw. Then, with liquidation and distress selling, the depression spiral begins its tail spin.

So the slowing of circulation may show itself statistically in advance of the credit contraction, though the contraction was listed first for convenience of exposition and the retardation of velocity was not mentioned until the full reasons for it had come into view.

Not only may the retardation of currency begin before its contraction, but there may be at first an actual expansion of currency, if enough cautious people set about accumulating cash studiously.

Nor are these the only chronological complications. Our

Nine Factors are only a part of the whole complex picture in any actual depression, and their many effects on each other have not been exhaustively stated. If we may mix our metaphors, a depression may be said to be full of tangles and cross-currents. Moreover, dislocations may occur through a great variety of interferences.⁶

THE TROUGH OF DEPRESSION

But no downswing goes on forever. Let us trace the first factor, debts. The process of liquidation may persist until at last it overtakes the swelling of the remaining debts, and begins to reduce not only their number but their real size. Every business failure, every bankruptcy, every reorganization grimly speeds the liquidation by striking off a certain proportion of the world's debts without even paying them; so that these failures may prevent the vicious spread of liquidation from swelling the dollar to ten fold dimensions. Moreover, the reduction in the volume of trade, caused by the fall of prices, tends to check that fall. That is, the shortage of money and credit relatively to the needs of commerce becomes a less serious shortage when the needs of commerce have also shrunk. Thus, through *real* liquidation, or failures, or both, and a diminution of Trade, the bottom of the descending spiral is finally reached.

The time comes when the business world is left in a state of *under*-indebtedness. Then the Debt Cycle (or cycle tendency) will be, so to speak, at the zero hour, ready for a recovery which may merge again into a Boom phase, similar to that from which it fell. At this zero hour the world is full of bargain prices—including, of course,

⁶ In Appendix I will be found a schedule covering some of the complex chronology of the nine factors.

investments, and including interest rates for those who would borrow in order to invest. And since each dollar of debt no longer grows during the life of the debt, the nominal interest is not belied by the real interest, but both are, for the time being—for short-term loans—one. All that is then needed for an upswing is some left-over individuals, still possessed of resources enough to enable them to take advantage of these bargain prices.

The downswing has itself tended to produce such individuals. They are the prosperous residue of the creditor and salaried classes—the unharmed bondholders and the unharmed salaried folk. To them, as already noted, a higher dollar spells a lower cost of living, and encourages the buying up of the wreckage after the storm. Moreover, the hoarders, when convinced that the bottom has been reached and that they are safe in returning their hoards into circulation, become important buyers.

THE BOOM PHASE AGAIN

The upswing is helpful at first. It begins as a recovery all along the line, reversing each of the nine factors. Distrust and gloom gradually give way to confidence and then to enthusiasm. Hoards come out of hiding. Deposits cease to be idle. The rush includes commodity investments and new loans. For this very reason the nominal rate of interest rises; but it does not check the tide because the real rate falls. That is, the new buying and borrowing *reflates* the deposit currency, that is expands and speeds it, thus raising the price level (that is, shrinking the dollar), so that debts, though nominally increasing, diminish in real burden per dollar. The burden per dollar may even diminish faster than the nominal amount of the debts increases, thus diminishing the total real burden of the debts,

despite their accumulating numbers. Thereafter, buying and borrowing become still more aggressive. The buyers rush still faster, so that their purpose may be accomplished while the buying is good. At the same time, the reflation, by raising prices, raises net worth, thus dispelling fear of business failure. Profits, too, are raised, thus encouraging the profit-takers to increase their out-put, their construction, and their pay-roll. Trade grows.

A VICIOUS SPIRAL UPWARD

If only the movement would stop at equilibrium! But our narrative in the last paragraph already implies a vicious spiral upward, the counterpart of the vicious spiral downward. It involves, like the downward spiral, three of the nine oscillatory factors, namely, Debts, Circulation, and Real Dollars. As reflation lightens the real burden of the debts, the debtors, including new and weaker borrowers, are lured into further extending their enterprises, and, for that purpose, into incurring more debts, which further dilute the real dollar and so further lighten the real debt-burden, and so still further tempt the business world (including new and still weaker borrowers) to incur still more debts, and so on and on—until again, after the number of dollars of debt grows faster than each dollar grows smaller, there comes an awakening to the fact that there is an over-indebtedness which must be corrected. Then borrowing diminishes, liquidation sets in; and once more we are headed for depression.

CHAPTER IV

STARTERS

UNPRODUCTIVE DEBTS

WE began the discussion at the crest of the wave, with a state of over-indebtedness presupposed. But what started the debts?

First, as an approach to the problem of the origin of over-indebtedness, let us classify our debts.

Chiefly, there are two general classes of debts: productive and unproductive.¹

An unproductive debt is incurred after some misfortune has cut a hole in the borrower's income-stream; and the loan partially fills up the hole, while the borrower awaits better times. Thus, if a workman falls ill and cannot, for a while, earn wages, he gets a loan to tide him over; and with its proceeds he ekes out the straitened family income, repaying the debt later when that income is increased by the resumption of wages. Occasionally, of course, such mischances may affect great numbers of people at one time, and so result in general over-indebtedness. A great earthquake, conflagration, flood, drought, pestilence, or war may result in unproductive debts on a large scale. Farm depression is often aggravated, if not caused, by drought, and crop failures. A war will create huge debts which are not only unproductive but devoted to destructive purposes.

¹ For fuller discussion, see *The Theory of Interest* by Irving Fisher (Macmillan, 1930).

Unproductive debts, however (except in war), are likely to be sporadic; and, since the borrowing in each case is reluctant and often cautious, it is likely to be limited by the available security. On the whole, therefore (except in war), this kind of indebtedness is not apt to be greatly overdone.

PRODUCTIVE DEBTS

As an explanation of economic crises, or of most economic crises, productive debts are far more important than the unproductive—except war debts. In the case of productive borrowing, as in unproductive, there has been a hole cut in the income, but this hole is no accident. It has been deliberately cut by the borrower. A man who sees an opportunity to invest at a tremendous profit would be quite willing, if he could not get a loan, to sacrifice the enjoyment of a large part of his present income, in order to invest in the supposed bonanza, even if, for a while, he must live on bread and cheese. That is, he saves instead of spends. But if he *can* get a loan, he may fill up the hole which he cut in his enjoyable income. That is, he will sacrifice little if at all on his current spending. And if he finds that he can borrow very freely, he may be tempted to go still further into debt, and spend even more than before the loan, relying on the expected returns from his investment to repay both his investment and his extravagance. His psychology is not that of the unfortunate. His mood is not fear, gloom or caution. It is enthusiasm and hope.

Often, if not usually, the opportunity to invest is the result of new inventions, new discoveries, or new business methods. When inventors, or their backers or exploiters, think they can, by borrowing at (say) 6 per cent, make profits of 100 per cent, why should they hesitate to bor-

row, and keep on borrowing? Examples of such lures are the opening of the Erie Canal, the building of new railways, the exploitation of the Bessemer steel process, new uses of electricity, and new industries, such as automobile, airplane and radio.

SOME HISTORICAL ILLUSTRATIONS

In 1792-93, in England, the lures were canals, real estate and machinery. In 1814-16, when Napoleon's interference with international trade had been broken, the lure, in England, was the prospect of renewed trade with the Continent. English speculation in exportable commodities became a stampede. In 1825, in the same country, there were various lures: mines and other commercial enterprises in Mexico, South America, and other foreign parts—what G. H. Powell calls “exaggerated views of coming prosperity,” through the profits to be had by investing. Says Tooke:

“This possibility of enormous profit by risking a small sum was a bait too tempting to be resisted; all the gambling propensities of human nature were constantly solicited into action; and crowds of individuals of every description—the credulous and the ignorant, princes, nobles, politicians, patriots, lawyers, physicians, divines, philosophers, poets, intermingled with women of all ranks and degrees (spinsters, wives, and widows)—hastened to venture some portion of their property in schemes of which scarcely anything was known except the names.”

In America, the chief depressions were 1819, 1837, 1857, 1873, and 1893. In most of these there was inflation beforehand and then deflation through contraction of the currency and bank credits. In 1819 and 1837 there had been wildcat banking causing inflation. In all cases there

was speculation in real estate; for, as Victor Clark points out, a new country like America offers its opportunities for big profits largely in connection with the exploitation of new areas of land. In 1819 the land boom and collapse was in the east. In 1837 it was in the west and southwest. Whenever and wherever new lands were opened there was land speculation, the latest case being the Florida land boom of 1926. The crisis of 1837 followed land and cotton lures, and the lure of canal building, steamboats and turnpikes. The speculation was led by Biddle, the great Philadelphia banker of that day. The result was to open up each side of the Appalachians to the other. The opening of the Erie Canal had profound economic effects. The investments in these internal improvements were made possible by large loans from Europe.

The crisis of 1857 followed the exploitation of the California gold discoveries and the beginnings of railways, the extension of internal improvements, and the opening of the Northwest.

The panic of 1873 followed the exploitation of trans-continental railways, and western farms through the Homestead Act. These new farms were mortgaged to Eastern lenders.

Preceding the panic of 1893, in America there was an over-exploitation of farm implements resulting in over-production of farm products, pointed out by Professor Bogart. But the main cause appears to have been distrust of the monetary situation due to the injection of too much silver into our currency. The gold base was too small.

THE SHADY SIDE

A genuine opening of new opportunities for profitable investment is only the first step. At first, it is the legitimate

leaders in the exploitation who are responsible for inducing the public to invest, and to borrow for the purpose of investing. Afterward some people, instead of investing for earnings, merely speculate—buying in order soon to sell again to others who want to invest or to other speculators. Afterwards come less scrupulous promoters; and finally downright crooks. Probably no great crash has ever happened without shady transactions. Indeed, the disclosure of these is often the last straw which breaks the camel's back and precipitates the calamitous liquidation. Fraud enters as one link or mesh in the net-work, being both effect and cause—an effect of genuine opportunities to invest, and a cause of over-indebtedness. No debt is so excessive as one based on mistaken hopes, but when disillusionment comes, the adventure is denounced as a “bubble” that has been pricked, such as the Mississippi Bubble and the South Sea Bubble.

MONETARY INFLATION ALONE

As debt starters, we have considered (1) Unusual Debts of Misfortune, including War (that is, *decreased present* income), and (2) Unusual Debts for Investing (when there are prospects of *increased future* income). But we also have to consider: (3) Monetary Inflation *without* any unusual debts to begin with.

Such monetary inflation, whether designed or accidental, begins directly on the currency, without unusual debts, but presently reacts on the debt situation, by pouring into business such unwonted profits that business men begin to extend themselves in new enterprises, requiring *more* debts. There are many historic instances of this sort of thing. In 1849 California flooded the world with gold. Again, between 1896 and 1913, new gold mines poured

out their injurious treasures from South Africa, Colorado, and Alaska; and at about the same time, the weaker mines were revived by a cheaper process of extracting gold from low grade ores. The world has suffered also from many great paper inflations, especially in war time. These inflations have all led to debt over-extension, which has thereupon set in motion the eight other cyclical tendencies.

COMBINED STARTERS

Sometimes we find Inflation and Great Expectations joining forces. Such was the case in the crisis of 1857. Men had been over-borrowing in order to invest in mines. This would have been bad enough if the mines had produced only copper; but the mines produced gold, whose inflationary out-pour was added to the influence of the debts; that is, the inflation of gold currency and the inflation of credit currency interlocked.

On the other hand, instead of intentional or accidental inflation, there might be intentional or accidental deflation. After the Civil War, when the greenback inflation of the 60's was replaced by the resumption of gold payments in 1879, there was a case of intentional deflation; moreover, this was followed up by accidental exhaustion of gold mines in the face of expanding business. Such may have been among the important causes of the depression which culminated in 1893.

In the vicious spiral, the debt factor and the inflation-deflation factor pursue each other, and either may be the starter of the pursuit. The greatest of all starters is war, including the rebound from war. War is the greatest inflater; and war's aftermath is the greatest deflater, because war is the greatest of all debt-makers, both public and private—and of both productive and unproductive debts.

And, finally, war stimulates other starters, such as invention.

Sometimes, by coincidence we get all conceivable sorts of starters working in the same direction—such as war, gold discoveries and new processes, new banking systems, with capacity for great credit expansion, great inventions and the rebound from a recent depression. Many of these coincided in the United States in the period 1913-19 and many also in 1926-9.

CHAPTER V

"THE" BUSINESS CYCLE?

THE DEVELOPMENT OF THE CYCLE IDEA

ORIGINALLY, people were content to refer to any given case of Boom and Depression as a "Business Crisis." Then the given cases seemed to recur with some regularity and to show an apparent family likeness. This fact is brought home, for instance, by the eloquent words of Leonard Bacon in 1837, quoted in the beginning of this book and applying almost equally to 1932. As a result of these family likenesses, and of the recurrence as well of the phenomena preceding and of the phenomena succeeding the "crises," the term "cycle" became more popular than "crisis."¹

In 1867, before the Manchester Statistical Society, John Mills of Manchester, read a very able paper on "Credit Cycles and the Origin of Commercial Panics"² in which he stated that Booms and Depressions definitely repeat themselves "about every ten years." In 1894, Palgrave's *Dictionary of Political Economy* spoke rather more loosely of a "ten or twelve" year period; citing 1753, '63, '72, '83, '93; 1815, '25, '36, '47, '57, '66, '78, and '90. Recently, the favorite average seems to be nearer to 3½ years. More recently Professor Hansen has said:³

¹ This has been largely through the influence of Wesley Clair Mitchell.

² *Transactions of the Manchester Statistical Society*, December, 1867.

³ *Economic Stabilization in an Unbalanced World*, by Alvin H. Hansen (Harcourt, Brace & Co., 1932), p. 93.

"The first great achievement of the scientific study of crises and depressions was the discovery that business *moves in cycles*. The first cycle to be discovered was the major cycle, which runs its course usually in from seven to eleven years. This cycle was firmly established by the great work of Clement Juglar in his *Des crises commerciales*, first published in 1860. Only in the last two decades was it established (notably through the work of Warren M. Persons and Wesley C. Mitchell) that there is, at least for the United States, a much shorter minor cycle of about forty months' duration. That it should be especially prominent in the United States is perhaps due to the fact that her domestic market is so vast that internal minor fluctuations can develop here that are not reflected in the outside world. Historically, in the United States every second or third minor depression develops into a major depression. Finally, it remained for Professor N. D. Kondratieff of Moscow, Russia, to point out the existence of 'long waves,' each extending over a period of from forty-five to sixty years."

"FORCED" CYCLES

Certainly there are in economic affairs cyclical *tendencies*; and these are of two sorts: those imposed upon the economic organism from the outside, or what may be called "forced" cyclical tendencies, and those inherent in it.

Those imposed from the outside are largely of astronomical origin. It is not impossible that among these there may be economic rhythms longer than a year. W. Stanley Jevons thought he detected a ten year economic rhythm produced by sun spots. H. S. Jevons seemed to uncover a three and a half year economic rhythm which he supposed to be the effect of solar radiation. Prof. H. L. Moore imputed an eight year economic rhythm to the conjunctions of Venus. More recently, Dr. Abbott of the Smithsonian In-

stitution has been studying what appear to be long time cycles in solar radiation. It is, of course, quite possible that these cycles may have some obscure effect on the economic affairs of earth. All these tendencies may possibly exist—and exist consistently with one another, and with many more—although they seem as yet to lack sufficient proof.

There are, however, shorter rhythms in human affairs, indubitably caused by astronomical forces. These rhythms are yearly and daily. The swing of the earth around the sun causes variations of light, heat, and moisture, and these determine the seasons, thereby causing rhythmic tendencies in planting and reaping, and in certain resulting phases of commerce and of banking. These yearly rhythms have come to be called, not too happily, “seasonal variations”; they might rather have been named seasonal cycles or cyclical tendencies. So, also, the turnings of the earth around its own axis cause the alternation of light and darkness, thus producing, in all human activity (business included), rhythmic tendencies every twenty-four hours.

There are other cyclical tendencies imposed from outside the economic mechanism. These are customary or institutional rhythms. For instance, the religious and traditional observance of Sunday sets the weekly rhythm of payrolls; and the still more arbitrary month sets the rhythm of salary checks and billings.

All these “forced” rhythms, that is rhythms imposed upon the economic mechanism from the outside, are permanent, or at any rate as long-lived as the customs or astronomical or other outside influences which impose them.

“FREE” CYCLES

No one denies the existence of these “forced” rhythms; but none of them seems clearly to coincide with booms and depressions. To find the causes of booms and depressions,

we must step *inside* the economic mechanism and consider rhythms relatively "free" of outside control.

But when we have done that, we find that clearness ends and debate begins. We find fairly clear "trends" or progressive changes, but these are not rhythms. And we find much evidence of rhythmic tendencies, but these are not clear; and their name is legion. This book has dealt with only one group of nine cyclical tendencies closely inter-related, and even their inter-relations are not simple, but form a tangled network of permutations and combinations. All their possible interactions by pairs would come to over 360,000 and this number could be multiplied indefinitely by sub-classifying our nine factors and adding others.

ANY UNBALANCE MAY CAUSE CYCLICAL TENDENCIES

The dis-equilibrium of any factor, theoretically at least, may start up oscillations in many or all of the others. The starting point may be not the two we have discussed (over-indebtedness and deflation) but some over-production or under-production, some over or under-consumption, some over or under-investment, over or under-saving, or any other sort of "over" or "under"—that is, any temporary deviation from balance causing a tendency to return to the point of equilibrium, and to pass beyond it, with subsequent swings back and forth.

Economic forces are not, as the classical economists once seemed to imagine, so simply related as a row of blocks, each acting on the one ahead; but rather, as Walras long ago pointed out, these forces consist of numerous variables, each affecting all the rest, so that a change in one tends to cause changes in all. Economic forces might be likened to a dozen agates in a bowl, a push on any one of which will

set them all rocking back and forth. This being so, we need not look for one single or simple explanation of economic disturbances, though we may hope to find some of the factors—some of the agates—bigger and more dominating than the rest. Over-indebtedness, for instance, and deflation may—to change the simile—make big waves in the economic pond, while over-production, or a short wheat crop or even a Florida land boom may, in comparison, produce mere ripples.

BUT THESE TEND TO DIE DOWN

But, unless restarted by some outside force, any ordinary disequilibrium eventually gives place to restored equilibrium.⁴

Moreover, in every type of known action and reaction, there is a progressive deterrent called friction. This is true of mechanical devices like a pendulum; and it seems reasonable to think that in all economic movements there is something analogous to mechanical friction which, for convenience, may be called "economic friction," tending to stop economic movements in whatever direction. If this is true, when any economic pendulum has swung in one direction, it tends to swing less in the other direction. All of this is purposely stated as a tendency. It will be actually true only in the absence of a new jolt, which, however, is very likely to occur, in economics as in mechanics.

"THE" BUSINESS CYCLE A MYTH?

The proponents of "*the*" business cycle seem often to overlook other interfering cyclical tendencies and interfer-

⁴ That is, we assume most equilibrium to be stable. Unstable equilibrium, *ipso facto*, destroys itself and is not repetitious.

ing "friction," and expect the actual resultant fluctuations to form well marked cycles—at any rate after eliminating secular trend and seasonal variation—and without any successive reductions in these waves. Yet, so far as I know, they have never been able to diagram any successive economic swings that had a reasonably similar shape, or covered reasonably equal spans, or did not start with some unrhythmic outside cause, such as discovery, or invention, or the opening of new markets, the development of new areas or of new resources in old areas; or such causes as war, pestilence, fire, flood or earthquake. As a matter of history, it always seems to be a case of one or more of these hap-hazard starters colliding with some price, prices, price level, income, production, consumption, stocks of goods, debts, or some other factors in the economic mechanism. It would be still more difficult to find any rhythmic tendency among the starters themselves. It is true that the misery of a depression often stimulates invention, and that one invention often leads to another, and that one war does not exhaust the causes of war; and it may be true that inflation tends to incubate war-preparations and that war tends to promote invention; but who can as yet discern any real rhythm in these? They are nothing if not miscellaneous. The capture of Napoleon in 1815 and the railway boom after the Civil War seem scarcely a part of a cycle, much less of "the" cycle.

Recent and intensive studies have pretty well dispelled the idea of *actual* periodicity; but the undoubted fact of rhythmic *tendency* in many if not all economic factors continues to make the search for periodicity—or at least for self-perpetuation—at once enticing and baffling. Sometimes the starters follow each other so fast that, before the rocking initiated by one has died away, another is in action, and this continuity lures on the searcher. Then sometimes, by

good luck, several oscillations may complete themselves without the interrupting of a new starter, further corroborating the cycle idea. By still better luck, the initial pushes themselves may sometimes show an apparent periodicity, as if they operated like the escapement mechanism in a pendulum clock. Such a coincidence occurring in (say) half the cases will be very striking; and in the other half, the fading rhythm will stay sufficiently visible to satisfy the theorist, who wants to believe in its periodicity or power of self-perpetuation.

I am open to conviction, if and when evidence shall be presented of self-starting and self-perpetuating economic rhythms, but thus far I have been able to see only a tangle of coincidence and contradiction, which may be illustrated by a rocking chair, or a sea craft, in surroundings which furnish both rhythmic and erratic influences. The chair, when tipped, certainly has a tendency to keep rocking—but not forever. And perhaps it is either restarted or put out of rhythm by a new jolt from the dusting housewife.

The seacraft, when tipped by a wave, tends to return upon itself and to rock on regularly; but its rhythm is constantly put out by the buffeting of additional waves. The waves themselves act under laws of rhythm which are unailing; yet the actual rhythm will fail, through the buffeting of cross winds. Imagine, then, a rocking chair on the deck of a rocking ship, on a rolling sea. The ultimate chair is subjected to so many influences that its motion will not conform with any simple rhythm. The net motion will be made up of many rhythms and non-rhythms, and will, therefore, appear sometimes rhythmic and sometimes completely unrhythmic. At all events, no one would think of referring to it as “*the* rocking chair cycle.”

In short, it appears that “free” cycles tend to die down, while “forced” cycles do not, and that in any actual case

we find a composite of both the free and the forced cycles as well as trends and starters.

CYCLES AS FACTS OR TENDENCIES

The main point, however, is to acknowledge the distinction between cycle as fact and cycle as tendency.⁵ It is one thing to say that, under certain simplified conditions, business *would* oscillate according to a certain repeating curve, just as, under simplified conditions, the rocking of the chair would make a perfect repeating rhythm. It is quite another thing to say that business *did* actually oscillate on that curve, in the years 1929-32, or in any other historical case. A tendency is conditional; a fact is unconditional. A tendency is relatively simple; a fact will always be complex—the resultant of a great number of tendencies, some of which are cyclical and some—like the housewife's duster—not cyclical at all.

For these reasons, I deprecate the use of the term "cycle" as applied to any actual historical event. I would reserve the cycle concept for a tendency, or at the utmost a specified combination of tendencies.

But I am not disposed to deny the value of any real knowledge that can be gathered from the study of the cyclical tendencies behind the composite and jerky motions which finally emerge. In fact, it is precisely when the rhythms of the ship are most shaken by the pounding of a score of non-cyclical forces from both sea and sky, and only a series of short looks ahead are possible, that a sailor's knowledge of action and reaction is most important. When the ship is poised on the crest of a wave, it may be subject

⁵ See "Business Cycles as Facts or Tendencies," by Irving Fisher, *Economische Opstellen* aangeboden aan Prof. Dr. C. A. Verrijn Stuart, Haarlam, 1931.

to any or all of a dozen possible disturbances; but, in another second, its movement will be determined and will be apparent to the sailor, who will then know approximately what actions to expect for the next five or ten seconds. And it avails him to know. Likewise it will avail us to know all we can of cyclical tendencies in business, even though, to use such knowledge, we need also to know the other components which are not cyclical.

The whole picture then contains these four elements: forced cyclical tendencies; free cyclical tendencies; starters; trends.

CHAPTER VI

OTHER THEORIES

MANY THEORIES MUTUALLY CONSISTENT

IN this tangle, which includes factors that can oscillate and starters that can touch off the oscillations, it would be strange indeed if any two students of the boom-depression sequence should emerge with just one theory. A variety of searchers is pretty sure to chance upon a variety of approaches, and therefore end with a variety of conclusions. Yet those conclusions are often supplementary rather than inconsistent. Indeed, the regrettable feature of this subject is that some students become so enamored of one factor as to reject all others. Moreover, those who think there must be but one secret for all the phenomena of a boom-depression sequence, are sometimes too ready to greet any new contribution as a candidate for the coveted office of sole explanation. For myself, in various writings which bear only obliquely on the specific problem of the present work, from time to time, I have mentioned several oscillatory factors,¹ and afterwards found to my surprise that I was promptly pigeon-holed with each in turn as if I had tried to offer a full explanation of booms and depressions.

A brief glance at some of the theories that have been propounded will show that they are largely consistent with

¹ See, for the rôle of "lag in interest" my *Theory of Interest*, Macmillan, 1930, and, for the rôle of "price-change," "Our Unstable Dollar and the So-called Business Cycle," *Journal of the American Statistical Association*, June, 1925, pp. 179-202.

one another and with the theory of over-indebtedness—although in none of them is over-indebtedness explicitly given a leading rôle. Wesley Clair Mitchell, whose careful studies of business cycles are accepted as classics, makes, in his review of cycle theories, apparently no specific mention of a debt cycle. In fact, neither in the index of his “Business Cycles” nor in that of Hansen’s “Business Cycle Theory” is the term “debt” to be found. In Hansen, the only reference to debt (which is under “credit”) is: “See Bank Credit,” and this, of course, is only a part of the debt picture.

In mentioning below some of these theories, the purpose is not primarily to point out their inadequacy (for it should go without saying that no one theory can be adequate), but rather to concede whatever of truth they contain and to show that, through the endless interactions of the economic mechanism, they usually seem to be not unrelated to the factors of over-indebtedness and deflation which form the chief subject-matter of this book.

PRICE-DISLOCATION THEORY

1. There is, for instance, the “price dislocation” theory. This holds that when among prices (of commodities, rent, interest, and taxes) some are unduly low and others unduly high, the exchange of goods is retarded; and that this involves the retardation of production and employment.

Evidently the deflation stressed in this book dislocates prices, and when it arrives, it finds some prices, such as rent, interest, taxes, salaries and wages, more unyielding than others. If we add principal as well as interest, we may think of the increased debt and interest burden as a sort of “dislocation” due to inflation. Doubtless, any other sort of

price-dislocation will cause disturbances. Moreover these dislocations often tend to be cumulative. The more unyielding one group of prices the more other prices must yield. In the depression of 1932 some writers maintain that the area of "rigid" prices was the largest in history. If, as seems likely, there is going on a gradual progressive freezing of large parts of the price structure, the instability of the rest will become greater and greater, and will tend more and more to bring about a crash from time to time.

INEQUALITY-OF-FORESIGHT THEORY

2. Then there is the theory of inequality of foresight as between lender and borrower. In "The Theory of Interest,"² I have worked out some of the oscillatory tendencies resulting from such inequality. During inflation, the borrower sees (or feels), better than the lender, the fact that real interest is low; and this tempts him to borrow too freely, and leads him into over-indebtedness.

CHANGES-IN-INCOME THEORY

3. Some theories stress the changes in income. The fluctuations of real income and the re-distribution of income are, of course, of supreme importance; and some of these changes have been included in the analysis of this book, especially as to their bearing on profits and unemployment.

FLUCTUATIONS-IN-DISCOUNT THEORY

4. There is the theory of fluctuations in the rate of discount at which income is capitalized. Such fluctuations are

² *The Theory of Interest*, by Irving Fisher, Macmillan, 1930.

important in many ways. A changed rate of discount affects the value of collateral against debts, and so affects solvency.

VARIATIONS-OF-CASH-BALANCE THEORY

5. Then there is the theory of the variation of people's cash balances in the banks. This is already included, to some extent, in the analysis of the present book, under the head of velocity of circulation. The variations of cash balances are especially important in relation to bank reserves. Hawtrey has pointed out that the lags between depositors' balances and the reserves of the banks make for instability.

OVER-CONFIDENCE THEORY

6. There is also the theory of over-confidence and over-optimism. These factors are clearly embodied to a large extent in the analysis of this book. They are especially important in an industrial society, with its long lags between production and consumption. Each producer has to guess about the future—future consumption and future competition; and he cannot always be right. His miscalculations and mistakes cause disturbances, one of which is over-indebtedness. Perhaps over-indebtedness is the chief disturbance resulting from over-confidence. Certainly, without over-indebtedness, over-confidence could scarcely produce bankruptcy!

OVER-INVESTMENT THEORY

7. The theory which, perhaps, comes nearest to covering the same ground as the one set forth in this book is the over-investment theory. But, if over-investment be ac-

complished without borrowing, there would seem to be no reason to imagine that it would be followed by anything so severe as a stock market crash, or an epidemic of bankruptcies, or vast unemployment. Doubtless, however, over-investment, even *without* borrowed money, would tend to set up some appreciable oscillations.

OVER-SAVING THEORY

8. The same applies to "over-saving." In fact, saving is usually preliminary to investing. Over-saving leads to over-investment and to over-indebtedness.

OVER-SPENDING THEORY

9. Instead of over-investment and over-saving, there are theories of *under-investment* and *under-saving*, or (what amounts to the same thing) *over-spending*. The oscillations set up by over-spending would naturally be opposite, in their initial direction, from those set up by over-investment. Why, then, do we find both saving and spending accused of the same thing? It is true that we do, in boom periods, encounter both over-investment and over-spending at one and the same time; but what reconciles the two is over-indebtedness. Nor is it easy to see any other way of reconciling them. If a man borrows enough, he can both over-invest and over-spend, whereas, without borrowing, he could scarcely make *both* mistakes at the same time.

DISCREPANCY-BETWEEN-SAVINGS-AND-INVESTMENT THEORY

10. The *discrepancy* between savings and investments has by some students been emphasized as causing trouble—and very likely it does, especially by investing out of borrowed money instead of out of savings. The discrepancy is caused largely by debts.

OVER-CAPACITY THEORY

11. As to over-construction and over-capacity, these are natural consequences of over-investment, whether the over-investment be caused by too much debt or otherwise. And sudden cessation of construction, as Professor J. M. Clark so well shows,³ causes very violent oscillations. These are still further magnified if the over-construction is financed with borrowed money.

UNDER-CONSUMPTION THEORY

12. As to the theory of "under-consumption," and changes in the demand for "consumer goods," these mal-adjustments must have at least some oscillatory effects. But under-consumption appears to be much the same thing as over-production.

OVER-PRODUCTION THEORY

13. The over-production theory, despite the skepticism of most economists, seems to me to have, at least in the boom period, some theoretical possibilities. I do not accept the hoary tradition that "general over-production is impossible and inconceivable." But the point need not be debated here.

According to the important statistical researches of Carl Snyder, production seems to have progressed with such steadiness that it seems difficult to imagine how it could become a leading cause of major depressions; and the large inventory accumulations which have characterized many depressions (like that of 1920-21) seem to be rather

³ *The Economics of Overhead Cost*, by J. M. Clark, University of Chicago Press, 1923.

symptoms of depression, or incidental *consequences*, than important causes.

Certainly many debts are contracted for production purposes; and if the judgment of the debtor is wrong as to what is a safe margin for his debts, this may be because his judgment was first wrong as to how much of his commodity would find a profitable market. Over-production can scarcely be itself the lasting force which keeps a depression going year after year. Were it merely a matter of over-production, it would seem to me to be likely to correct itself more promptly and almost automatically.

But it may still be true that over-production may precipitate liquidation of debts. The borrower's disappointment in the market for his goods may be one of the first symptoms to alarm both him and his creditors, as to the state of his debts. Perhaps that is why, in 1929, as we shall see, production and payroll and transportation began to slacken two or three months before the debt-structure crumbled. But thereafter the *wisest* producers were hit—not by over-production, but by the liquidation-spiral into which they were sucked; so that they were compelled, for the sake of liquidation, to turn *all* production into *under*-production.

CONCLUSION

The foregoing theories have been but barely mentioned, and are only a few of the theories which relate themselves to over-indebtedness, or deflation, or both, and which may, of course, contain important truth independently. I have devoted my effort in this book to nine tendencies—merely “some” of the “first principles” underlying business disturbances. Others may be shown to have an equal right to be called “first principles.” It remains a question of fact how important the truth may be of the few principles here

presented as compared with those in other theories. Any decisive conclusions must await intensive statistical and historical studies. Further studies are also needed to complete, in quantitative terms, even the picture of the nine-fold cyclical tendencies here discussed. These studies should cover such fundamental questions as the duration of a typical cycle-tendency of any type; and whether upon recurrence, its amplitude tends to diminish as I have supposed; and if so, how fast. Also, what are the distinctive shapes of the nine or more curves, and what are the lags between them? ⁴

The next two chapters are to be a very brief study of the facts of 1929-32, with special, but not exclusive, reference to the principles selected for study in this book.

⁴ In Appendix II are suggestions for such studies, under about 70 heads.

PART II
FACTUAL

CHAPTER

- VII. THE OVER-INDEBTEDNESS THAT LED TO THE WORLD DE-
PRESSION
VIII. THE WORLD DEPRESSION OF 1929-32

CHAPTER VII

THE OVER-INDEBTEDNESS THAT LED TO THE WORLD DEPRESSION

THE WAR AND THE NEW ERA

TO SUPPORT the most colossal of all wars required prodigies of finance. And after the cost of the war came the cost of reconstruction. In both destruction and reconstruction, private financing as well as public was involved; for, in modern war, non-combatants exist only in name. Almost every private industry is, in effect, drafted into the service. Many of these must borrow, and, after the war, many of them require readjustments which also involve borrowing.

After the World War, there was a joyful rebound. Europe appeared to be recovering. There were to be no more wars. Everybody was encouraged about everything. The war, moreover, had promoted endless new inventions, some of which were not merely destructive but could afterwards be applied to peaceful service. So the war gave a great new impulse to the spirit of invention. In America, invention became almost a trade, and something like mass production was brought to bear upon it. Captains of industry who had held the academic life in low esteem began to install laboratories exceeding the wildest dreams of universities—and hired university professors to run these laboratories. A questionnaire which was sent to some 600 industrial concerns brought back replies indicating that a majority had such installations. Accordingly, in the decade

1920-1929 more patents were granted in America than in its entire first century—the peak years being 1926 and 1929.

There were also innumerable technological improvements not recorded in the patent office. Great strides were taken by the electrical, chemical and transportation industries. Road building became active. Scientific management struck a new tempo. Efficiency engineers came into their own. People began to talk of a New Era.

INVESTING IN EQUITIES ON BORROWED MONEY

Meanwhile, there was a new trend in corporate financing. From 1921-29, as the boom developed, the new corporate issues took more and more the form of stocks instead of bonds. This policy of reducing the proportion of bonds had one good effect: It left the corporations less encumbered with debt; so that, despite the depression, many corporations kept in a strong position throughout the whole of the depression. This advantage, however, was more than offset by shifting the debt burden from the corporations to the stockholders. That is, in order to buy the stock, many persons borrowed, so that, instead of being indebted collectively in the form of a corporation, they became indebted individually. Moreover, their borrowing was of the most dangerous type: largely margin accounts with brokers, whose loans were call loans. Thus, upon the corporate equities represented by common stocks was superimposed a structure of equities represented largely by margin accounts and brokers' loans.

This preference for investing in equities instead of bonds was fostered by a number of statistical studies, published in books and articles, which showed that almost always in the past, bonds had produced less income for the

investor than had been (or could have been) produced by a diversified assortment of common stocks.¹ Had the idea stopped at that, the effect of these studies would have been wholly good, for the total burden of debts would have been less than if bonds had continued to be the favorite investment; but, as things turned out, the volume of debt was made greater in size and more unstable in kind.

The new trend was further intensified by the formation of investment trusts whose express business was to invest the money of their clients in diversified stocks. These trusts began to spring up like mushrooms, and presently became a mania. Many of them operated on borrowed capital, leaving precarious equities; and the individual owners of these equities borrowed in turn, thus still further pyramiding the debt structure—equity upon equity.

MISCELLANEOUS INFLUENCES

Among the chief inciters to over-indebtedness for investment were the high-pressure salesmen of investment bankers, including bank-affiliates. One of the best informed students of this aspect of the problem writes me as follows:

“I should make American investment banking the chief villain of the piece. In just what proportion inexperience, incompetence, negligence, and bad faith have figured in the ballooning of debts by them I am not prepared to say, but I incline to think they are all well represented in the financings through American houses throughout the post war years. In seeking new issues to feed to a ravenous public, disregard for the debtor's ability to pay, for the possibility of effecting payment by willing and able foreign debtors, and for the existing interests of security holders in concerns to be reorganized or

¹ Edgar Lawrence Smith's excellent book, *Common Stocks as Long Term Investments*, had a great influence.

consolidated, mark a major portion of the financing during the period. The governing consideration seems to have been 'can the issue be sold at a handsome profit?'"

And, of course, there was an admixture of fraudulent enterprise, characteristic of boom periods.

Moreover, the inexperienced American public had been prepared for an investment fever by the financing of America's share in the World War. Unlike previous wars, this one was not financed exclusively by bankers and people of wealth. Nearly everybody had invested in it, even if only to the extent of a "baby bond," which was also a new idea. Millions of people, who before the war had never known what an "investment" was, suddenly became the proud possessors of securities, often bought with borrowed money.

Then there was the capital gain tax, improperly included in the income tax. During the rising market, this capital gain tax deterred many a holder of rising stocks from selling them and reinvesting the gains; for the holder knew that if he sold, he would be penalized by having a large share of his increased capital taken away from him by the Internal Revenue office. He therefore hung on to his stock; and, in order to invest the increased worth, he borrowed—using his appreciated stock for security.

The effect of this borrowing fever was steadily and enormously to inflate the deposit currency. Corporate profits rose, and the price level in the stock market rose. These were ominous signs.

THE STEADY COMMODITY PRICE LEVEL

One warning, however, failed to put in an appearance—the *commodity price level did not rise*.

The index of wholesale commodity prices, therefore, is not always an infallible index of monetary and business trends. In 1923-29, an index half-way between the level of commodity prices and the steep up-tilt of stock market prices would have been nearer the truth. Dr. Carl Snyder has devised a "general index" which embodies all available price categories, including stock and bond prices, wholesale commodity prices, retail food prices, rents, and wage rates. This is an excellent index but, necessarily, for the present, it is based on somewhat unreliable data and "weighting." For the present, therefore, the wholesale price index, despite its theoretical imperfections is generally accepted as the best. During and after the World War, it responded very exactly to both inflation and deflation. If it did not do so during the inflationary period from 1923-29, this was partly because trade had grown with the inflation, and partly because technological improvements had reduced the cost, so that many producers were able to get higher profits without charging higher prices. For instance, from the third quarter of 1925 to the third quarter of 1929, the quarterly profits of 163 industrial and miscellaneous corporations rose by 75 per cent. In such a period, the commodity market and the stock market are apt to diverge; commodity prices falling by reason of the lowered costs, and stock prices rising by reason of the increased profits. In a word, this was an exceptional period—really a "New Era."

INVESTING ABROAD

Meanwhile, the investing and speculating Americans were by no means content with the home market. Foreign countries, European and South American, in the throes of reconstruction and elated like ourselves, were soliciting

capital; and Americans furnished much of it—to governments, to municipalities and to private corporations. Already, in the 60 years preceding 1931, according to a member of the British Parliament, British investors had lost 10 billion dollars by such loans.² Yet, after the World War, American investors, with inadequate experience, marched into this field and took the lead. During the war, Americans had lent a great deal to the Allies. After the war, we kept on lending and included Germany, who, in effect, borrowed to pay reparations.

In this way, America promoted or aggravated abroad the same unhealthy boom which was putting both our neighbors and ourselves in position for a slump. The reconstruction to which we contributed included much extravagance. Even though the municipal stadiums and swimming pools of Central Europe were not, as often charged, specifically financed with borrowed money, they necessitated borrowing for the other municipal purposes. In 1927, the reparation agent for the Allies, S. Gilbert Parker, protested Germany's excessive borrowing and the raising of governmental salaries; and Dr. Schacht, the head of the Bank of Germany, scolded his countrymen. "With borrowed American money," he said, "you live like rich people. With borrowed dollars you go every winter to the Riviera. If you borrow to improve productive equipment it is all right, but when you use American dollars for luxury expenditure, you act like fools. It would bankrupt private individuals, and it is just the same for the country."³

But lending can be an extravagance, too; and, in this sense, America was extravagant, and our bankers and in-

² *United States Daily*, March 16, 1931, "Foreign Lendings in 1930."

³ See *What Makes Stock Market Prices*, by Warren F. Hickernell. Harper & Bros., 1932.

vestors might well have been scolded for it; instead of which our financial and political leaders proudly boasted that New York was supplanting London as the world's financial center.

MISCELLANEOUS BORROWING MOVEMENTS

The American farmer had long been over-extended. Already, on the slogan "Win the war with wheat" and on the tide of war inflation, he had financed his growing operations with borrowed money; and then, on the tide of post-war inflation, he kept on buying machinery and otherwise extending himself with borrowed money.

Finally, installment buying was promoted on an unprecedented scale by dealers in houses, automobiles, radio sets, furniture, refrigerators, vacuum cleaners, washing machines, and even fur coats and other clothing.

REPARATIONS ⁴

After the armistice in 1918, as the time approached for the peace conference at Versailles, the plan most popular among the Allies was to take all that the defeated powers could pay; and "defeated powers" meant, to all intents and purposes, Germany, whose wealth and resources were so much greater than those of Austria, Bulgaria and Turkey. It was rumored that one British financier predicted a German indemnity of between 100 and 200 billion

⁴ Debt figures are given more fully in Appendix III, with graphs and tables and the sources. On German reparations, see Keynes' *Economic Consequences of the Peace* and *A Revision of the Treaty*; James W. Angell, *The Recovery of Germany* (Yale University Press, 1929); *New York Times*, June 14, 1931, "German Reparations and Allied War Debts" by Edwin L. James; and November 1, 1931, "The War Debt Puzzle" by Charles Merz.

dollars.⁵ Even after the treaty, but before the assessment by the Reparations Commission, Allied finance ministers talked of 75 billions.⁶ The actual assessment (in 1921) was 33 billions—still a mammoth amount and one which, according to Mr. Keynes, involved a breach of the armistice agreement. It proved unmanageable; and after several conferences between the Allies and Germany, and then after the several consultations of the Dawes and the Young Commissions, a schedule of payments was drawn up to begin with 1930 and last 58 years. The total payments, if made, would come to about 27½ billion dollars. At 5 per cent the discounted value would be about 9 billion dollars as of 1930.⁷ Down to 1932 Germany borrowed in order to pay; and even so, a moratorium was required.⁸

INTER-GOVERNMENTAL DEBTS PAYABLE TO AMERICA ⁹

Up to 1920, the loans by the American government to 22 nations aggregated nearly 10 billions. In 1929, the principal and arrears (counting out five nations with which no debt "settlements" have been made) amounted to about 11.6 billions. By spreading both the principal and interest—22 billions—over a period of 62 years (and also by reducing the interest), we have, in effect, reduced the debt to a

⁵ See Keynes, J. Maynard, *Economic Consequences of the Peace*, p. 141 (American Ed.).

⁶ Keynes, J. Maynard, *A Revision of the Treaty*, p. 39 (American Ed.).

⁷ Large confiscations and payments in kind had already been taken from Germany.

⁸ On July 12, 1932, at Lausanne (See Part III) this situation was changed (after the Reparations had helped to build the crisis).

⁹ See *Annual Reports* of the Secretary of the Treasury, 1927, p. 630, and subsequent reports; also in *New York Times*, June 14, 1931, the article by Edwin L. James on "German Reparations and Allied War Debts," and *New York Times*, November 1, 1931, article by Charles Merz on "The War Debt Puzzle."

much smaller present value—about 5.9 billions, if discounted at 5 per cent. But nominally the principal remains unchanged, at about 11.6 billions, as of 1929.

The reparations and these inter-governmental debts could be paid only in goods; but America deliberately and intentionally made such goods-payments enormously difficult, if not impossible, by erecting special tariffs against them—and then granted a moratorium!

The condition in 1932 was that American private interests had lent Germany the money with which to pay the Allies the money with which the Allies were supposed to be paying the American government.

INTERNATIONAL PRIVATE DEBTS

These were loans made by American private interests to foreign borrowers, both private and public. American foreign investments of this sort began their phenomenal growth about 1912, increasing eight-fold from 1912 to 1931, and 89 per cent from 1922 to 1931. The total growth of these foreign debts did not stop with 1929. In 1931 they passed 15 billions. In 1929, however—the crisis year—the amount was about 14 billions, which, added to the lendings of our government, made a total foreign investment in 1929 of well over 25 billions.

PUBLIC DEBTS IN THE UNITED STATES

These not only grew but went on growing after 1929. The total of federal, state and local debts increased from 1915 to 1919, 5½ fold, and then, up to 1932, they further increased by 14 per cent.¹⁰ At the end of 1931, the sum was nearly 34 billions, or over \$271 per capita. But in 1929, the

¹⁰ Measured per capita, however, the increase was finished in 1919.

crisis year, it was about 30 billions: the state and local debts amounting to 13.4 billions; the federal, to about 16.9 billions.

Other countries also had great public debts, largely left over from the war. Even the neutral countries were not free of such debts.

PRIVATE DEBTS IN AMERICA

From 1910 to 1928, farm mortgages rose over 2½-fold; and in spite of a net increase in farm valuation for that period (including an inflation as well as a deflation period) the net equity of both the mortgaged and the unmortgaged farms descended from 90 per cent of the gross valuation, in 1910, to 78 per cent in 1928; the aggregate burden being (in 1928 and 1929) about 9½ billions.

Other agrarian debts in 1929 came to about 1.9 billions.

As roughly estimated on the basis of incomplete data, urban mortgages, from 1920 to 1929, increased more than three-fold, reaching, in 1929, about 37 billions.

Debts on life insurance policies in 1929 were about 2.4 billions.¹¹

Corporate long and short term debts in 1929 came to about 76 billions.

As to installment buying, only the roughest guesses are available. Professor Seligman guesses about 2.2 billions outstanding in 1926. The 2.2 billions would be about 3 billions by 1929.

Bank loans and discounts for all banks in the United States increased from June, 1914, to October, 1929, by nearly three-fold; from June, 1917, two-fold; from 1922, 50 per cent; from 1926, nearly 15 per cent. Deducting

¹¹ Based on an estimate for 1932 by Dr. W. A. Berridge of the Metropolitan Life Insurance Company.

brokers' loans from the total loans and discounts reported by the Comptroller of the Currency, we have 39 billions for the peak of commercial bank loans, in 1929.

BROKERS' LOANS

The year 1921 was the trough of a short depression. The stock market was full of bargain prices. About 1923, the bull market began its unprecedented climb. An ideal investor, buying an average assortment of stocks in 1926 and holding them till September 7, 1929, could have turned every \$100 invested into \$200—all in three years. By starting in 1913, he could, by the same policy of holding on, have turned every \$100 into \$400. It was during substantially this period that investment trusts, having been a mania, became a full blown bubble. During the first nine months of 1929 they rose from 200 to 400 in number, taking in a billion of their clients' money, to add to the two billions previously absorbed. During July they issued 222 millions of securities; during August, 485 millions; and September, 643 millions.

Naturally, brokers' loans kept pace with these opportunities. From October, 1928, to October 4, 1929, they increased by 50 per cent, reaching the record peak of nearly 9½ billions. This included "bootleg" loans which at the peak were by far the larger part.¹²

TOTALS IN 1929

| | |
|-----------------------|--------------|
| Brokers' Loans | 9.5 billions |
| Commercial Bank Loans | 39 |

¹² All security loans increased from October 3, 1928, to October 4, 1929, by 36 per cent and reached on that date a peak just under 17 billions.

| | | |
|---|-------|----------------|
| Total of all separable debts which (mostly) create credit currency | | 48.5 billions |
| Other domestic private debts | 129.8 | |
| Total domestic private debts | | 178.3 billions |
| Our public debts and all foreign debts owing in America | 55.6 | |
| Grand total owing in America | | 234. billions |

As to the rest of the world, their domestic and international debts, including reparations, were vastly more burdensome than our own.

GOLD AND THE DEBTS

But mere totals do not tell the whole story. It will be remembered that over-indebtedness may be alarming to the debtors or the creditors (the chief creditors for our purpose, being commercial banks). The important signal that may alarm the debtors is a fall in the price level which limits his ability to pay; the important signal that may alarm the creditor-bank is a curtailment of the gold supply which limits the bank's lawful ability to extend the debtor's time. Gold is the only international money; and during the war the inflation of paper and credits drove gold out of these paper currency countries and forced them to abandon the gold standard, while a serious gold inflation was produced in the United States by the flood of gold driven from Europe by the "cheaper" paper currencies. The complaints of a gold shortage which began to be heard soon after the war really meant that the price levels had not sufficiently receded to permit a general return to the gold standard. Indeed, the attempts to return caused a "scramble for gold" which kept it scarce, or made it scarce, in many countries—especially in the debtor countries.

The creditor countries were more fortunate; and one of

them, at least—France—doubtless became possessed of a gold surplus. There is a prevailing opinion that the same was true of America. But this was only partly true, though it was fully believed by many Americans, including some American bankers. Gold came to America during the war because other countries were off the gold standard. But upon this gold we speedily built such a credit structure and raised the price level so high as to require almost all of the gold as a base. It is true that after the price level fell in 1920-2 there was temporarily an excess of gold in the United States, but soon both our business structure and our credit structure expanded so much as to make our unused or so-called “sterilized” gold more or less of a myth. The fact that we were a creditor nation was offset by the fact that we had collected very little from our debtors, and, on the contrary, had made new loans to them in excess of what they had paid us. Much of the gold in America was either ear-marked as belonging to Europe or was at any rate known to be subject to sudden withdrawal, as the result of short term credits held abroad.

If all this money, which had fled from Europe to America but was destined to return, could have been segregated as “refugee” money and sent home or even ear-marked, the myth of America’s excess gold would not have arisen. We would not have done so much financing of Europe, to the disadvantage of both parties—or else we would have done it under contracts properly safeguarding us against gold withdrawals.

Thus, though our gold was great in quantity, the amount of it that was free was not great enough to justify much more than the credit currency erected upon it.

In 1924-5, the Federal Reserve authorities adopted a policy which had the effect of deliberately sending some of our gold away. Britain wanted to get back to the gold

standard from which the war had forced her; and, to do this, the Bank of England tried to attract gold by raising its interest rates; and the Federal Reserve authorities obligingly cooperated by lowering the interest rates in this country. In this way, from 1925 to 1928, America lost 422 millions of its gold, and in the same period ¹³ increased its ear-marked gold from 13 to 35 millions.

Moreover, this lowering of our interest rates stimulated speculation on the New York stock market. In a word, we dismissed some of our gold foundation and at the same time built a debt structure over the place where the gold had been.

Billions of debts and a gold base that was slippery—these two conditions had now set the stage for the collapse of 1929.

¹³ December 1925–December 1928.

CHAPTER VIII

THE WORLD DEPRESSION OF 1929-32

IN GENERAL

ON the depression of 1929-32, Professor Hansen has said:

"Now the year 1930, as Professor Josef Schumpeter has pointed out, fell not only in the downswing of the long cycle (Kondratieff), but also formed a part of the down grade of the major cycle (Juglar), and at the same time a part of it (probably the second half) fell in the trough of the minor forty-month cycle (Persons-Mitchell). The convergence of all three cycles upon the years 1930-31 accounts in part for the severity of this depression."¹

It is not the contention of this book that over-indebtedness is the sole explanation of the depression of 1929-32, nor even that over-indebtedness and the deflation caused thereby were the only factors. The revolutions in South America for instance, as well as the fighting between China and Japan and the Hitler movement in Germany were both cause and effect. Professor Hansen ascribes the severity of the depression chiefly to deflation, shifts in world trade, breakdown of great empires, internal capital movements and tariffs. And doubtless that list could be lengthened. But that over-indebtedness and deflation were strong and indeed the dominating factors seems to me highly probable.

¹ *Economic Stabilization in an Unbalanced World*, by Alvin Harvey Hansen (Harcourt, Brace & Co., 1932), p. 95.

Nor is it sure that the depression of 1929-32 is the greatest of all time. Any current depression is likely to be called the worst by its contemporaries. Such was the case in 1819, 1837, 1857, 1873, and 1893. Professor Victor Clark reports that in Philadelphia between 1816 and 1819 the number of employees in thirty leading branches of manufacture, principally cotton and woolen, decreased more than 75 per cent!

THE AMERICAN STOCK MARKET ²

The first symptoms in America of the world depression of 1929-32 appeared in the summers of 1928 and 1929. In the summer of 1928, building activities began to decline. In the summer of 1929, production, trade and employment generally started a downward trend; and after July, the price level joined the down movement. These portents were quite generally overlooked as were the signs in Europe which were growing somewhat more marked. The first spectacular evidence that America was in for a depression was the crash of the New York Stock Market.

Charts 1 and 2 give a short and a long view of stock market history. Chart 1 shows that, while the commodity price level had been steady, the stock market price level had been persistently soaring. During 1928 the Federal Reserve Board tried to check the speculating fever by gradual advances of the re-discount rate, half of one per cent at a time, from $3\frac{1}{2}$ per cent to 5; but in vain. On August 8, 1929, the rate was advanced more drastically from 5 to 6. This caused an ominous but temporary drop in the market; there was a quick recovery, and not till September 7 did the market reach its peak.

² See *The Stock Market Crash and After*, by Irving Fisher (Macmillan, 1930).

Brokers' loans—or, rather, the margin accounts on which these are based—are among the most unstable, because the creditors can call them without previous notice. Anxiety is always present, or should be, in the person who has a margin account. The pyramid of such accounts was both unstable and high. Only a nudge to the market values which secured the accounts would be needed to send both the loans and the price level crashing into the abyss.

Two nudges came—both from Britain; one on September 20 and one on September 26.

In Britain there had also been a bull market; and, on the tide of it Clarence Hatry had financed a group of enterprises so recklessly that presently he could go no further without forgery, and that expedient failed him on September 20, when his hopeless condition became known and seven of his issues were suspended from the London Stock Exchange. His subsequent failures involved 67 million dollars; and after the announcement of September 20, many of his stockholders had to fortify themselves by selling their American stocks. The bad news and these consequent English sales in New York, with a slight downward effect on the New York price level, constituted the first nudge.

Meanwhile, though Britain was now back on the gold basis, she was still bidding for the immigration of gold from America. On September 26 the Bank of England's discount rate was put up to $6\frac{1}{2}$ per cent. This was when prices on the American stock market were so high that the yield on A1 stocks was very low; and it did not take a very high interest rate in Britain to induce British investors in America to sell their American holdings and to lend the proceeds in London. Accordingly, this action of the Bank of England produced a flurry of selling in the New York

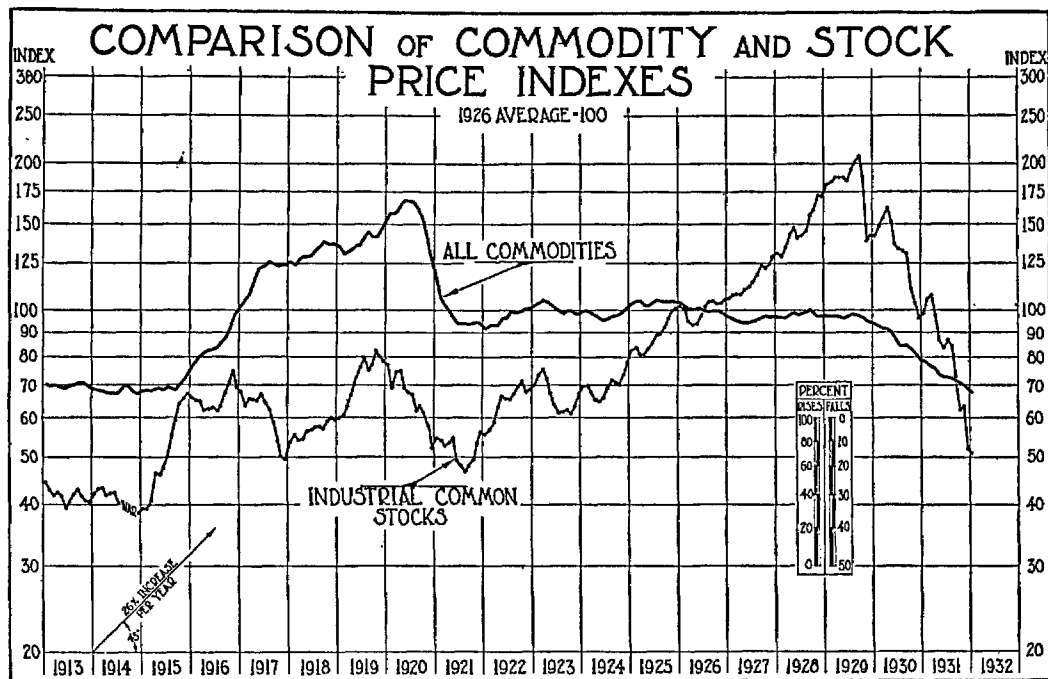


CHART I

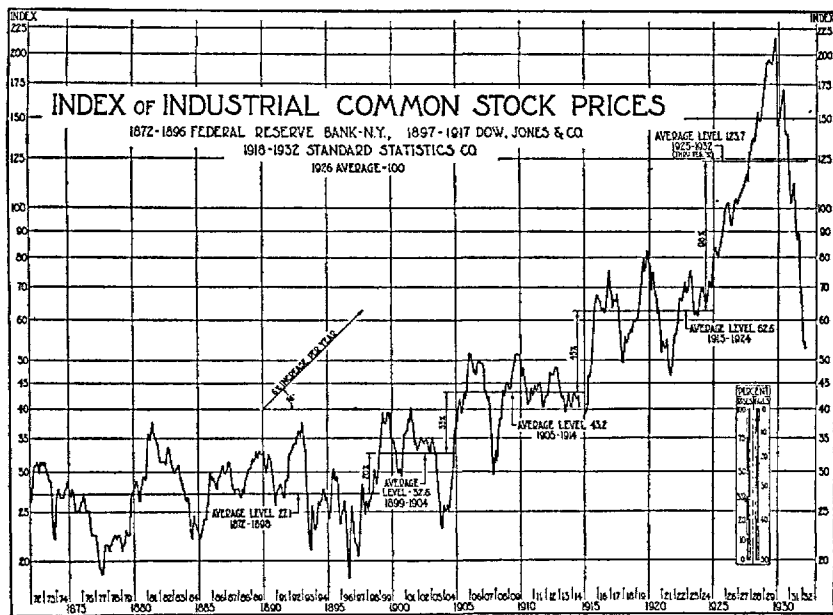


CHART 2

Stock Exchange. And this was the second nudge. Then ³ it was that a retired New York broker said, "This marks the end of the New Era bull market."

THE PANIC

On September 29 the panic began. On October 24 nearly 13 million shares changed hands. Many people lost the savings of a life-time. Others bought up the bargains, and five days later were themselves wiped out. That 29th of October was the most sensational day of trading that the New York Stock Exchange has ever seen. It was said that a million persons were trading. Nearly 16½ million shares changed hands. The ticker was so late that when a man sold "at the market" he might, when his turn came, obtain 40, though, when he had put in the order, the ticker said 70. Billions of value were wiped out.

Then came the third and last spectacular day—November 13. The Federal Reserve System, by purchasing securities in the open market, tried to check the fall of prices; also it cut the rediscount rate on the 14th; but the effect was temporary. In the eight weeks brought to a close by November 13, the level of stock prices had fallen 42 per cent; and in October and November, 23 billions of value had gone. That was the end of the panic, though not the end of the descent of the stock market.

It was on October 4, 1929, that the brokers' loans began their crash; and then they went so fast that 3 billions, it was said, were wiped out in a few weeks.⁴ By March,

³ *What Makes Stock Market Prices?* (p. 173) by Warren F. Hickenell (Harper & Bros., 1932).

⁴ The statistics exaggerate the initial speed at which brokers' loans went down because many hard pressed clients transferred their obligations to banks, and hung on a little longer, so that the time loans to which these transferred obligations were added continued to rise until December.

1932, after a few brief up-spurts, the level of industrial stocks had fallen by about 77 per cent, and brokers' loans had fallen by over 94 per cent.

Between the loans on the stock market and the stock market price level there could not be a better example of a vicious spiral. With every distress liquidation the price level fell; and every fall of the price level drove a new set of people into further liquidation, which still further lowered the price level, which compelled still further liquidation, and so on and on.

PRELIMINARIES IN THE COMMODITY MARKET

After the stock market crash, the great debt-liquidations began. I will not presume to dogmatize on why the American price level and the American production and employment had already started down before the crash of the stock market. Many people blame Europe for America's share in what is now understood to be a world depression. Europe was as over-indebted as America; and it is true that Europe's share in the depression preceded ours. This was made evident by the downswing of European price levels, both in the stock markets and in the commodity markets; and the interests of the two continents were so interlocked that what hurt one must sooner or later be felt by the other. But Europe, quite as plausibly, blames America for the depression. A part of Europe's economic trouble was due to internal political jealousies and a network of tariffs. These troubles were not entirely willful. They were really difficult to avoid; and instead of helping to settle them, we forsook Europe politically. We did not withhold financial assistance; but this, as we have seen, was sometimes harmful to both parties as well as helpful.

Economically, also, we aggravated Europe's handicaps, by accepting the doctrine that a government debt is like a debt at a grocery store. We demanded payment while erecting a tariff. In addition to this, Britain in 1922 began her disastrous deflation policy by retiring Treasury and Bank of England notes, preparatory to restoring the gold standard (in 1925) at the pre-war gold weight of the pound. Thus she depressed her price level, crippled her industries and increased her unemployment; and such was the importance of Britain in world trade and world finance that the fall of the British price level greatly aggravated the fall of other price levels, European and non-European.

In addition to these non-American influences to the detriment of America, we already had a case of over-production among some of our basic commodities, especially wheat, corn, cotton, petroleum, copper, iron and other raw products, agricultural and mineral. Certain lines of manufacture, too, were over-produced, notably automobiles, radios, and many luxuries.

But it matters little which factor in the vicious spiral (commercial bank liquidations or the fall of the price level) started first; nor what factor, remote or near, started either of them. They could even start together. But once started, they were doomed to continue in a vicious spiral, each accelerating the other. What seems sure is that the crash of the stock market helped to force the rest of our debt structure into liquidation, and that it was the hopeless magnitude of the debt burden which made it so difficult for the economic organism to right itself.

THE COMMODITY MARKET

Let us now take up what followed the stock market crash.

In the first place, many who were involved in both the stock and the commodity markets sold commodities in order to avoid selling stocks. In the second place, consumers took fright and reduced their purchases—in other words, reduced the turnover or velocity of their money. Deposit currency, as we have seen, grows out of the demand deposits in commercial banks. The demand deposits do not exactly correspond with the commercial bank loans, but the great majority of demand deposits are based on commercial bank loans; and, except for short periods, the movements of the two tend to run parallel. Immediately after the stock market crash, some demand deposits grew a little but all lost velocity. Nor did this loss of velocity apply to brokers' deposits alone. It was true of deposits outside of New York where brokers' loans are not a large factor.

And immediately after October, 1929, the commercial bank loans on which most demand deposits depend began to be liquidated. They were yielding, perhaps, to the already accumulated losses in the price level, perhaps to a sudden dearth of buyers, or to an anticipated dearth. These commercial bank loans (inclusive of brokers')⁵ reached their peak in October, 1929; and then the progressive liquidation of these loans was soon proceeding. This could not happen without wiping out deposit currency. In the first half of 1930 the demand deposits and the loans joined each other in the down turn, but there appeared an *increase of time deposits*⁶ which was little short of hoarding; and, savings bank deposits increased still faster in the same period. But after the middle of 1931 even the time deposits began to be depleted by the hoarding of pocket money.

⁵ "Bootleg" loans, however, not being included.

⁶ Reporting member banks: time deposits increased 570 million and demand deposits decreased 627 million.

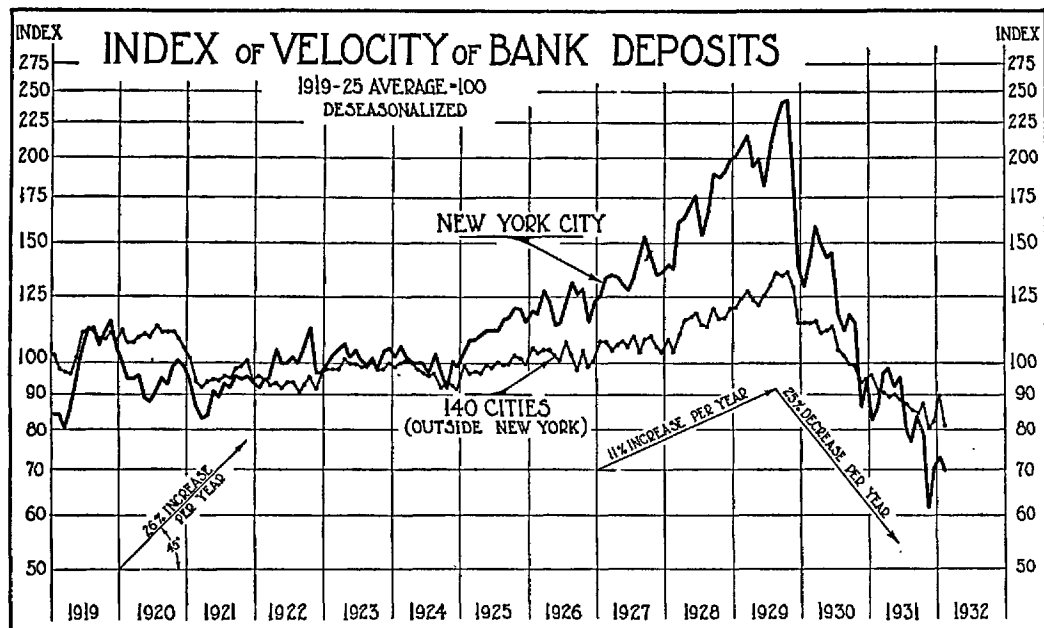
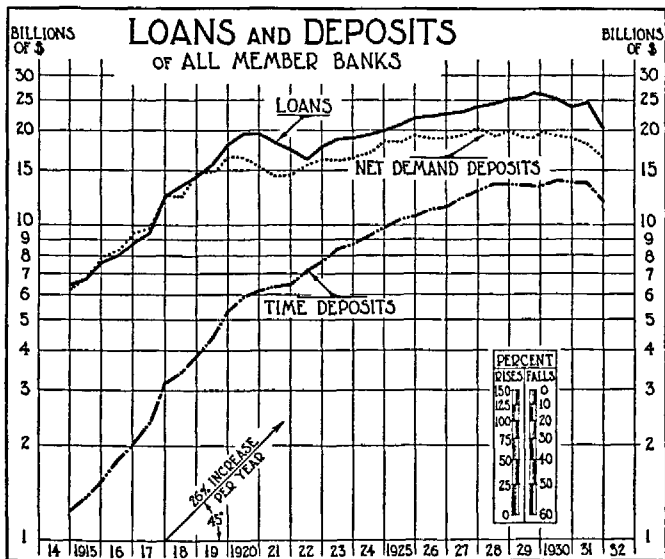


CHART 3



THE CURRENCY

Charts 3 and 4 illustrate these reactions of volume and velocity quite clearly. From October, 1929, to February, 1932, the deposit currency of the member banks of the country (in 141 cities including New York City) fell from \$18,726,000,000 to \$14,789,000,000. This was a fall of 21 per cent, leaving only 79 per cent of the earlier amount; and the velocity in the same period⁷ fell 61 per cent—that is, to 39 per cent of the earlier rate, so that the efficiency of deposit money for sustaining the price level and the levels of production, trade and employment became, in 1932, only 31 per cent of what it had been in 1929.

Other elements in the currency have, of course, suffered less; but the statistics are not detailed enough to tell us exactly what happened to them. The phrase “money in circulation” simply refers to money which exists in the United States but is not in the Treasury, nor in the possession of the Federal Reserve Banks nor of the Federal Reserve agents. More or less of it could, so far as is revealed by the figures for this so-called “circulation,” be in stockings or in other hoarding places and not circulating at all. In this misleading sense, 1930–31 saw an increase in cash “circulation,” including increased quantities of Federal Reserve notes. A study of over two months indicated that hoarding was going on at the rate of 2.6 billions a year.

Thus the retardation of velocity through fear and the contraction of volume through liquidation kept the price level going down; and this so crowded the commercial debtors that more liquidation was necessary, resulting in a further fall of the price level, resulting in still more liquidation and hoarding, resulting in a still further fall of the price level, and so on, through the downward vicious spiral.

⁷ 1919–25, as the base, equals 100.

TRADE AND PROFITS

Chart 5 shows the descent of some of the trade factors, beginning in the summer of 1929. The preliminary figures for 1930 showed that the corporate profits ratio was already nearly as low as in 1921.⁸ In the last quarter of 1931, a reporting group of 163 industrial and miscellaneous corporations (whose quarterly profits between 1925 and 1929 had increased by 75 per cent) took a loss of a million dollars. These and other examples of the behavior of corporate profits are shown in Table 1.

TABLE 1
CORPORATION NET PROFITS *
(Millions of dollars)

| <i>Year and Quarter</i> | <i>Grand Total, 10 Groups (500)</i> | <i>Telephone (103)</i> | <i>Other Large Public Utilities (63)</i> | <i>Class I Railroads (171)</i> | <i>Industrial and Miscel- laneous (163)</i> |
|-----------------------------|---|----------------------------|--|--|---|
| <i>1925</i> | | | | | |
| 1 | 603 | 44 | 165 | 205 | 189 |
| 2 | 660 | 46 | 148 | 234 | 232 |
| 3 | 767 | 45 | 138 | 359 | 225 |
| 4 | 781 | 51 | 181 | 334 | 215 |
| Quar. average | 703 | 47 | 158 | 283 | 215 |
| <i>1926</i> | | | | | |
| 1 | 710 | 51 | 189 | 224 | 246 |
| 2 | 772 | 52 | 170 | 272 | 278 |
| 3 | 884 | 52 | 156 | 394 | 282 |
| 4 | 826 | 57 | 200 | 342 | 230 |
| Quar. average | 799 | 53 | 179 | 308 | 259 |

* Compiled by the Federal Reserve Bank of New York from quarterly reports of net profits of 500 companies, including 103 telephone, 63 other public utilities, 171 Class I railroads, 24 motor and motor accessories, 18 oil, 13 steel, 22 food, 20 metal and mining, 15 machine building, and 51 miscellaneous companies. The numbers have declined from a total of 531 to 500 for the last quarter of 1931.

⁸ "Corporate Earning Power" by Prof. W. L. Crum in *Corporate Practice Review*, January, 1932.

TABLE 1—*Continued*
Other Large

| <i>Year and Quarter</i> | <i>Grand Total, 10 Groups (500)</i> | <i>Telephone (103)</i> | <i>Public Utilities (63)</i> | <i>Class I Railroads (171)</i> | <i>Industrial and Miscel- laneous (163)</i> |
|-----------------------------|---|----------------------------|--------------------------------------|--|---|
| <i>1927</i> | | | | | |
| 1 | 745 | 59 | 206 | 227 | 253 |
| 2 | 779 | 59 | 185 | 247 | 288 |
| 3 | 819 | 56 | 169 | 336 | 258 |
| 4 | 739 | 54 | 214 | 276 | 195 |
| Quar. average | 771 | 57 | 194 | 272 | 249 |
| <i>1928</i> | | | | | |
| 1 | 769 | 63 | 226 | 217 | 263 |
| 2 | 837 | 66 | 204 | 245 | 322 |
| 3 | 953 | 60 | 192 | 358 | 343 |
| 4 | 984 | 64 | 246 | 373 | 301 |
| Quar. average | 886 | 63 | 217 | 298 | 307 |
| <i>1929</i> | | | | | |
| 1 | 937 | 70 | 263 | 260 | 344 |
| 2 | 1,031 | 68 | 245 | 304 | 414 |
| 3 | 1,080 | 66 | 224 | 397 | 393 |
| 4 | 945 | 72 | 275 | 314 | 284 |
| Quar. average | 998 | 69 | 252 | 319 | 359 |
| <i>1930</i> | | | | | |
| 1 | 778 | 67 | 270 | 176 | 265 |
| 2 | 805 | 70 | 259 | 200 | 276 |
| 3 | 775 | 65 | 223 | 283 | 204 |
| 4 | 683 | 68 | 273 | 226 | 116 |
| Quar. average | 760 | 68 | 256 | 221 | 215 |
| <i>1931</i> | | | | | |
| 1 | 382 | 69 | 81 | 107 | 125 |
| 2 | 441 | 72 | 78 | 132 | 159 |
| 3 | 390 | 67 | 59 | 167 | 97 |
| 4 | 267 | 64 | 79 | 125 | - 1 |
| Quar. average | 370 | 68 | 74 | 133 | 95 |

UPTURNS

Just before 1930, at the beginning of the stock market crash, Mr. Hoover assembled some of the leading bankers and business men. Mr. Morgan and Mr. Ford were among them. Mr. Ford ascribed the stock market crash to a busi-

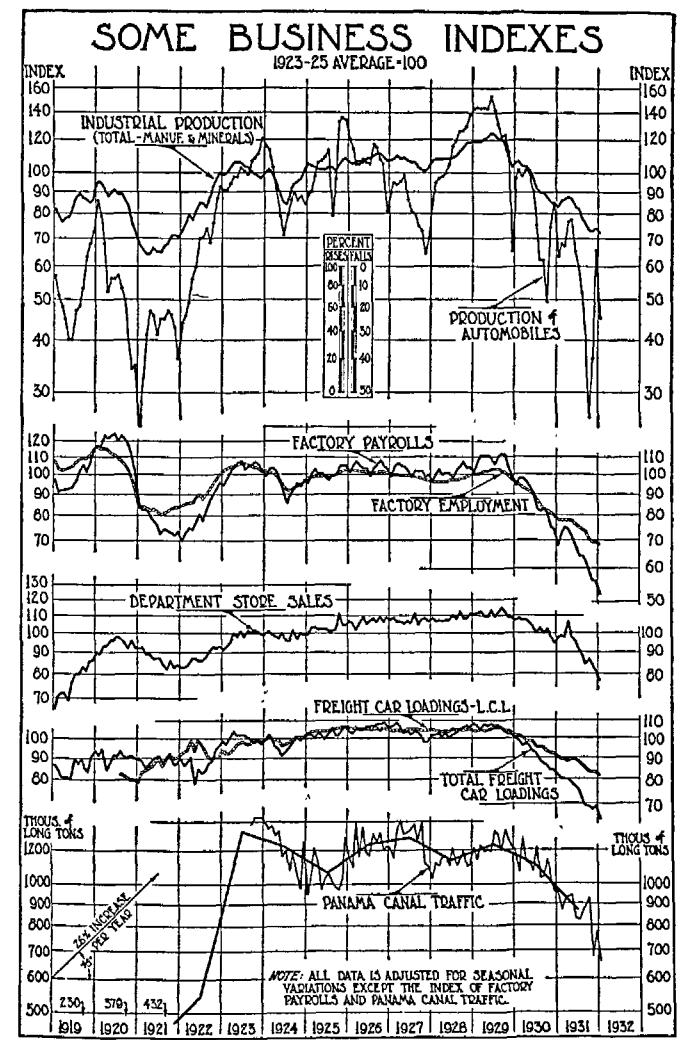


CHART 5

ness slump. He proposed that prices be not lowered and that wages be raised. Mr. Hoover proposed that constructions be pushed, both public and private. At the outset of 1930, the stock market began to do better, and hopeful prognostications abounded. The commodity price level turned up a little (from the last quarter of November to past the middle of January) ⁹ but almost at once resumed its descent, and never stopped again, except for a slight retardation (not an upturn) in the third quarter of 1930. Other business factors at the beginning of 1930 also registered upturns; stocks, velocity of deposits, production, and pay-roll, but not employment. Cities, states, and the Federal government took Mr. Hoover's advice; Mr. Ford took his own advice. But presently Mr. Ford had to discharge many thousands of his men and later to lower his wage rates; and, despite all the efforts of cities, states, and the Federal government, the upturns were promptly ended. Quite possibly the subsequent downswing was accelerated by way of reaction to falsified hopes.

Just before 1931, hopeful prophecies were again in the air, though the tone was not quite so confident. This time there was no response from the price level; but in January 1931, upturns were registered by the same factors as before: stocks, turnover of deposits, production and pay-rolls augmented this time by loans and department store sales. For five months employment stopped going down but did not go up.

INTERNATIONAL ACCELERATORS OF THE VICIOUS SPIRAL—1931

The Hawley-Smoot tariff, enacted in June, 1930, had aroused the bitter resentment of other countries and started reprisals in Canada and elsewhere.

⁹ Not shown on the monthly chart, but shown by a weekly index.

In December, 1930, the so-called Bank of United States, a relatively small bank on the outskirts of New York City, had closed its doors. Many Europeans had mistaken this for a failure of the Federal Reserve System, which was regarded as the American equivalent of the Bank of England and the Bank of France. This shook the confidence of Europe.

March, 1931. Germany and Austria, being almost bankrupt, sought, in March, 1931, to establish a Customs Union (Anschluss); but this sound economic measure was blocked by the political opposition of France, Italy and Czechoslovakia, who feared a political union of Germany and Austria and argued that the Anschluss, by threatening Austria's independence, would violate the terms of a recent loan granted to Austria by the League of Nations.

May, 1931. This failure of national economics at the behest of international politics precipitated a severe crisis in Austria, whose leading bank, the "Credit Anstalt," being encumbered with frozen assets, could not meet its obligations and became insolvent in May, 1931. It was a great bank and its collapse embarrassed both Germany and England.

June, 1931. Austrian banks were now subjected to runs which spread to other countries. There were international gold withdrawals, until the gold standard was jeopardized for all southeastern Europe. American banks and investors were involved to the extent of 100 million dollars. A group of international bankers came to the rescue with a two-year extension of their short term loans, and the Austrian government agreed to guarantee the liabilities of the Credit Anstalt.

Meanwhile, however, Germany had been hard hit by Austria's plight, and being hard hit, she was raided of her gold by the French. The Reichsbank lost thus 227 mil-

lion dollars; and at the same time, German capital, to the extent of 200 million dollars, fled from the uncertain mark. Mr. Hoover came forward in June, 1931, with his proposal for a moratorium on all intergovernmental debts. But once more France and the French bankers balked, precipitating a long and acrimonious discussion of terms, and robbed the moratorium, which was eventually granted, of much of its good effect. Some observers have even thought that Mr. Hoover's proposal, by calling attention to the extremity of the world's plight, scared the world into making its plight still more extreme.

July, 1931. The Bank of England now came to the rescue of the Reichsbank. In July the failure of the Darmstädter und Nationaler Bank, one of the large banks of Germany, frightened the French banks into withdrawing large amounts of gold from the Bank of England which was heavily involved in supporting German credit and industries.

*August, 1931.*¹⁰ The Wiggin Committee—an international committee of bankers, meeting in Basle—reported on August 18 that, among other things, permanent prosperity could not return to the world until Germany's debts were put on a workable basis. But nothing happened, except that the financial troubles of Britain, due largely to financial troubles of Germany, caused the raids on British gold to continue.

September, 1931. Britain became so hard pressed that, in spite of large gold shipments from the Transvaal and in spite of large credits from the Bank of France and the Federal Reserve Bank of New York, she stopped her gold payments by going off the gold standard on September 21, 1931. Her example was quickly followed by 23 other na-

¹⁰ See *What Makes Stock Market Prices?* by Warren F. Hickernell, Harper & Bros., 1932, p. 186.

tions, including Denmark, Sweden, Norway, Egypt, Greece, Finland, Rhodesia, Bolivia, Colombia, and Japan. Then, to prevent panic-sales of British sterling exchange and of British securities, the world's exchanges, except in America, Canada, France, and Spain, were closed.

In this same September, a sudden large scale raid—apparently intentional in part—was made on America's gold by European banks, led by the Bank of France. The fact that America was the chief lender to Germany and to Austria seems to have started the raid. Deliberate attempts were made to discredit the dollar. Rumors were circulated and believed to the effect that America was going off the gold standard and that the gold dollar was to be "devalued," or superseded by the silver dollar. In the last part of September, by the exportation and earmarking of some of our gold, the Federal Reserve Banks were depleted of 347.6 million dollars in gold. Ever since the failure of the Bank of United States, the world had been losing confidence in America. America now lost confidence in herself and in the world. We all knew that billions of foreign loans (the sum was over 25 billions) were likely, in large part, never to be repaid. Already there had been many American bank failures. It was known that other American banks were getting weak and that their "affiliates" had lost heavily in the stock market.

Despite the fact that the European raid did not prove really disastrous, American bankers and American depositors were now so scared that hoarding became a menace. Gold and Federal Reserve notes were withdrawn from circulation. The Federal Reserve System, from February to December, 1931, increased its issues of Federal Reserve notes by 80 per cent. These issues were due to bank failures which made necessary a larger use of cash. Yet, after a wave of bank failures, beginning in the

west and coming east, both banks and their depositors began raiding each other in a cut-throat competition which more than defeated the new issues of Federal Reserve notes.

October, 1931. Mr. Hoover now proposed a National Credit Corporation, designed to help the smaller banks. This was formed by bankers. He also proposed the Home Mortgage Corporation under government auspices to stimulate residential building which proposal was later adopted. Premier Laval visited Mr. Hoover. For these or other reasons, or for no reason, hope revived in October. Stock prices made a weak spurt for a month (October–November).

BALANCING THE BUDGET

In December, Mr. Hoover started his more elaborate and largely commendable program for relief,¹¹ but, to meet the rapidly developing emergency, each step was too small and, by the time it was enacted into law, it was too late.

And at least one possible error (as it seems to me and to many other economists) was included in the program. This was the attempt at balancing the budget (for the goal was not really reached). "Balancing the budget" *annually* sounds well to the man in the street and helps float bonds with bankers, but the budget of a government affects the currency and the requirements vary enormously at different times—war, peace, boom, depression. To balance the budget in a depression by forcing economy and increasing taxes reduces government spending and (what is far more important) reduces the spending of the public by taxing away part of their income. In both ways it tends to reduce the price level.

¹¹ See Appendix VII.

The purpose of balancing the budget was to prevent further borrowing by the government and thus to keep the public debt from growing. Actually, however, the deflation involved in this policy did increase the *real* debt of the government by increasing the burden of every dollar in it. All deflation does this, and the directors of fiscal policy cannot afford to leave out of account the deflationary or inflationary effects of their policies. Taxation tends toward deflation; borrowing tends toward inflation.

During the World War the government borrowed, even though the effect of borrowing was inflationary in a period of inflation; but in 1932, instead of borrowing and inflating in a period of deflation, the government taxed and deflated when each dollar¹² was already 60 per cent more burdensome to the debtor than in 1929. The government should have borrowed and spent, thus contributing to reflation and to a higher price level. And every climb in the price level would have lowered the *real* debts, public and private, by lightening the real dollar. This would have stimulated business; and, by checking the decline of prices, would have enabled corporations and individuals to pay increased taxes in later years much more easily, when there would have been something substantial to tax. You cannot tax a vacuum.

An economist who has made special study of this problem writes me:

"High tax rates, economy in expenditures, and retirement of debts should characterize boom periods. Low tax rates, large public borrowings, and increased public expenditures should characterize periods of stagnation."

Psychologically, the slogan "balance the budget" had a wide appeal; but on the other hand, the psychological ef-

¹² Third week of June, 1932.

fect of new taxes to come in the near future was like an additional debt burden to the tax payer.

Finally, the deficit was largely mythical, due to charging off capital expenditures as expenses. If the Government were to use in its own accounts the same methods which it requires for income tax schedules, the Fiscal year ending June 30, 1931, would have shown not a deficit but a surplus of \$109,000,000, according to computations of Dr. Lubin of the Brookings Institution. The following year would show only a slight deficit.

SUMMARY AS TO THE NINE MAIN FACTORS¹⁸

From 1929 to 1932, the nine main factors which have been discussed in this book behaved as follows:

1. *Debts*: The liquidation of brokers' debts had cut the figures by 94 per cent; of commercial bank loans, by 22 per cent; of all debts due in America, by 23 per cent, except those (like public debts) which increased.

2, 7, 8. *Money; its velocity; pessimism*: Judging by the records of the Federal Reserve member banks, deposit currency had lost 21 per cent of its volume and 61 per cent of its velocity; the remaining efficiency for business purposes being only 31 per cent of its efficiency in 1929. The growth of pessimism is sufficiently indicated by this record.

3. *The price level*: industrial stocks had lost 77 per cent; and the descending commodity price level, instead of righting itself, lost 35 per cent. By the third week of June, 1932, this loss had become 38 per cent.

4. *Net worths*: Their behavior is best indicated by the record of commercial failures, including bank suspensions. In 1929, 1.04 per cent of our firms had failed (22,909 in

¹⁸ More details will be found in Appendix V.

number); in 1931, 1.33 per cent (28,285 in number)—an increase of 28 per cent in the yearly rate of failures. Bank suspensions, in 1929, were 642 in number, in 1930, 1345, and in 1931, 2,550.

5. *Income*: the net profits of 163 industrial and miscellaneous corporations became a loss.

6. *Production, trade and employment*: All kept falling. According to a Federal Reserve index, industrial production ¹⁴ having fallen from June, 1929, to October, 1929, by 5.6 per cent, instead of righting itself, registered 39 per cent additional fall from October, 1929 to January, 1932.

The indexes show that construction fell earlier than output and much faster, just as indicated in Part I.

9. *Interest*: The various rates acted according to type. For instance, the rediscount rate, the call loan rates, and the 60 to 90 day time loan rates on mixed collateral, all rose with the boom and fell with the depression. The chief misfortune is that the rediscount rate rose too late to restrain those who borrowed in order to speculate on the bull market, and fell too late to check the stampede of liquidation by the same borrowers. That is, the real rate had been allowed to get so far away from the money rate—so light on the way up and so heavy on the way down—that the borrowers were insensitive to the nominal rates.

THE REAL DOLLAR

The whole tragedy is summed up in what happened to the Real Dollar. From 1929 to March 1932, by reason of the lowering price level, the real dollar, measured by 1929, became \$1.53—later (third week of June, 1932) \$1.62.

Thus all the liquidation that had been accomplished down to 1932 left the unpaid balances *more* burdensome

¹⁴ Adjusted for seasonal changes.

(in real dollars of 153 cents apiece) than the whole debt burden had been in 1929, before liquidation began. Only one category of debt seems to have been reduced in fact as well as in name. This was brokers' loans, which were reduced, in name, 94.4 per cent, and in fact, 91 per cent. On the commercial bank debts of 39 billion, though $8\frac{1}{2}$ billions had been paid up to 1932—nominally a reduction of 21.8 per cent—the burden had not decreased but actually increased by 20 per cent. On the intergovernmental debts of 11.6 billions, 400 millions had been paid up to 1932—nominally a reduction of 3.4 per cent, yet the real burden had increased by 48 per cent. On farm mortgages of $9\frac{1}{2}$ billions, 1.9 billions were paid—nominally a reduction of 20 per cent; yet the real burden had increased by 22 per cent.¹⁵ If we exclude public and other debts which grew even nominally after 1929, the total is $187\frac{1}{2}$ billions on which the payments of $43\frac{1}{4}$ billions were made—nominally a reduction of 23 per cent; yet the real burden had increased by 17 per cent. If we take everything, the grand total is $234\frac{1}{4}$ billions, on which net payments of nearly 37 billions were made—nominally a net reduction of 15.7 per cent; yet the net real burden had increased 29 per cent.

In a word, despite all liquidations, the $234\frac{1}{4}$ billions of 1929 became over 302 billions in 1932, if measured in 1929 dollars.¹⁶ By the third week in June, 1932, the business dollar had grown to \$1.62 in terms of the 1929 dollar, and the debts expressed in this inflated dollar would have grown correspondingly. If there was no decrease in dollar debts, the total would be equal to 319.8 billion of 1929 dollars, or an increase of 36 per cent. Even assuming liqui-

¹⁵ If we used a farm-commodity dollar, the increase would be greater.

¹⁶ Of course, the figures merely compare valuations at two specific dates. They do not and cannot compare the various dates when loans were contracted and the dates when they were paid.

TABLE 2
ESTIMATED TOTAL DEBTS IN THE UNITED STATES
Change from 1929 to 1932

| | Debts | | | Changes from 1929 to 1932 | | | |
|---------------------------------------|--|--|--|--|--------------------|--|--------------------|
| | 1929 In 1929 Dollars (millions) | 1932 In 1932 Dollars (millions) | 1932 In 1929 Dollars (millions) | NOMINAL In Dollars Unadjusted for Changes in Value (millions) | Per Cent Change | ACTUAL In 1929 Dollars (millions) | Per Cent Change |
| Brokers' loans | \$ 9,500 | \$ 530 | \$ 811 | —\$8,970 | —94.4 | —\$8,689 | — 91 |
| Commercial bank loans | 39,000 | 30,500 | 46,665 | — 8,500 | —21.8 | + 7,665 | + 20 |
| Consumers' credits | 3,000 | 2,000 | 3,060 | — 1,000 | —33.3 | + 60 | + 2 |
| Loans on Life Insurance policies | 2,379 | 3,400 | 5,202 | + 1,021 | +42.9 | + 2,823 | +119 |
| Corporation debts (long & short term) | 76,096 | 64,682 | 98,963 | —11,414 | —15.0 | +22,867 | + 30 |
| Farm mortgages | 9,500 | 7,600 | 11,628 | — 1,900 | —20.0 | + 2,128 | + 22 |
| Other agricultural loans | 1,875 | 1,800 | 2,754 | — 75 | — 4.0 | + 880 | + 47 |
| Non-Farm mortgages | 37,000 | 26,000 | 39,780 | —11,000 | —30.0 | + 2,780 | + 8 |
| Private foreign loans | 14,000 | 15,200 | 23,256 | + 1,200 | + 8.5 | + 9,256 | + 66 |
| State and local debts | 13,400 | 16,000 | 24,480 | + 2,600 | +19.0 | +11,080 | + 82 |
| Federal debt | 16,931 | 18,508 | 28,317 | + 1,577 | + 9.5 | +11,386 | + 68 |
| War loans | 11,600 | 11,200 | 17,136 | — 400 | — 3.4 | + 5,536 | + 48 |
| TOTAL | \$234,281 | \$197,420 | \$302,052 | —36,861 | —15.7 | +68,291 | + 29 |

Computed and compiled by Dr. Royal Meeker from estimates by Dr. Carl Snyder, Dr. Lionel D. Edie, Professor E. R. A. Seligman, Professor John H. Gray and others, and reports of the Departments of the Treasury, Commerce, and Agriculture. The figures in some cases are little better than shrewd guesses, but in most instances they are based upon accurate statistical records. No attempts have been made to estimate small loans such as are made by individuals, credit associations, pawn-brokers, and "loan sharks." The decline in consumers' credit is assumed to be nearly equal to that in the automobile ingredient.

All conversions from 1932 to 1929 dollars are expressed in terms of the purchasing power of the business man's dollar over commodities at wholesale. One business man's dollar in March, 1932 equals \$1.53 in 1929. By the third week of June, 1932, the business dollar had grown to \$1.62.

ation by failure and foreclosure amounting to 10 billions, the real debts would have remained stationary at 302.9 billion dollars of 1929. The details are given in Table 2. It is this growth of *real* debt burden, despite huge efforts at liquidation, which, in my opinion, constitutes the master fact of the depression of 1929-32.

PART THREE

REMEDIAL

CHAPTER

IX. PALLIATIVES vs. REMEDIES

X. REMEDIES

XI. THE WORLD MOVEMENT FOR STABLE MONEY

CHAPTER IX

PALLIATIVES VS. REMEDIES

WHEN FORM IS SUBSTANCE

A FRIENDLY critic has taken exception to the emphasis here placed upon the varying dollar—"a mere unit of measure, instead of the things measured." He is more impressed by the concrete dislocations of business. But a unit of measure which enters into practically every transaction and then starts growing and dwindling by turns (while it goes on looking the same to the contracting parties) will, of course, produce dislocations—dislocations in everything—dislocations in price, quantity, distribution, and all else that concerns the contracting parties, and all other parties in the world. Such dislocations (it seems to me) are bound to be more radical and more wide-spread than any that would be likely to result, for instance, from a blight on one crop or the over-production of another, or from any coincidence of such causes.

Within a stone's throw of my home is the plant of a great arms company. Early in the World War it entered into prodigious contracts with foreign countries to produce munitions; but the prices to be paid, though incredibly high, were fixed by the contracts; and no sooner had the wheels begun to grind out the goods than war inflation (1914-19) sent current prices sky-rocketing, including the prices of raw-materials and labor needed but not yet bought for the fulfillment of the contracts. So the profits, which had looked so large to start with, got squeezed out,

between fixed income and rising costs. Then, after the war, finding itself burdened with more floor space and more tools than could be used in peace times for war commodities, the company decided to devote its extra equipment to diversified hardware. Accordingly, it planted stores all over the country and put on a heavy advertising campaign. No sooner had interest and rent and wages become relatively fixed than post-war deflation (1920-21) began to force down the prices of all their products, old and new. So again the profits were squeezed out, this time between the relatively fixed costs and the lowering income. And before it could fight its way out (1921-29) came the price slump of 1929-32. Then, having been caught both going and coming, this great victim of a tricky unit of measure at last gave up the ghost. It sold out; and its former owners still wonder what hit them. No doubt they believe it was an epidemic of business dislocations; and it was—but all of them, or nearly all, were due to one sort of cause—price inflation (a shrinking dollar) and price deflation (a swelling dollar).

A monetary disease involves a profit disease. This is the core of the diagnosis; and on that diagnosis depends the remedy.

Before describing the currency reforms which, according to the diagnosis of this book, go to the root of the disease, I will run over briefly the leading “substantive cures”—not to disparage them as unimportant, but in the conviction that their importance is secondary. They are, it seems to me, palliatives, but not inconsistent with the currency reforms which do go to the roots.

FIRST AID

The most tragic sequel of impaired profits is unemployment. No doubt charity for the jobless man is desirable, but

charity is everybody's business and therefore nobody's. As one means of taking up the slack in labor—a sort of half charity—the proposal has been put forward, that, in times of depression, the government extend itself as an employer. This would be done by means of an arbitrary program of public works, productive or unproductive or both. But in the depression, for instance, of 1929–32, hundreds of millions were spent in this way, which helped feed a few men but had little or no effect on the steady progress of the depression; and Mr. Hoover¹ estimated that the further efforts proposed along the same line could hardly accommodate more than 40,000 workmen the first year. To give out 40,000 jobs to millions of jobless men, without affecting the profits on which employment ultimately depends, would be of little avail—if we are to continue the private profit system at all. Indeed, an arbitrary program of public works might divert resources from more useful outlets.

In 1932, an ingenious *modus vivendi* for unemployed men was developed in Gary, Indiana, when the steel furnaces had become idle for part of the time. Industry, the relief agencies, and the University of Indiana helped some 20,000 families to cultivate their own food by reclaiming extensive swamp lands.²

Various forms of insurance against unemployment have been suggested. There is the plan proposed by Mr. Gerard Swope of the General Electric Company which embodies, in a measure, the insurance principle but aims less at paying for the loss of jobs than at keeping the jobs alive in the lean years through the cooperative action of industry. The plan is worthy of careful consideration, and the electrical industry, after a good deal of delay, adopted it in 1932.³ But a depression is not caused by unemployment—

¹ *New York Times*, May 23, 1932.

² Associated Press dispatch, July 31, 1932.

³ *New York Times*, Jan. 3, 1932.

quite the other way; and no plan for perpetuating employment could be long continued by industries drained of their profits. Congressman David J. Lewis is developing and pressing the idea that, though the World does not "owe everyone a living," yet there should always be, for those who are able and willing to work, a chance to work. This is a fine ideal, but attainable, it is to be feared, in a private-profit society, only when that society stops permitting its monetary unit to vary, and wipe out by billions the profits which should insure the chance to work.

REDUCING COST

Efficiency, like charity, is good for good times as well as bad. Business has long been efficient. But, in a depression, a new dose of efficiency would at least have the merit of operating directly on profits. One of its methods would doubtless be to relax by amendment the anti-trust laws, so that costs might be reduced by further combination. Wasteful armaments should be cut, thus reducing the tax burden; also, the tariffs which hinder the exchange of goods should be reduced. And increased efficiency would embrace more system and more invention. But all these expedients, important as they are, work on a relatively small scale, while the dollar is jumping 50 per cent.

RETARDING THE DEBT DISEASE

We have seen that over-indebtedness may cause the liquidation which expands the dollar which raises the costs which ruin the profits. Any expedient should be adopted, therefore, which would retard the pyramiding of the debt burden—or (if the pyramid succeeds in getting itself erected) would retard its distress liquidation. In anticipa-

tion of booms, some of the superfluous and non-productive lures to over-indebtedness might be withdrawn—for instance, speculative temptations like the capital gain tax. And the so-called bank affiliates, which are suspected of undue speculation, might be held in check by laws exposing their accounts to the same publicity that is applied to the banks with which they are affiliated. Also, American banks might show less hospitality to stock market collateral and press still further the policy which they have in recent years copied from abroad and are already using—the policy of lending on balance sheets—being careful, of course, to check balance sheets with income statements. Also, in the interest of small corporations and other modest borrowers, more facilities might be made for the function of lending intermediate amounts for intermediate periods. At present the nearest approach we have to a loan for an intermediate period is usually a sort of gentleman's agreement on the part of a commercial bank to *renew* a *short* term loan. This is a perversion of commercial banking; and the result is that, when an emergency arises, the commercial bank must either break its promise or be handicapped by a "frozen" loan.

REPLACING INFLEXIBLE BONDS

Since rash maturity dates are a chief factor in over-indebtedness, corporate finance might go further with the present tendency toward selling more preferred stock and less bonds, since the bondholder can force liquidation, and the stockholder cannot. We want a debt system which, unlike the present one, will bend and not break. So far as bonds are still used, they might be so drawn as to be more easily refunded. For instance, a bond might well contain an option to refund after five years as a matter of course. It might even be drawn to run indefinitely, becoming a

perpetual annuity without a due date. As bonds are now drawn, if a due date falls in a depression, refunding on any reasonable terms usually becomes impossible. Thus bad matters are made worse.

OTHER MEASURES OF DEBT FLEXIBILITY

The banks, too, might organize cooperatively for more lenient liquidation—as to borrowers and as to one another. Branch banking would be an improvement. It would enable the banks to support one another when runs occur. Receiverships intended to defer or avoid liquidation might be more freely used. The laws which compel certain agencies of trust, such as savings banks, to dump their securities on a falling market might be relaxed when there is a depression—since this dumping defeats collectively the very safety which is the purpose of each individual liquidation. The American Stock Exchange might adopt a rule approximating that of the English Stock Exchange which requires settlements only once a fortnight instead of daily.

DEBT SCALING

Profits are the spread between receipts and expenses; net worths are the spread between assets and liabilities. In a depression, profits (and, of course, net worths) are pinched by a fall in money values. If, then, expenses and liabilities could be forced into a parallel fall, the pinch would be avoided. This parallel action could be largely accomplished if wages and debts could be scaled. Such a procedure, moreover, would be entirely just to workmen and to creditors. In other words, since, in terms of *real* wages and *real* debts, a depression virtually gives the workman and the creditor more than the agreed amount, they ought to be willing

to surrender some of the unintentional loot. Possibly, labor might sometimes be educated into accepting a temporary reduction; but, in general, the money illusion would stand in the way. No creditor would adjust his debt to the price level.

However, in 1932, the "Penn Zone Property Owners Association" issued a bulletin entitled "Stop Foreclosures." In this document, the point was made that foreclosures are an unduly expensive means of collecting debts and hurt the values of the property foreclosed as well as that of neighboring property. It was proposed that mortgagors and mortgagees cooperate during hard times and that interest be reduced proportionately with the fall of rents. In Gary, Indiana, in 1932, a still more radical plan was proposed, and, according to a news dispatch,⁴ it won the consent of many mortgagees: that is, both interest and principal were reduced, and loans renewed.

THE INTERNATIONAL DEBTS IN 1932

Debt regulation, if based on an index number and made automatic, would practically amount to the same thing as the regulation of the price level. Debt regulation is, in general, out of the question. But the depression of 1932 is unique in that a large part of the debt burden is scalable, because a large part of it consists of inter-governmental debts. To these, scaling has already been applied in a measure, by means of the various reparation and other intergovernmental debt settlements.

Cancellation, or a large scale reduction, should, if properly coordinated with other remedial measures, raise the price level the world over; and one result of a higher price level would be to lighten the American debt burden

⁴ *New York Times*, August 4, 1932.

and, by stimulating business and increasing incomes, indirectly lighten the burden of American taxes. On the other hand, to insist, even successfully, on full payment would only aggravate the process of deflation and make our taxes more, as measured in *real* dollars.

The greatest remedial effort yet proposed along this line is the Lausanne Accord between Germany and her creditors, reported in the press on July 12, 1932. Having long since reduced Germany's debt from 132 billion marks to 34 billion without satisfactory results, the Allies have, at last, almost released Germany altogether, by coming down to 3 billion marks, or 714 million dollars—a reduction to about 1 cent on the dollar.⁵

But, generally speaking, even large palliatives are not cures—at any rate not preventives. Nor will it ever be possible to forestall the debt disease by direct regulation of debts until we have better debt statistics and also a criterion as to how much debt is too much debt. Here is a need which is basic and must, in due time, be met.

⁵ Germany is to deliver to the Bank of International Settlement at Basle (the "World Bank") 5 per cent bonds in the amount of 714 million dollars. These bonds are not to be negotiated until three years from the signing of the settlement; and such of them (if any) as the bank shall not succeed in negotiating in fifteen years are to be cancelled altogether.

CHAPTER X

REMEDIES

CREDIT CONTROL

BUT the lack of debt statistics does not bar us from forestalling the debt disease by a direct attack upon the dollar or price level disease. True, the debt disease is often the precipitator of the dollar disease; but, under the operation of the vicious spiral, the debt disease soon becomes the effect, and the dollar disease, the cause. In the boom period, for instance, the really gross over-indebtedness usually springs from the upward movement of the price level, which, by expanding profits unduly, over-excites the profit maker so that he expands his undertakings unduly, with too much borrowed money.

Invention or discovery *alone* need not carry up the aggregate indebtedness very high, if the price level promptly refuses to follow up the lure of invention or discovery with the lure of profits *not due to the invention or discovery* but to credit inflation. The point is to quell the inflation as soon as the price level is even slightly affected by it.

Even in cases (like 1923-29) in which the commodity price level fails to register the inflation, there is still the stock market as an indicator; and even if inflation altogether escapes observation or is neglected, then to prevent the sequel, deflation will become all the more important.

THE MANDATE TO TREAT THE DOLLAR DISEASE

The Constitution of the United States, in Article I,

section 8, clause 5, reads as follows: "The Congress shall have power: . . .

"5. to coin money, regulate the value thereof . . . and fix the standard of weights and measures."

Units of measure other than the dollar were standardized long ago. Their nature made them easy to standardize. They could be determined once for all, and then some of them put under a glass case for protection against changes of temperature and humidity. On the other hand, the dollar had to be defined before there was any instrument available for measuring its value apart from its weight,—that is, before the science of index numbers had developed; so that, though the dollar was called a standard of value, or purchasing power, it became really a standard of weight. Now that we possess index numbers we can, if we will, make the dollar more truly a standard of purchasing power. This can be understood by reference to a simple equation, of which the price level (that is, the reciprocal of the purchasing power of the dollar) is one factor.

THE EQUATION OF EXCHANGE ¹

According to this "equation of exchange," the price level, multiplied by the yearly volume of trade, is equal to the money in circulation multiplied by the number of times it circulates in a year.

Expressed in the simplest algebra, this means that, in any given year,

$$PT = MV$$

where

P is the index number measuring the price level (a percentage figure, relative to a base year—say 1913),

¹ See *The Purchasing Power of Money*, by Irving Fisher (Macmillan, 1931).

T , the volume of trade (the total value of the year's trade in terms not of current prices but of the base year prices),

M , the quantity of money in circulation (including deposit currency), and

V , the velocity at which this money circulates (that is, the yearly turn-over of the entire mass of money).

It is statistically possible to ascertain each of these items.

What happens to the price level (P) depends largely on what happens to the other three factors. What happens to the trade factor should (within certain well-recognized lines of regulation) be left to the laws of supply and demand, and could safely be left to those laws, if the dollar in which they register did not unsettle their natural behavior. But, though trade should thus be left to nature, the other two factors, especially M (the quantity of money), are proper subjects for human control. The problem, therefore, is: by regulating the quantity of money and also by influencing its velocity, to keep the price level essentially steady.

Dr. Carl Snyder has shown that the velocity of money on one side of the equation tends, of itself, to keep pace with the short-time changes of trade on the other side of the equation. Thus, there is little disturbance of the price scale from short-time changes in the volume of trade. So if money, on one side of the equation, were kept in pace with the long, steady progress of trade, on the other side, P (the price level) would remain fairly constant.

THE QUANTITY THEORY

Though the control of M has here been presented in terms of the "equation of exchange," this has been done for simplicity and not because we can safely assume that

T and V are constant, or even that the ratio of T to V is constant, or that this ratio is subject only to a constant progressive change—though the last is approximately true. The presentation could have been made without any recourse to the “quantity theory of money,”—that is, the “equation of exchange.” We need only to assume that an increase in the quantity of the circulating medium has *some* tendency to raise the price level, and *vice versa*. Nor need we take seriously the common objection that any control must be futile because “other factors besides money and credit” also have an influence. According to this reasoning the use of a rudder in steering a ship is futile because, besides the influence of the rudder, there is the influence of wind and wave!

ADJUSTING CREDIT TO BUSINESS

A plan to make money keep step with trade (or rather with the ratio of trade to velocity) has been suggested by Dr. Carl Snyder, Dr. Lionel D. Edie, and Professor James Harvey Rogers. Under this plan, the previous growth of trade would be watched and its behavior for the preceding ten years taken as a guide. If the ten year growth had been, say, 3 per cent, the supply of money would then be increased at the rate of 3 per cent per annum to meet the expected requirements of business.

This adjustment of money to the requirements of trade will appeal to the business man to whom the idea of a stable price level or a stable dollar seems academic. But the proposed adjustment is the same thing as stabilizing the dollar, and we can get a more exact adjustment if we take the price level, or the purchasing power of the dollar, as our guide.

REFLATING AND STABILIZING THE PRICE LEVEL

Suppose that the price scale has recently jumped up or down so as to impoverish lenders to the advantage of borrowers, or borrowers to the advantage of lenders. In that case, the price level should be first *corrected* by reflation and thenceforward *safeguarded*.

How much reflation is right? In other words, how far back by way of correction should we put the price level before starting to safeguard it?

The answer is: far enough back to repair, as nearly as possible, the injustice to the creditor or the debtor, as the case may be. But, alas, there is no "the" creditor and no "the" debtor. There are many of each class, and they date from different points on the down- or upswing. Standing at 1932, let us look back upon the downswing of the price level from 1929 to 1932. Some debts were contracted in 1929, some in 1930, 1931, or 1932. By putting the price level back from the 1932 level, we would do injustice to the creditors who lent in 1932. By not putting it *all the way back to the 1929 level*, we would do injustice to the debtors who borrowed in 1929.² By putting it back to 1930, we would do exact justice to the debtors and the creditors of 1930, but we would leave the debtors on one side of 1930 and the creditors on the other side to suffer something less than justice, according to the respective distances of their contracts from the 1930 price level. Yet we cannot let things alone. In 1932, injustice rested on one group—the debtors. If the price level were put part way back, the injustice would be shared by two groups—

² Sir Arthur Salter, in *Recovery—The Second Attempt*, recommends the 1929 level. The minority report of the League of Nations Gold delegation recommends 1928, practically the same as 1929. Gustav Cassel recommends halfway back to 1929—which appeals to me.

debtors and creditors; and this would be the only reasonable solution; for it would minimize the injustice to both groups taken together.

But, the chief purpose of the correction must be to secure the future, so that things can go on; to restore to a prosperity basis as many profit accounts as we reasonably can, so that the wheels of industry may move again, and the maximum number of the unemployed be put back to work. As a practical matter, we should feel our way to the most restorative price level, and stop when we find that business is sufficiently able to reabsorb unemployed labor. Thereupon, the price level thus reached should become society's vested interest, and be stabilized.

REGULATION THROUGH THE REDISCOUNT RATE

The regulation of M (the quantity of money) belongs to what Sir Josiah Stamp calls the "mechanics" of money. The regulation of V (the velocity of money) is more baffling because it is more psychological.

We shall begin, therefore, with what may well be called the mechanics of money— M .

Money, as the word is used here, is, in general, of two kinds:

1. Deposit currency, or bank deposits subject to check;
2. Hand-to-hand money, consisting of paper money, subsidiary coinage and gold.

Deposit currency, being nine-tenths of the country's currency, should be the first item on any program for sound money.

Inasmuch as deposit currency is borrowed, its volume can be more or less regulated by the rate of interest. A lowered rate increases the borrowing and a raised rate decreases it. Many people miss this point about interest. Even a former

member of the Federal Reserve Board missed it when, in a public lecture, he averred that interest was too small an element "in the cost of production" to effect prices! The point, however, is not the cost of production but the quantity of currency. If, at a 5 per cent rate of interest, the quantity of currency were satisfactory to business, then a change to $4\frac{1}{2}$ per cent would make money excessive and progressively so, and a change to $5\frac{1}{2}$ per cent would make it progressively insufficient. The water in a bath-tub is kept constant when the outflow through the waste-pipe exactly equals the inflow through the supply-pipe; but the slightest turn of the spigot from this equilibrium point will, in time, fill or empty the tub. The interest rate acts like the spigot, to fill or empty the country's reservoir of circulating deposit currency.

The human race should forget its primitive notions about interest. One of the greatest of all economic reforms would be, on the one hand, to get rid of the popular prejudice against raising, promptly and drastically, rates of interest when conditions justify; and, on the other hand, to get rid of the inertia which keeps rates high when conditions call for reduction. In some places, the rate stays at 6 per cent through good times and bad. In a western town I saw "4 per cent" engraved in inflexible stone on the walls of a new bank building. Even in New York, where interest is more elastic than anywhere else in America, it is not elastic enough. Ideally, any trustworthy borrower should be able to get a loan *at a price*; and any lender to place one.

THE FEDERAL RESERVE SYSTEM

To make the regulation of interest effective, the banks must act in concert; and so far as concerns the Federal Reserve System, this requirement can easily be met. At the

center of that System is the Federal Reserve Board, which sits at Washington. Next, there are the 12 regional banks—the so-called Federal Reserve Banks—each operating as a central bank in its region. Next come the member banks for each region. The member banks, so far as lending is concerned, make all the contacts with the public. The 12 Reserve Banks, besides performing other functions, lend to the member banks by rediscounting for them the paper which they have previously discounted for the public. The Board at Washington keeps in touch with the 12 Reserve Banks through 12 Federal Reserve agents, stationed in the respective banks. Naturally, under this scheme of things, the interest rates which the member banks can afford to charge their customers are largely governed by the rediscount rates which the member banks expect to pay to the Reserve Banks. These central banks, therefore, by means of the rediscount rate, already regulate, to a considerable degree, the whole country's volume of deposit currency—for good or ill.

But the reaction of the volume of deposit currency to the rediscount rates, though great in the end, is relatively slow, and the Reserve Banks have at their command a supplementary instrument which works faster.

REGULATION THROUGH "OPEN MARKET OPERATIONS"

Every bank keeps a reserve against its deposits. In the case of a member bank in the Federal Reserve System, its reserve consists of its own deposit balance in its Federal Reserve Bank. This balance must, under the law, be at least equal to a certain percentage of the total outstanding deposits which have been granted by the member bank to its customers. For time deposits the requirement is only 3 per cent; but for demand deposits, which chiefly interest

us, the reserve must be 7, 10 or 13 per cent, according to the location of the member bank,—the higher percentages being required in the larger and more active business centers.

The balance held by a member bank in a Reserve Bank may arise not only from rediscounting but from selling securities to the Reserve Bank, the proceeds being left in the Reserve Bank on deposit. It follows that the 12 Reserve Banks, can, by *buying* bonds from member banks, enlarge the reserves of these member banks, and, by *selling* bonds to them, can lower their reserves. True, if a member bank is indebted to the Federal Reserve Bank, it may use its deposit balance (in excess of its existing reserve requirements) to pay off the debt. It thus deprives itself of the privilege of using the enlarged balance as a reserve for new credit issues. But after its indebtedness is paid off, any further excess in its balance is pretty sure to be used as reserve for further loans to the public.

WHAT IS TRADED IN OPEN MARKET OPERATIONS

This buying or selling of bonds is the "open market policy."

Practically the only articles in which the Federal Reserve can legally deal by way of open market operations are government bonds and "commercial bills." Accordingly, these operations have aroused the complaint that they interfere with the bond market. Theoretically, any other property or commodity might be made the subject of open market operations. Silver, for instance, might be bought or sold—by the government if not by the Federal Reserve. Buying silver from or through the member banks, like buying bonds, would enable the banks to put purchasing power into circulation, and thus tend to raise prices

generally. The trouble is, however, that this operation would raise the price of silver in particular and put it out of line with other prices. Buying wheat or cotton would be subject to the same objection. Nor could we expect to buy or sell all goods impartially and in the right proportions. As to perishable goods, for instance, there would be the objection that they would perish. Durable goods, on the other hand, would be unduly held out of use. Similar objections apply to bonds; nevertheless, bonds are the most suitable class of goods in which to deal for stabilization. The range of selection might, of course, be extended to include other bonds than those of the government.

Thus, by operating not only the rediscount rate but also the open market policy, the 12 Reserve Banks can powerfully regulate the volume of the country's deposit currency—for good or ill.

If the Federal Reserve System should decide to exercise its enormous power over deposit currency with the acknowledged purpose of affecting the price level, the exercise of this power ought to keep close on the heels of the price level; for, if once a rapid up-movement of the price level (say over 10 per cent per annum) were allowed to get started, it would make the *real* interest rate ³ so low that a very high nominal rate would be powerless to check the borrowing; for even 10 per cent nominal interest would then leave the real rate at zero. On the other hand, if once a rapid down-movement of the price level (say over 20 per cent per annum) were allowed to get started, it would make the real rate so high that a nominal rate of nearly zero would not tempt the borrower; for what is a nominal rate of zero, if the rate actually felt becomes 20 per cent?

But when such an up or down movement does get the

³ See p. 38.

bit in its teeth, it is because the operation of these two policies (rediscount and open market) has been tardy.

In short, the dictator of "real" interest is the price level, but nominal interest can dictate the price level if it dictates in time.

AUTOMATIC REGULATION OF RESERVES

To be sure of being in time, the machinery of regulation must be flexible; and to that end the reserve requirements may sometimes need to be temporarily relaxed. The relaxation should be by administrative authority—without waiting upon the slow process of legislation. An ingenious plan for one kind of relaxation has been suggested by Mr. Winfield Riefler of the staff of the Federal Reserve Board. This plan would prescribe the amount of the reserve required of a member bank, not according to the location of the bank and the character of its deposits, but according to the daily *activity* of those deposits. The slower the deposits, the smaller the reserve to be required (thus stimulating lending power); the faster the deposits, the more the reserve to be required (thus retarding lending power).

This rule would have the advantage of applying not only between different places but also in the same place at different times. Whenever the turnover should exceed the speed limit, the brakes would go on automatically. On the other hand, if a depression should retard the turnover, an inducement to lending more freely would be created automatically.

ADJUSTMENTS TO FACILITATE OPEN MARKET OPERATIONS

The law also imposes a reserve requirement on each Reserve Bank. The reserve in such a case must be at least

35 per cent of the total deposit balances which a Reserve Bank grants to its circle of member banks—the 35 per cent consisting of gold or of “lawful money.” Since a 35 per cent reserve supports nearly three times its own amount in the form of member deposits, and since each member bank can, on the average, issue to its own customers about ten times the amount of its deposit in the Reserve Bank, the final volume of deposit currency may become nearly 30 times the original reserve of gold and lawful money in the Reserve Bank.

The Reserve Bank has another currency function: it may obtain from the Reserve Board an allotment of Federal Reserve notes. In this transaction, the government is theoretically the issuer of the notes and guarantees them. The Reserve Bank obtains the notes from the government and then circulates them, making itself responsible, both to the government and to the holders, for the redemption of the notes. As security for the notes thus obtained from the government, the Reserve Bank deposits with the Federal Reserve agent 100 per cent of collateral, consisting either of commercial paper which it has rediscounted or of gold or (under the recent Glass-Steagall Act) of government bonds. All this precedes the actual issue of the notes by the bank. When the bank actually issues any of them, it must have, in its own vaults, or with the Federal Reserve agent, gold equal to 40 per cent of the face of the notes issued; which means that the gold thus used will support only $2\frac{1}{2}$ times its amount in the form of Federal Reserve notes.

Thus gold, or other lawful money, may support nearly 30 times its face in deposit currency, and gold may support $2\frac{1}{2}$ times its face in Federal Reserve notes. The Federal Reserve Act authorizes the Reserve Banks to reduce their reserve ratios in an emergency, and there should be some authority equipped with the power to relax or to stiffen,

in emergencies, all or any of the requirements designed to secure the proper exercise of either the credit function or the function of obtaining or issuing Federal Reserve notes.

CONFLICTS OF FUNCTION

The Federal Reserve System might well exercise such diverse functions as the care of the commodity price level and the care of the stock market price level. To prevent these from interfering with each other, a plan has been proposed by Mr. Luther Blake, President of the Standard Statistics Corporation of New York City. He would empower the Federal Reserve Board to put special obstacles in the way of loans to brokers (or to any other class of borrowers), whenever such loans were, in the judgment of the Federal Reserve Board, about to become excessive. Mr. Blake suggests that, for this purpose, the reserves required of the member banks should be allocated among the various classes of loans, and the reserve requirement against each class varied from time to time, according as any class should be found to be over-extended or not. This plan might make it feasible, as it has not been hitherto, to keep "separate pools of credit."

A UNIFIED BANKING SYSTEM

Before the organization of the Federal Reserve System, in 1913, American banking was little better than a jungle; and outside of the system, the jungle is still very incompletely reclaimed. Almost any inexpert person is still free to call himself a banker and try his luck at the art of surviving or perishing—along with his clients. It is absurd to think that there can be 30,000 bankers in the United States really competent to operate in splendid isolation. A run

on an American bank is likely to be fatal, whereas, with due cooperation, the whole system of banks would come to the rescue of the individual bank, and "tide it over." In most other first class countries—England, France, Belgium, Germany, Holland and the Scandinavian countries—cooperation among banks is made secure, either by an inclusive system of "central banking" or by the system known as "branch banking." Accordingly, in the depression of 1929-32, France had only one large bank failure, Austria one, Germany one, Britain and Canada none at all, while the United States in 1931 alone had 2,550 bank suspensions.

The Federal Reserve System is sound within itself, and even with the present set-up, its credit policy (when it has one) affects, to some extent, directly or indirectly, all banks. But a unified credit policy is not enough. Those who exercise it should also be fortified against sheer bank failures. Most of the small state banks could be brought into the Federal Reserve System by branch banking. To this end, something could perhaps be accomplished by making it disadvantageous for state banks to stay out. Perhaps a service charge might be imposed for clearing their checks. In 1865, the Federal government, by taxing state bank notes out of existence, induced many state banks to become national banks. Some analogous tax might be tried now in order to tax the deposit currency of non-member banks out of existence.

STABILIZATION PROPERLY A GOVERNMENT FUNCTION

All that the law now requires of the Federal Reserve System is "the accommodation of business and commerce." But sometimes the accommodation of this or that partial interest of business conflicts with the accommodation of the whole country's price level. It should not be left to the

discretion of a semi-private banking interest, coupled with wholly private but enormously powerful bankers, to regulate or not to regulate, and even for illicit ends (if corruption enters) to *un*regulate, the whole country's basic unit of measure. Mr. M. K. Graham of Graham, Texas, has written a book ⁴ in which he develops the thesis that "since deposit currency (that is, bank credit) is money, that part of it made by state banks is made in violation of the Federal Constitution, and will in time be so declared."

At any rate the mandate of the law should not only make the integrity of the price level paramount,—it should take it wholly out of irresponsible, chance controls and put it under responsible controls, guided by an exact, scientific and openly published criterion determined by the Index Number.

The government puts all its strength behind its legal tender money; yet deposit currency does ten times the business of legal tender and has ten times the power to wreck our most basic unit of measure—the dollar. Already, by having its representatives on the Federal Reserve Board, the government has indirectly acknowledged its responsibility toward the country's deposit currency, but if the government is to fulfill completely that responsibility, it might well add to its present operations a policy analogous to the "open market policy" of the Federal Reserve Banks—for which purpose the following plan has been worked out: ⁵

A BOND SECURED DEPOSIT CURRENCY

First, a Stabilization Commission would be set up. This commission, in case of a depression, would, on behalf of the

⁴ *Continuous Prosperity* by M. K. Graham (The Parthenon Press, Nashville, Texas, 1932).

⁵ By James H. Rand, Jr., Ragnar Frisch, and Irving Fisher.

government, sell to all the banking institutions that are willing, a large number of Treasury short term bonds—the distribution to be in proportion to the existing deposits of the respective banks. By way of payment, each bank would give the government a time deposit for, say, a year, in the absence of earlier termination by mutual consent. The interest running from the government to the banks and the interest running from the banks to the government would be equal, so as to cancel.

The banks would thus have an additional quick asset without an additional quick liability. They could sell the bonds or hypothecate them with the Reserve Banks, obtaining additional deposit credit, against which they could grant to the public additional deposit currency—10 dollars of money (on the average) to one dollar of hypothecated bonds. Even if a bank chose not to sell or hypothecate the bonds, the fact that bonds were on hand, ready like a fire extinguisher for emergency use, would so strengthen the bank's position as to encourage it in a more liberal lending policy. After the depression, this same method could be used or reversed; that is, it could be operated either to discourage or encourage lending, according as the existing tendency was toward inflation or deflation.

This mechanism would work fast. The government could supply 10 billions of bonds almost over night. The only lag in enlarging the deposit currency would be the time required by the banks to negotiate the additional loans to their customers.

Already, this method has, in effect, been used very quietly on a small scale and found salutary.

GOLD CONTROL

Credit control has its limitations, due to the relation of the credit superstructure to the gold base. The only real

importance of gold lies in its function as a reserve; and the smaller and more precarious the reserve, the greater the importance of the gold. In short, we have the paradox that, just because gold is so small a part of our circulating system it plays a large rôle. In general in the United States, the gold base is about 10 per cent of the total money. Therefore, for adjusting the total money to the needs of business and the price level, the chief prerequisite is to adjust the gold base, which supports the other currency, including credit.

THE SURPLUS RESERVOIR PLAN

There are three chief methods of adjusting the gold base.

The first is to maintain a margin of safety; that is, to have *more* gold available for the base than the indispensable minimum, but keep the surplus impounded or "sterilized," drawing upon it or adding to it according as the price level calls for enlarging or diminishing the credit superstructure.

This plan of enlarging or diminishing can be operated so long as we really have a surplus of gold, the surplus of gold enabling us to accomplish stabilization by credit control.⁶ But the instant the surplus is wiped out, credit expansion is precluded by law.

To make sure of a surplus of the metal base, we might enlarge the gold base by supplementing it with silver or otherwise.⁷

⁶ Provided (and this is only of academic interest) the gold surplus is not so excessive as to require, to prevent inflation, the wiping out of all credit.

⁷ See *Rand Plan*, Appendix No. VII.

THE LEHFELDT PLAN

The second method is to control the production of gold. For this purpose, a nation acting alone would be handicapped; and the late Prof. R. A. Lehfeldt,⁸ therefore proposed a syndicate of nations including, in particular, the United States and the British Empire. The syndicate would act through a commission having both an administrative bureau and a scientific bureau. All over the world, monetary and price statistics and mining laws and geology would be studied, and the production of gold would be encouraged or discouraged according to the world's monetary needs. In an emergency, some of the less productive mines might even be closed. In that case, the commission would buy the mines in order to compensate the owners (compensating also the workmen thus put out of work), and thereafter re-open or close mines according to the world's monetary needs. In case of insufficient gold, the commission, having prepared itself in advance with surveys of new gold regions, would purchase or subsidize whatever mining facilities might be required to sustain the price level.

But this plan, too, has a breaking point; that is, it would fail if and when it became impossible to secure enough gold.

THE "COMPENSATED DOLLAR" PLAN⁹

In the absence of such international control, each country could use the plan which (if characterized in terms of American money) may best be called the "compensated

⁸ See *Restoration of the World's Currencies*, by R. A. Lehfeldt (P. S. King & Son, Ltd., London, 1923).

⁹ See *The Purchasing Power of Money* (Macmillan 1931), *Stabilizing the Dollar* (Macmillan 1920), *The Money Illusion* (Adelphi Company 1928), by Irving Fisher.

dollar" plan. That is, if in spite of all other efforts to regulate the price level, the purchasing power of gold over goods should fall, the weight of the gold dollar would be correspondingly increased; or, if the purchasing power of gold should rise, the weight of the dollar would be correspondingly reduced.

Under this plan, the actual coinage of gold would, of course, be abandoned, and, instead of gold coins, gold bars would be used to redeem the gold certificates. Only the gold certificates would circulate, and the price of the bars in terms of these certificates would be varied from time to time. But, between the buying and selling prices, a small spread would be provided. Otherwise, when a change in price was announced, speculators might buy of the government at today's prices and sell back at tomorrow's, or *vice versa*, making a profit at the expense of the government.

This plan need not be embarrassed by the gold clause in some private contracts; for such clauses could be virtually abrogated by taxing their execution.

A simple application of the compensated dollar plan would be to rely principally upon credit control, and only at long intervals regulate the weight of the dollar when other means proved inadequate.

One advantage of the compensated dollar plan would be that any nation could operate it alone. The only inconvenience would be that each alteration in the dollar's weight would cause a corresponding alteration in foreign exchange. But this is a small matter. The Lehfeldt plan, on the other hand, would necessarily affect all nations; and no one country could operate it without having also to control the price levels of all the other countries which had the gold standard.

But as world-wide stabilization is highly desirable, all plans should include international cooperation. The reali-

zation of this fact has led to the calling of an international conference on the problem of price levels.

VELOCITY CONTROL

We turn now from the volume of money (M) to its velocity (V). When velocity misbehaves, it misbehaves in the same direction with volume. We have already seen, for instance, that, in the depression of 1929-32, while the volume of deposit currency in member banks was falling 21 per cent, the velocity of it was being reduced by 61 per cent. In the case of a rising price level, the remedy for the velocity must perhaps be looked for in the volume of money, by taking the surplus M out of the overflooded circulation; for people cannot spend what they do not have. The price level would come down, and V would come down. On the other hand, people *can* hoard what they *do* have; so that, in the case of a depression and a falling price level, a mere new supply of money, to replace what has been liquidated or hoarded, might fail to raise the price level by failing to get into circulation. If, for instance, there is fear of going off the gold standard, the very effort to expand credit may, by increasing that fear, defeat itself, the new money being more than offset by withdrawals for hoarding. For a prompt boost of the price level, therefore, a mere increase in M might prove insufficient, unless supplemented by some influence exercised directly on the moods of people to accelerate V —that is, to convert the public from hoarding.

The authorities charged with the duty of rescuing confidence in a depression would have to be careful not to make bad matters worse by raising false hopes, or by using suggestions which automatically induce counter-suggestion. But wise measures whose wisdom the public can be made to

see should be made public with all the enthusiasm they deserve.

CONFIDENCE IN BANKS

The banks, if they are enabled to re-capture the hoards (and also to re-capture their own confidence, so as to quit hoarding on their own account), are better equipped than any other agency to put the re-captured money to work, because banks can use this money as the basis of many times its face in the form of credit currency. Therefore, anything that will restore and justify confidence in the banks is eminently desirable. If, for instance, deposits in banks were guaranteed by an authority satisfactory to the depositing public, some of the hoards would melt and flow back into the banks and help support credit currency. In America, this guaranty expedient has been tried; but, I regret to say, with poor success, due usually to the failure of the guarantors to justify confidence by excluding "bad risks" from their guaranty. Abroad, guaranty policies have apparently served a useful purpose.

For a successful guarantor of properly selected banks there might be a coalition of banks, or the Federal Reserve System, or the government. Preferably, the government; for, in a depression, the banks themselves are as badly scared as the public, and only the government is strong enough to handle such a scare. The Canadian government, in 1930-31, in order to facilitate the marketing of grains, guaranteed to the several chartered Canadian banks certain credits granted by those banks to the grain industry. This transaction was accomplished by an Order of Council under specific statutory provisions.¹⁰

I have already suggested that the Federal Reserve

¹⁰ *Budget Speech* of Hon. Edgar N. Rhodes, Minister of Finance in the House of Commons, April 6, 1932. (F. A. Acland, Ottawa, 1932.)

System be enlarged and that the government take a more direct interest in credit currency by depositing bonds to support it. Few things would go further toward dispelling the hesitations of both banks and borrowers.

STIMULATING BORROWERS AND BUYERS

The government could, for the duration of the emergency only, offer subsidies which would have the effect of negative interest.¹¹

But there is one more cause for the hesitation of the borrowers. Business does not wish to borrow until it is sure of buyers; and in a depression, the buyers wait for business to inspire confidence, and business cannot inspire confidence till it gets back on a normal borrowing basis. If only buying could be started first, business borrowing would follow. For the purpose (of directly stimulating the buyers), a unique "stamped dollar" plan has been devised—a sort of stamp tax on hoarding.¹² This plan did not come to my attention until after this book had been finished. The plan offers the most efficient method of controlling hoarding and probably the speediest way out of a depression.

In this chapter, we have seen the main methods available for credit control, gold control, and velocity control. The last named is badly needed only in emergencies. In ordinary times, credit control through open market operations would suffice, reinforced at long intervals by gold control, or otherwise.

¹¹ See *Appendix VII* for proposals of Col. Malcolm C. Rorty, H. B. Brougham, E. F. Harvey, and Byron DeForest.

¹² See *Appendix VII* for the anti-hoarding plan of Silvio Gesell. In the same *Appendix* will also be found fuller details, including a number of stabilization and reflation methods not mentioned in this chapter.

CHAPTER XI

THE WORLD MOVEMENT FOR STABLE MONEY

NOT ALTOGETHER NEW

TWENTY-ONE hundred years after Pythagoras, and a century after Copernicus, Galileo was still afraid to tell people that the earth was round, not for fear of religious persecution (as commonly supposed) but for fear of public ridicule.

French peasants who have tuberculosis still shut their windows lest fresh air be allowed to get in and make them worse; and a generation ago, all the rest of us refused to believe that "a bad cold" (as tuberculosis seemed to be) could be cured by the air, which we had always been taught to shut out—what else were houses for?

Perhaps the lag between the acquisition of knowledge and its general acceptance was shorter in the case of tuberculosis than in that of astronomy, because its application was of practical importance. The question of stabilizing the dollar lies in an intermediate region. It is immensely important, since the instability of money is a major cause of poverty and of the diseases (including tuberculosis) which go with poverty; but, as in the case of astronomical truth, the disposition to see the truth about the dollar is forestalled by a very definite illusion. On the whole, the progress of the movement for a revamped and safeguarded monetary unit (dollar, franc, pound, mark) has been

gratifying. We haven't yet arrived, but we have been going for only about a hundred years!

In 1824, John Rooke¹ proposed that the price of gold be so regulated as to counteract variations in the wages of farm labor (which were visible even without an index number).

In 1879, in *The North American Review* for September, Simon Newcomb, the famous astronomer who was also the author of an excellent treatise on economics, published an article called "The Standard of Value." In this he proposed with considerable detail what has since been called the "compensated dollar" plan.

In 1888 Knut Wicksell,² a Swedish economist, proposed an elaborate scheme for regulating discount rates; and he cited on this point a still earlier work by Weiss. The compensated dollar plan and other plans for stabilization were described by the distinguished English economist, Alfred Marshall in 1887. One of these was in principle the same as the "Open Market Policy." In 1898, Alfred Russel Wallace, the naturalist, made a plea for stabilizing money by means of a managed currency. Many famous economists, such as Carl Menger, Charles Gide, and E. Benjamin Andrews, anticipated the "managed currency" proposals which Professor Keynes is now urging with so much ability.

Today, though there is not yet full agreement as to methods, the necessity of stabilizing the world's monetary units is affirmed by such economists and business men as:

(in England) Sir Josiah Stamp, once professor of economics and now chairman of one of the largest railways in England, and a director of the Bank of England; Reginald McKenna, who has been chancellor of the British

¹ In *Inquiry into the Principles of National Wealth*, Edinburgh, 1824.

² In *Geldzins und Gütepreise*.

Exchequer and is now Chairman of the Joint City and Midland Bank; Lord D'Abernon, a banker—once Britain's minister to Germany; John Maynard Keynes, the economist who represented Britain at Versailles and who foretold the economic consequences of the treaty made there; and the Honorable Pethick-Lawrence, formerly a member of Parliament; (in Germany) Professor Schulze-Gaevernitz; (in Sweden) Professor Gustav Cassel, who was an official adviser to the League of Nations; (in Norway) Professor Ragnar Frisch; (in America) Professor E. W. Kemmerer, Professor John R. Commons, and many others.

In 1919, in America, a Stable Money League was formed which later became the Stable Money Association.

THE PRESENT WORLD MOVEMENT

During the World War, there began to be a demand to put theory into practice. A committee of the American Economic Association on the Purchasing Power of Money in War Time (including E. W. Kemmerer, Royal Meeker, Wesley Clair Mitchell, and Warren M. Persons) reported as follows: "The Committee regards the stabilizing of the value of monetary units under international agreement as desirable and economically feasible. The details of the plan, the time of its introduction and the question whether international agreement is indispensable should receive the immediate attention of statesmen and economists."

After the war, in 1922, at Genoa, the representatives of 35 nations unanimously adopted a resolution, reading in part as follows: "The essential requisite for the economic reconstruction of Europe is the achievement, by each country, of stability in the value of its currency," and suggested specific steps "to avoid those wide fluctuations in the purchasing power of gold which might otherwise result . . ."

The Dawes Reparation Plan contained a provision (due chiefly to Sir Josiah Stamp) for varying the amounts to be required of Germany, according as the price level might vary. Unfortunately, this was not incorporated in the Young Plan.

The Central Bank of Sweden is reported to have adopted a definite stabilization policy for Sweden, making use of a new index number for their guidance, and, an, article in a Swedish Journal,³ applauding the movement, bespeaks a similar declaration by Britain.

Both Sweden and Britain and many other countries are, at this writing, off the gold standard, and Honorable Pethick-Lawrence asks their cooperation, remarking that many of them have already chosen to link themselves to the paper pound rather than gold as an international standard. He testifies to the benefits of a regulated currency in England since she was forced off the gold standard, in so far as a rise of prices followed, and predicts that Britain may not return to gold, unless gold, too, shall submit to regulation—or, as he puts it, become “a constitutional sovereign which shall no longer possess arbitrary power, but shall guide the destinies of nations according to the people’s will.”

In the opinion of many, it has been Britain’s intention “to institute a system of stabilization of the price level, when prices have reached a position at which they yield an adequate margin of profit and when unemployment has fallen well below a million.”⁴ Indeed, in 1931, in a report made to Parliament by the Macmillan Committee on Finance and Industry, headed by Lord Macmillan, it was said:⁵ “Our objective should be, so far as it lies within the

³ *Skandinaviska Kreditaktiebolaget*, No. 4, October 1931, article on “The Suspension of the Gold Standard.”

⁴ From a private letter to the present writer.

⁵ June, 1931, pp. 117-8.

power of this country to influence the international price level, first of all to raise prices a long way above the present level, and then to maintain them at the level thus reached with as much stability as can be managed. We recommend that this objective be accepted as the guiding aim of the monetary policy of this country. The acceptance of such an objective will represent in itself a great and notable change. For, before the war, scarcely anyone considered that the price level could or ought to be the care and preoccupation, far less the main objective, of policy, on the part of the Bank of England or any other Central bank."

Once in the Taft Administration a resolution for the purpose of calling an international conference on price levels passed the Senate but reached the House too late to be acted upon before the expiration of the Congress in 1913.

On May 14, 1932, a sub-committee of the House Committee on Coinage, Weights and Measures recommended that the President call an international monetary conference. In June, Premier MacDonald inquired of our State Department (which replied favorably) whether the United States would consider an international conference on raising and stabilizing commodity price levels. Later the official invitations were received and accepted, the conference being called by the League of Nations, and the subjects to be discussed including almost all the problems of world economics including price levels.

THE AMERICAN LEGISLATIVE MOVEMENT

The Federal Reserve Act was first known as the Glass-Owen bill, and in 1913, in one of its first drafts, there was a stabilization clause which originated with Senator Owen. This, however, was taken out by the conferees who represented the House.

Congressman Husted in 1919 introduced a bill for stabilization; and afterwards similar measures were proposed by Congressman Dallinger, Congressman Goldsborough (1922) and Congressman Strong (1926). On both of these last two bills there were extensive hearings, public interest in which, though slight at first, has grown with remarkable speed.

There has recently been in America a degree of genuine popular pressure for legislative action along these lines. The American Farm Bureau Federation has had a stabilization committee for several years. This society and the other two leading farm organizations (the National Farmers' Union and the National Grange) have given active support to stabilization proposals; and the same is true to some extent of the labor organizations, including the American Federation of Labor.

THE FEDERAL RESERVE EFFORTS

Meanwhile some actual, though quiet—almost secret—efforts toward stabilization have been made through the Federal Reserve System. The late Benjamin Strong, Governor of the New York Federal Reserve Bank, formed an unofficial committee, consisting of himself and the heads of four other Reserve Banks, for the purpose, among other things, of using the open market policy to prevent the inflation which then threatened. Mr. Strong's committee was later taken over by the Federal Reserve Board and enlarged into a conference including the heads of all the Federal Reserve Banks. But, except Governor Strong, the members of this conference have never very definitely accepted the basic idea of stabilization.

Governor Strong himself was loth, publicly and specifically, to favor stabilization, and is even on record as oppos-

ing a bill in Congress for that purpose. But before he died, he privately expressed his acquiescence and helped frame the last draft of the bill. He also declared himself as willing to avow his approval publicly, provided the Federal Reserve Board would avow theirs, which, however, they withheld. The bill was that of Congressman James C. Strong (not a relative of Governor Strong).

THE GOLDSBOROUGH BILL OF 1932

Nevertheless, for ten years, Congressman Strong and Congressman T. Alan Goldsborough have kept an educational movement alive in the House of Representatives; and, at last, in 1932, the Goldsborough bill, designed principally to requisition the rediscount and open market policies for the express service of the country's price level, was brought to a vote.

Of course, the Goldsborough bill was only a first step. A perfect monetary system for America would not rely solely on the Federal Reserve System. It would put the currency as a whole—not deposit currency alone—under the control of a permanent agency, say a commission devoted to that single purpose. The duties of such a commission would not be complicated by personal side-issues, such as those which beset a bank manager. On the other hand, it would have the cooperation of bank managers and of all those government agencies whose functions bear on the currency. There would be the cooperation of the Bureau of Labor Statistics for computing the index number of prices, and also for studying wages and other matters. There would be the cooperation of the Treasury and the mint, and, above all, of the Federal Reserve System. The commission would also cooperate with local, foreign and

international banks. Further details for such a commission will be found in Appendix VI.

The House passed the Goldsborough bill by an overwhelming vote: 289 to 60. But despite powerful support, including that of Farm and Labor organizations, the bill failed in the Senate when it came before the Committee on Banking and Currency. Senator Glass, whose influence when he was in the House, in 1913, had eliminated the stabilization clause from the Glass-Owen bill (which became the Federal Reserve Act), was chiefly responsible for the failure of the Goldsborough bill.

The bill aroused opposition and a fear that it would force the United States off the Gold Standard and embark on unrestrained German inflation. This fear was especially evident abroad. It was due partly to real reason, the precarious gold situation, and the seeming impossibility of raising the price level as high as the 1921-9 level specified, but partly and chiefly to misunderstanding and consequent misrepresentation which unduly excited a public mind already rendered over-excitable by the prolonged depression.

OPPOSITION TO THE GOLDSBOROUGH BILL

The opponents of the Goldsborough bill said that it sought to regulate prices contrary to the "law of supply and demand." Those who glibly used this phrase did not realize that supply and demand presuppose a price level,⁶ nor did they understand the distinction between individual prices and the scale of prices.

Even less reasonable were those who denounced the Goldsborough bill as "inflation." When the bill was introduced, the country's malady was *deflation*; and deflation

⁶ See, for instance, *Elementary Principles of Economics*, by Irving Fisher, Macmillan, 1928.

can be cured only by a certain amount of "reflation"; that is, inflation justified as counteracting recent, rapid and great deflation. But "inflation" is a word with a bad history; and the economic illiteracy betrayed by those who used it was all the more dangerous because they used an historic word.

"WHAT'S IN A NAME?"

Many of those who decried the Goldsborough bill as inflationary were themselves explicit champions of what Mr. Ogden Mills, Secretary of the Treasury, has described (and proposed) as "controlled credit expansion." Controlled credit expansion and controlled inflation (or reflation) are one and the same thing. Controlled inflation was the very purpose of the open market bond purchases which the Federal Reserve Banks had been carrying on, and these open market operations had the support of many conservative bankers. The official publication of the National City Bank in May, 1932, said, "the effort to revive business and raise the price level should have support everywhere. The Reserve System is giving the lead."

Finally, some held that the Goldsborough bill would put too much power in the hands of a small committee sitting in Washington. But the Federal Reserve Board already has the power and already has done sufficient harm, both by exercising it and failing to exercise it, inasmuch as they exercised it and failed to exercise it without due reference to the price level. The Goldsborough bill would commit them to the price level expressly; and the price level would serve at any rate as a limit to their power, which is now *unlimited* so far as concerns credit expansion and contraction—that is, inflation and deflation. A former member of the Federal Reserve Board has char-

acterized the Federal Reserve System as "rudderless." It is a case of power without direction.

OUR DOLLAR'S BAD RECORD

The greatest absurdity of all, however, is the claim (implied in all this obstruction) that sound money is the kind of money we have been having for all these tortured generations. The first requirement for soundness is stability; and the purchasing power of a dollar is stable in proportion as the price level is stable. How stable that has been may be judged from the following chart of its history from 1860 to 1932 (chart 6).

This crooked line should some day serve as an inscription on the gravestone of unstable money. It is largely responsible for countless actual gravestones of children starved and of men killed in the wars between capital and labor; for these wars were generated in large part by this crooked line. Every dip in the line, including the numberless minor jogs, means thousands of debtors cheated (unconsciously) by their creditors; and every climb of the line means thousands of creditors cheated (unconsciously) by their debtors. In both the debtor and the creditor camps there have been both rich and poor. A poor debtor, for instance, builds a cabin with the help of a mortgage. He borrows \$1,000 in 1865; and in 1896, having paid all the interest, he pays the principal—\$1,000 that are worth over 3,000 of the 1865 dollars which he had borrowed. And for an example of a poor creditor, take a person who in 1896 put \$100 in the savings bank, and in 1920 draws out (including compound interest) \$256 that are worth 77 of the 1896 dollars which he had deposited.

If we treat the 1913 dollar as 100 cents, then the follow-

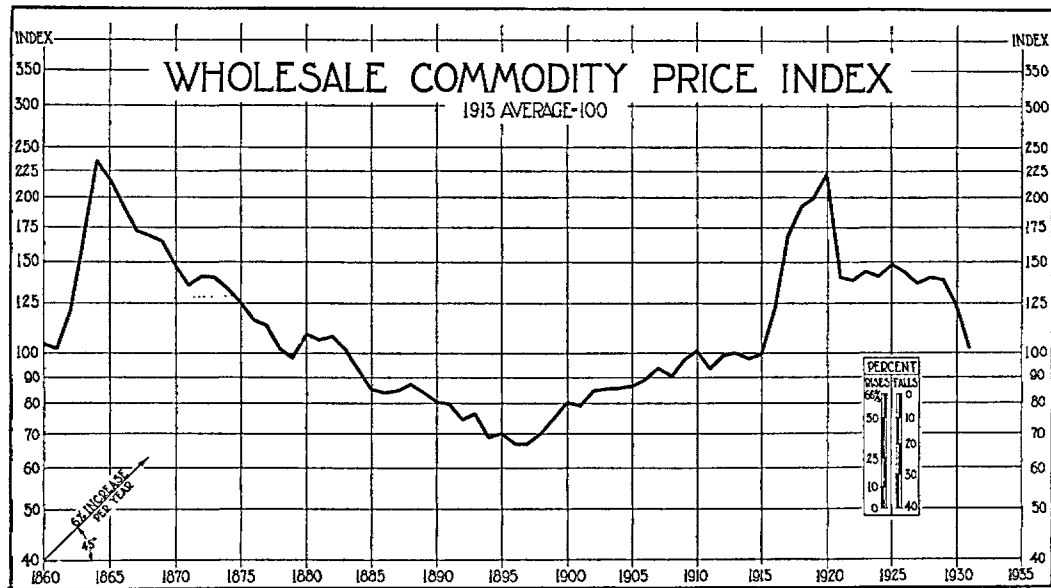


CHART 6

ing schedule shows the various buying powers which the dollar has had at various times since 1860.

| | | |
|--|-----------------------------------|-----------|
| | in 1860, it was | 96 cents |
| | in Jan. 1865, " " | 47 cents |
| | in 1896, " " | 150 cents |
| | in 1913, " " | 100 cents |
| | in May 1920, " " | 45 cents |
| | in 1922, " " | 72 cents |
| | in 1923, " " | 69 cents |
| | in 1924, " " | 70 cents |
| | in 1929, " " | 71 cents |
| | in 1930, " " | 81 cents |
| | in 1931, " " | 98 cents |
| | March 19, 1932, " " | 111 cents |
| | the third week of June, 1932, " " | 118 cents |

Or, if the 1929 dollar was 100 cents, then the dollar of the third week of June, 1932, was \$1.62.

Nor does this take into account what happened abroad, in and after the World War, in the way of "calamity booms," as the Germans called them—which wiped out the middle classes—many by death, including suicide, because their incomes (consisting of salaries or of interest on bonds) did not rise when the price level did. In Britain, between 1913 and 1920, the price level rose more than 3 fold; in France, more than $5\frac{1}{4}$ fold; in Italy, more than $6\frac{1}{2}$ fold; in Austria, between 1914 and 1922, more than 17,000 fold, which, in 1925, became more than 21,000 fold; in Russia, by 1922, over 4,000,000 fold, and this, in 1923, became more than 6,000,000,000 fold. In Germany, for 1920, the rise was only 15 fold, but at the

peak of inflation in 1923 it went far above the astronomical figure of a trillion fold.⁷

WAR, A DE-STABILIZER

In its relation to monetary derangements (which are themselves almost as cruel as war) war is the greatest obstacle to the movement for stable money. There is no money device which war will not wreck. War debts, war inflation, and post-war deflation are all on too large a scale to be checked by delicate machinery.

But there is no reason why the same cure that was effectively applied to frontier brawls should not be applied to war—that is, judicial machinery; for war, like frontier gun-play, is a crude form of litigation, which must always go on so long as there is anything to litigate and nothing else to litigate it with. War guilt is not in my department, but I believe that no scholar now assigns the entire guilt of the World War to any one nation. Some assign it almost or quite entirely to what G. Lowes Dickinson calls “The International Anarchy,”⁸ under which nations had to conduct their commercial rivalry. To avoid war, the balance of power became a sort of insurance policy; and, for a time, it did preserve the peace; but sooner or later it had to turn bad—no balance of power can stay put; and, when it began to slip, all the great powers of Europe, according to this view, reluctantly chose war as the less of two evils.

Since the international forms of litigation are a thousand years behind the municipal forms, the first step for the purpose of superseding war must, of course, be quasi-judicial—not yet fully judicial.

⁷ December, 1923—1,261,560,000,000 fold. Another official figure (November 1923) 1,422,900,000,000 fold.

⁸ In his book by that name.

CAN WE KEEP CAPITALISM?

The threat of Socialism (if it deserves to be called a threat) is, of course, often made by those who would stir people to the need of making things better. But the threat seems to become more logical every year; witness Russia since 1919, and Chile in 1932.

Both war and the unstable dollar (with its hunger and its strikes) play into the hands of Socialism. What we call the Capitalistic System might better be called the System of Private Profits; and a depression, being a profit disease, is one to which Capitalism is peculiarly liable. So typical an exponent of Capitalism as Nicholas Murray Butler has recently affirmed that the system is on trial today. His remark, if he is right, can only portend that, unless Capitalism shall clean house by taking the dirt of depression out of profits, some form of Socialism may tear the house completely down. For profits are always at the mercy of the unstable dollar,—always in danger of disappearing *en masse* whenever the price level shrinks, while debts and debt service do not.

Socialistic thinkers of all degrees make common cause against private profits, and add that, without such profits, crises would disappear. Accordingly, in 1929–32, the plight of the capitalistic world drew a good deal of derision from the Russians, who, though not prosperous, were apparently going up while we were going down. I shall not here debate the comparative merits of the two systems. Capitalism boasts of its rewards for initiative; Socialism claims a less selfish stimulus for the same virtue. But, for the present purpose, suffice it that each system has been compelled to borrow from the other. The capitalistic system, for instance, is not wholly capitalistic: witness government itself; witness public schools, the post office, and the Panama

Canal. On the other hand, Russia, which furnishes the only large-scale example of a socialistic experiment, has, in ten years, drifted perhaps as far toward Capitalism as we, in a thousand years, have drifted toward Socialism.

Meanwhile,—to close this book with the quotation with which it began—Sir Josiah Stamp, in the introduction which he was so kind as to write to the English edition of my little book, *The Money Illusion*, puts it thus: “Money, as a physical medium of exchange, made a diversified civilization possible . . . and yet it is money, in its mechanical even more than its spiritual effects, which may well, having brought us to the present level, actually destroy society.”

POSTSCRIPT

As this book goes to press (September, 1932) recovery seems to be in sight. In the course of about two months, stocks have nearly doubled in price and commodities have risen $5\frac{1}{2}$. European stock prices were the first to rise, and European buyers were among the first to make themselves felt in the American market.

These developments might be due to various causes, including an increase in the volume or velocity of currency, or both. In fact, velocity increased while volume (at first) slightly decreased. This paradox, signalling a rise in prices, is the opposite of the one that signalled the fall. Confidence was aroused, partly by the virtual cancellation at Lausanne of German Reparations, and partly by our announced preparations for reflation. These un-froze some of the hoards and raised prices; and the increased value of collateral encouraged some debtors, who had been hanging on, to liquidate, thus temporarily reducing the volume of credit currency. But the stage is set for further reflation through such measures as: the recent Glass inflation Act, allowing an increase in bank notes; the Glass-Steagall Act, in February, “freeing” gold; the consequent

open market operations of the Federal Reserve System on an unprecedented scale; the credit operations of the Reconstruction Finance Corporation; the Home Loan Banks Act, and other reflationary measures. The banks had achieved "liquidity." Gold, also, has begun to flow back from Europe.

If the end of the great depression is really at hand, it will be the result, apparently, of human effort more than a mere pendulum reaction.

But the most noteworthy recent case of human effort to control the price level is that of Sweden. The programme mentioned on page 146 of this book has, according to Professor Cassel, "been carried through with complete success. The present purchasing power of the Swedish currency is, within the limits of unavoidable statistical error, just the same as it was in September last. This achievement is of great importance. It shows that a deliberate regulation of the purchasing power of a paper currency is possible and that a Central Bank actually can, by a suitable policy, control this value."⁹

⁹ See *Quarterly Report* of the Statistical Department of the bank "Skandinaviska Kreditaktiebolaget," Gothenburg, Stockholm, Malmö, Sweden, July, 1932.

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APPENDIX I

APPROXIMATE TYPICAL CHRONOLOGY OF THE NINE FACTORS

The following table of our nine factors, occurring and recurring (together with distress selling), gives a fairly typical, though still inadequate, picture of the cross-currents of a depression in the approximate order in which it is believed they usually occur. (The first occurrence of each factor and its subdivisions is indicated by italics. The figures in parenthesis show the sequence in the original exposition.)

- I (7) *Mild Gloom* and Shock to *Confidence*
 (8) *Slightly Reduced Velocity* of Circulation
 (1) *Debt Liquidation*
- II (9) *Money Interest Falls* on Safe Loans
 (9) but Money Interest Rises on Unsafe Loans
- III (2) *Distress Selling*
 (7) More Gloom
 (3) *Fall in Security Prices*
 (1) More Liquidation
 (3) *Fall in Commodity Prices*
- IV (9) *Real Interest Rises*; REAL DEBTS INCREASE
 (7) More Pessimism and Distrust
 (1) More Liquidation
 (2) More Distress Selling
 (8) More Reduction in Velocity

- V (2) More Distress Selling
 (2) *Contraction of Deposit Currency*
 (3) Further Dollar Enlargement
- VI (4) *Reduction in Net-Worth*
 (4) Increase in *Bankruptcies*
 (7) More Pessimism and Distrust
 (8) More Slowing in Velocity
 (1) More Liquidation
- VII (5) *Decrease in Profits*
 (5) *Increase in Losses*
 (7) Increase in Pessimism
 (8) Slower Velocity
 (1) More Liquidation
 (6) *Reduction in volume of stock trading*
- VIII (6) *Decrease in Construction*
 (6) *Reduction in Output*
 (6) *Reduction in Trade*
 (6) *Unemployment*
 (7) More Pessimism
- IX (8) *Hoarding*
- X (8) *Runs on Banks*
 (8) *Banks curtailing Loans* for self-protection
 (8) *Banks selling Investments*
 (8) *Bank Failures*
 (7) Distrust Grows
 (8) More Hoarding
 (1) More Liquidation
 (2) More Distress Selling
 (3) Further Dollar Enlargement

As has been stated, this order (or any order, for that matter) can be only approximate and subject to variations at different

times and places. It represents my present guess as to how, if not too much interfered with, the nine factors selected for explicit study in this book are likely in most cases to fall in line.

But, as has also been stated, the idea of a single-line succession is itself inadequate, for while Factor (1) acts on (2), for instance, it also acts directly on (7), so that we really need a picture of subdividing streams or, better, an interacting network in which each factor may be pictured as influencing and being influenced by many or all of the others.

APPENDIX II

SORTS OF DATA AVAILABLE ON THE NINE FACTORS

To answer adequately the questions raised in Chapter VI, statistical studies are needed. For this purpose, the following series are today available in more or less satisfactory form as raw material:

Debts:

- Brokers' loans from banks
- Brokers' loans "by others" (corporations, etc.)
- Bank collateral loans
- Other bank loans
- Installment sales loans
- Corporation bonds
- Farm mortgages
- Non-farm mortgages
- Municipal bonds
- State bonds
- Federal bonds
- Loans to and from abroad—intergovernmental and otherwise

(All the above debts may be sub-classified as to length, security, etc.)

Money—Volume and Velocity:

- Individual bank deposits subject to check
- Velocity of bank deposits
- "Money in circulation"
- Hoarding
- Loan-liability ratios
- Investments of banks

Prices:

Prices of stocks classified as { common, preferred
rails, industrials, utilities
listed, unlisted

Bonds (See "rates of interest")

Prices of Commodities classified as { consumers', produc-
ers',
raw, semi-manufac-
tured, finished
agricultural, non-
agricultural

Prices of real estate

Rent

Wages

Net Worth:

Bank failures (number and the values involved)

Commercial failures (number and the values involved)

Profits:

Dividend payments

Corporation profits

Profit and earning ratios

Trade, Production, and Employment:

Trade Volume

Shares traded

Unfilled orders

Car loadings

Panama Canal traffic

Net ton miles freight carried

Trade value (volume multiplied by price)

Department store sales

Chain store sales

Farm crops marketed

Imports, exports

Postal receipts

Railway freight traffic receipts

Railway gross earnings

New securities issued

- Real estate transfers
- Life insurance
- Advertising
- New York clearings (and debits to individual accounts)
- Outside clearings (and debits)

Output

- Pig iron production
- Coal, iron, copper, wool, cotton (produced or consumed)
 automobiles, certain other important items
- Number of blast furnaces in blast
- Electric power consumption
- Farm crops
- Live stock

Equipment

- Building permits
 - Residential
 - Commercial
 - Factory
 - Public works and utilities
 - All other

Employment

- Numbers
- Payroll
- In all industries
- In specified industries

Rates of Interest:

- Call rates
- Commercial paper rates
- Rates on acceptances
- Rates realized on bonds
- Industrial
- Railroad
- Government
- Reserve Banks' Rediscount rates

The only one of the nine cyclical tendencies not represented in the foregoing list is the psychological sequence—the sequence

of confidence and discouragement. But these moods are more or less definitely registered by some of the other statistics, for instance, statistics of: hoarding; deposits subject to check; time deposits; deposits withdrawn from either class; exports of gold; the so-called "money in circulation"; velocity of circulation of bank deposits; the changing spread between high grade and low grade bonds; changing proportions of bank notes, Federal Reserve notes, and gold certificates.¹

¹ See *The Journal of Political Economy*, Vol. XL, No. 1, February, 1932, "Distrust of Bank Deposits as Measured by Federal Reserve Note Issue," by Harold L. Reed.

APPENDIX III

STATISTICS OF DEBTS LEADING TO DEPRESSION OF 1929-32

INTERNATIONAL PRIVATE DEBTS

TABLE 3
PRIVATE AMERICAN LONG TERM INVESTMENTS ABROAD *
(millions)

| | |
|------|----------|
| 1912 | \$ 1,902 |
| 1922 | 8,020 |
| 1923 | 8,877 |
| 1924 | 9,135 |
| 1925 | 10,004 |
| 1926 | 10,876 |
| 1927 | 11,684 |
| 1928 | 12,656 |
| 1929 | 13,973 |
| 1930 | 14,764 |
| 1931 | 15,170 |

* United States Department of Commerce. *A New Estimate of American Investments Abroad*, pp. 24-25.

PUBLIC DEBTS

The federal debt, which, of course, grew enormously during the war, declined (in dollars) quite rapidly until 1931 when new borrowings to meet deficits have again brought an increase of about 2 billion. From June 30, 1914, to June 30, 1919, the gross federal debt grew 21 fold.

State and local debts, in the six years between 1922 and

1928, increased by 76 per cent, or about $12\frac{2}{3}$ per cent per year. The amount in 1922 was \$7,153.6 million, in 1928, \$12,608.7 million, and in 1932, \$15,017.2 million (estimated).

The debts of the 146 cities of the United States having more than 30,000 inhabitants have been increasing heavily since 1903; and the debts of all the states have been increasing since 1913. The debts of these 146 cities increased from \$2,319 million in 1903 to \$7,192 million in 1929. Bankers have grown cautious and have refused to lend money to Chicago, Philadelphia, New York, and other debt ridden cities until these cities give evidence that extravagant and wasteful expenditures are eliminated.

The per capita debt (federal, state and local) grew rapidly up to 1919 when it reached the maximum, \$291.95. It then declined to \$246.08 in 1930 since which it has increased to \$271.18 in December, 1931. Table 4, which follows, gives the estimates made by the National Industrial Conference Board ¹ for state and local debts down to and including 1928. Estimates of these debts since 1928, made by Dr. Royal Meeker, are rough approximations but can not be greatly in error. The Conference Board has calculated the ratio of state and local debts to total national tangible wealth from 1922 to 1928. These ratios are interesting, but there is too much guess work as to total national wealth to make them trustworthy. According to the Board's estimates, the total public debt "per capital," i. e., per thousand dollars of wealth, increased from 1917 to 1919 more than $2\frac{1}{2}$ times while the per capita debt increased nearly $5\frac{1}{4}$ times. The "per capital" debt reached its first peak in 1922, when it was $3\frac{1}{2}$ times that in 1915. It declined sharply to 1925, rose somewhat to 1927, then declined again until 1929, since which it has risen 9 per cent in 1930 and 67 per cent by the end of December, 1931. From 1929 to 1930, the per capita debt declined slightly; and from 1929 to December, 1931, it increased only 8 per cent. (See Table 4.)

The story of public debts is even worse in other countries. In Germany practically all domestic public debts were wiped out

¹ *Cost of Government in the United States, 1928-1929*, p. 43.

TABLE 4
COMBINED FEDERAL STATE AND LOCAL DEBTS

| <i>Fiscal Year</i> | <i>State and Local Debts (millions)</i> | <i>Federal Debt (millions)</i> | <i>Combined Federal State Local Debts (millions)</i> | <i>Population (millions)</i> | <i>Combined Public Debt Per Capita *</i> | <i>Total Wealth in Current Dollars (billions)</i> | <i>Combined Public Debt Per Thousand Dollars</i> |
|--------------------|---|--------------------------------|--|------------------------------|--|---|--|
| 1915 | \$4,357.4 | \$1,191.3 | \$5,565.7 | 99.3 | \$56.05 | \$200.2 | \$27.80 |
| 1917 | 4,917.6 | 2,975.6 | 7,893.2 | 102.2 | 77.23 | 351.7 | 22.44 |
| 1919 | 5,173.8 | 25,482.0 | 30,655.8 | 105.0 | 291.95 | 431.0 | 71.13 |
| 1922 | 7,153.6 | 22,964.1 | 30,117.7 | 109.9 | 274.05 | 320.8 | 97.19 |
| 1925 | 9,802.7 | 20,516.3 | 30,319.0 | 115.4 | 262.73 | 362.4 | 83.66 |
| 1926 | 10,702.7 | 19,643.2 | 30,345.9 | 117.1 | 259.14 | 356.5 | 85.12 |
| 1927 | 11,717.8 | 18,510.2 | 30,228.0 | 118.6 | 254.87 | 346.4 | 87.26 |
| 1928 | 12,608.7 | 17,604.3 | 30,213.0 | 120.0 | 251.78 | 360.1 | 83.90 |
| 1929 | 13,365.2 | 16,931.2 | 30,296.0 | 121.4 | 249.56 | 361.8 | 83.74 |
| 1930 | 14,033.4 | 16,185.3 | 30,218.7 | 122.8 | 246.08 | 329.7 | 91.66 |
| 1931 (End of Dec.) | 16,061.2 | 17,825.4 | 33,886.6 | 124.9 | 271.31 | 241.2 | 140.50 |

The figures on State and Local debts for 1915 to 1928 inclusive are taken from *Cost of Government in the United States, 1928-1929*, by the National Industrial Conference Board. Figures for these debts since 1928 are rough estimates.

Figures for total wealth are taken from the Conference Board Bulletin No. 62, February, 1932. Figures for the end of December 1931 are estimated by Dr. Royal Meeker. The estimate of total wealth is made on the assumption that tangible wealth was the same as in 1929 and that its value in current dollars declined one-third through the increase in the purchasing power of the business dollar.

* In current dollars.

by the "devaluation" of the mark at a trillion to 1. In Italy, France, Poland, Austria, and Russia the "devaluation" amounted to the repudiation of by far the larger portions of the domestic debts.

The growth of the British national and local debts in pounds sterling are shown in Table 5.

TABLE 5
PUBLIC DEBTS OF BRITAIN

| | <i>Total Debt of the United Kingdom</i> | <i>Total Debt of the Local Authorities</i> | <i>Grand Total of National and Local Debts</i> |
|------|---|--|--|
| 1914 | £706,154,110 | £562,630,045 | £1,268,784,155 |
| 1915 | ..... | ..... | ..... |
| 1916 | ..... | 565,556,617 | ..... |
| 1917 | ..... | 557,983,804 | ..... |
| 1918 | 5,921,095,819 | 550,508,799 | 6,471,604,618 |
| 1919 | 7,481,050,442 | 544,184,848 | 8,025,235,290 |
| 1920 | 7,875,641,961 | 555,145,292 | 8,430,787,253 |
| 1921 | 7,623,097,128 | 657,760,895 | 8,280,858,023 |
| 1922 | 7,720,532,214 | 768,566,752 | 8,489,098,966 |
| 1923 | 7,812,562,525 | 803,880,725 | 8,616,443,250 |
| 1924 | 7,707,537,545 | 820,262,540 | 8,527,800,085 |
| 1925 | 7,665,880,145 | 864,882,330 | 8,530,762,475 |
| 1926 | 7,633,722,502 | 934,656,498 | 8,568,379,000 |
| 1927 | 7,652,687,904 | 1,027,857,547 | 8,680,545,451 |
| 1928 | 7,630,972,670 | 1,121,258,965 | 8,752,231,635 |
| 1929 | 7,620,853,547 | 1,174,984,992 | 8,795,838,539 |
| 1930 | 7,596,210,899 | ..... | ..... |
| 1931 | 7,582,899,661 | ..... | ..... |

Source: Statistical Abstract for the United Kingdom, 1932, pp. 140, 196-7.

AMERICAN FARM MORTGAGES

So far as there is truth in the theory of over-production as a cause of this depression, it applies particularly to our farms, though it must be borne in mind that over-production was an effect before it became a cause. But on the farms, its effects were real. Conveniences and luxuries you can buy forever,

if you have the money. Food you buy only so far as you are hungry. In this respect, the present depression differs from that of 1921. In 1921 there was little agricultural overproduction. True, in both cases, agricultural prices fell; but in 1930 they fell much more than they would have fallen had it not been for increased production. Increased acreage brought under the plough by the high prices of 1917-1920 and improvements in agriculture have hurt the farmers by driving prices below costs of production.

One other handicap was more or less peculiar to the farmer. When the time came to reduce acreage, he revealed his immobility. By sticking to his farm through thick and thin, he became further the victim of his debts. Between 1910 and 1928 (including an inflation as well as a deflation period) farm values rose, in the net, from \$35.6 billion to \$43 billion; but mortgage debts, during the same period, rose faster: from \$3,600 million to \$9,500 million. The net result was that, in 1910, farmers' equities were 90 per cent of the values of all farms, mortgaged and unmortgaged, and in 1928 only 78 per cent. (See Table 6.)

TABLE 6

FARM MORTGAGES *

| <i>Year</i> | <i>Amount (millions)</i> | <i>Value of Farms (millions)</i> | <i>Percentage of Debt to Value</i> |
|-------------|------------------------------|--------------------------------------|--|
| 1910 | \$3,599.0 | \$35,600 | 10 per cent |
| 1920 | 7,857.7 | | |
| 1925 | 9,360.6 | | |
| 1928 | 9,468.5 | 43,000 | 22 per cent |
| 1930 | 9,400.0 | | |

* Compiled from *Year Book of Agriculture*, 1931; and mimeographed sheet, "Total Farm Mortgage Debts in the United States" prepared by the United States Department of Agriculture.

See Report of the Secretary of Agriculture for 1931, p. 31.

The results are worse in terms of the farmer's dollar than shown in the table. The real debt burden upon farmers has increased more than is shown by these figures. The prices of

the products farmers sell have been reduced to 45 per cent of the prices in 1929,² whereas all commodities have declined only to 65 per cent. Since the "farmer's produce dollar" has become \$2.20, this nominal "decrease" of 20 per cent in money mortgage debts is a real increase of about 75 per cent in the farmer's real mortgage debt burden. For other agricultural loans the increase in *real* debt is 111 per cent.

MORTGAGES OTHER THAN FARM MORTGAGES

The report made by Professors John H. Gray and George W. Terborgh for the Real Estate Research Committee of the Brookings Institution in Washington³ presents the available information of the holdings of non-farm first mortgages by various institutions, roughly as follows: building and loan associations, \$6.6 billion; mutual savings banks, \$4.8 billion; life insurance companies, \$4 billion; all other banks, \$6.4 billion. The authors add: "How incomplete this calculation is, becomes apparent when we realize that no account whatever is taken of the mortgage holdings of mortgage companies, fire and casualty insurance companies, educational and other institutions, foundations, trustees, and individual investors . . . but it is certain that in the aggregate they are large. It seems indeed a safe conclusion that first mortgages on non-farm real estate in the United States total over 25 billions of dollars."

This estimate excludes all second mortgages and other junior mortgages. It surely is conservative to estimate the total non-farm mortgage debt in 1928 at not less than \$29.5 billion and in 1929 at \$37 billion.

If we can assume that the growth in total mortgage indebtedness has been equal to the growth in mortgages held by building and loan associations alone, then the total non-farm mortgage debt in 1920 was about \$9.6 billion and the percentage increase up to 1929 was more than three fold. The decline

² See *Crop Reporter*, February, 1932, p. 87.

³ *First Mortgages in Urban Real Estate Finance*, by John H. Gray and George W. Terborgh, Washington, D. C., 1929.

from 1929 to the beginning of 1932 in all types of non-farm mortgages is estimated to be \$11 billion which probably errs on the side of conservatism.

CORPORATE LONG AND SHORT DEBTS

There is no dependable measure of total corporate indebtedness and the changes therein. New and refunding issues of all types of corporate securities are reported by the *Commercial and Financial Chronicle*, but there is no way of calculating the amount of long term and short term debts retired. Carl Snyder estimated total corporate bonds at 30 to 40 billion dollars in 1926. If this is accurate, it would seem to suggest a total of long term bonds and short term bonds and notes of about \$65 billion in 1929. Professor G. F. Warren quotes Mr. E. White, Chief Statistician, Office of the Commissioner of Internal Revenue, as authority for the figure of \$76,096 million for corporate liabilities in 1929. The decline in these corporate dollar debts since 1929 has probably been not less than \$11,414 million or 15 per cent.

Corporate bonds, both new issues and refunding issues, were at a low of 23.1 per cent of all security issues in 1919. The proportion increased to 41.6 per cent in 1920 and to 79.1 per cent in 1921, when industry was at the bottom of the slump following the crash of 1920. The percentage of long term bonds declined continuously until 1926 and 1927 when it rose slightly to 66.9 and 68.7 per cent respectively. In 1928, when the stock market boom was fully under way, the proportion of long term bonds suddenly slumped to 45.8 per cent while the percentage of common stock shot up from 10.5 per cent to 30.2 per cent. In 1929 bonds fell to 25.3 while common stock skyrocketed to 53.9 per cent. In 1930, the first year after the big crash, the proportions had become reversed, 56.7 per cent being long term bonds and 22.3 per cent common stock, while in 1931 they were 68.7 per cent and 8.2 per cent, respectively.

The slump in the proportion of common stock and the increase in long term and short term bonds and notes has con-

TABLE 7
CORPORATE DOMESTIC SECURITY ISSUES 1919 TO 1931
(millions of dollars)

| | <i>Total Domestic Corporate Issues</i> | LONG TERM BONDS | | SHORT TERM NOTES | | PREFERRED STOCK | | COMMON STOCK | |
|------|--|-----------------|------------------------------|------------------|------------------------------|-----------------|------------------------------|---------------|------------------------------|
| | | <i>Amount</i> | <i>Per Cent of Total</i> | <i>Amount</i> | <i>Per Cent of Total</i> | <i>Amount</i> | <i>Per Cent of Total</i> | <i>Amount</i> | <i>Per Cent of Total</i> |
| 1919 | \$2,739.7 | \$ 633.7 | 23.1 | \$540.2 | 19.8 | | | \$1,565.8 | 57.1 |
| 1920 | 2,966.3 | 1,234.4 | 41.6 | 660.8 | 22.3 | | | 1,071.1 | 36.1 |
| 1921 | 2,419.8 | 1,915.2 | 79.1 | 226.4 | 9.4 | | | 278.2 | 11.5 |
| 1922 | 2,949.2 | 2,195.0 | 74.4 | 133.8 | 4.5 | \$ 332.8 | 11.3 | 287.8 | 9.8 |
| 1923 | 3,178.9 | 2,262.5 | 71.2 | 180.5 | 5.6 | 406.7 | 12.2 | 329.2 | 10.4 |
| 1924 | 3,520.8 | 2,319.5 | 65.9 | 335.7 | 9.5 | 346.1 | 9.8 | 519.6 | 14.8 |
| 1925 | 4,222.1 | 2,667.3 | 63.2 | 308.0 | 7.3 | 636.8 | 15.1 | 610.1 | 14.4 |
| 1926 | 4,573.7 | 3,059.1 | 66.9 | 294.5 | 6.4 | 543.6 | 11.9 | 676.6 | 14.8 |
| 1927 | 6,506.9 | 4,466.2 | 68.7 | 302.5 | 4.6 | 1,054.7 | 16.2 | 683.5 | 10.5 |
| 1928 | 6,930.2 | 3,174.1 | 45.8 | 264.9 | 3.8 | 1,397.1 | 20.2 | 2,094.1 | 30.2 |
| 1929 | 9,376.6 | 2,369.4 | 25.3 | 250.6 | 2.7 | 1,694.7 | 18.1 | 5,061.8 | 53.9 |
| 1930 | 4,957.1 | 2,810.3 | 56.7 | 620.3 | 12.5 | 421.3 | 8.5 | 1,105.0 | 22.3 |
| 1931 | 2,371.2 | 1,628.0 | 68.7 | 400.1 | 16.9 | 148.0 | 6.2 | 195.1 | 8.2 |

Compiled from statistics published in the *Commercial and Financial Chronicle*.

tinued in 1932 as is shown by comparing the January and February issues in 1931 with 1932. (See Chart 7 and Tables 7 and 8.)

TABLE 8

CORPORATE DOMESTIC SECURITY ISSUES, JANUARY 1931 AND 1932 AND FEBRUARY 1931 AND 1932

| | <i>Total Domestic Corporate Issues</i> | LONG TERM BONDS | | SHORT TERM NOTES | |
|-----------|--|-----------------|---------------------|------------------|---------------------|
| | | <i>Amount</i> | <i>Per Cent</i> | <i>Amount</i> | <i>Per Cent</i> |
| Jan. 1931 | 460,706,279 | 392,235,000 | 85.1 | 23,168,750 | 5.0 |
| Jan. 1932 | 48,163,750 | 41,345,000 | 85.8 | 2,400,000 | 5.0 |
| Feb. 1931 | 88,225,944 | 48,420,000 | 54.9 | 13,040,100 | 14.9 |
| Feb. 1932 | 44,550,775 | 30,138,000 | 67.6 | 10,600,000 | 23.8 |
| | | | | | |
| | <i>Total Domestic Corporate Issues</i> | PREFERRED STOCK | | COMMON STOCK | |
| | | <i>Amount</i> | <i>Per Cent</i> | <i>Amount</i> | <i>Per Cent</i> |
| Jan. 1931 | 460,706,279 | 26,503,779 | 5.8 | 18,798,750 | 4.1 |
| Jan. 1932 | 48,163,750 | 4,250,000 | 8.8 | 168,750 | .4 |
| Feb. 1931 | 88,225,944 | 7,509,000 | 8.5 | 19,256,844 | 21.8 |
| Feb. 1932 | 44,550,775 | 2,312,775 | 5.2 | 1,500,000 | 3.4 |

BANK LOANS AND DISCOUNTS

Investments of all banks increased from \$5,541 million in June, 1914, to the peak of \$17,801 million in June, 1928, an increase of nearly $3\frac{1}{4}$ times. They declined to \$16,634 million in 1929 which was a three-fold increase over 1914. Investments slowly increased after December, 1929, to a new peak of \$19,637 million in June, 1931, since which they have slowly ebbed to \$18,481 million in December, 1931, which is 18 per cent above October, 1929.

The loans by Federal Reserve member banks reached the

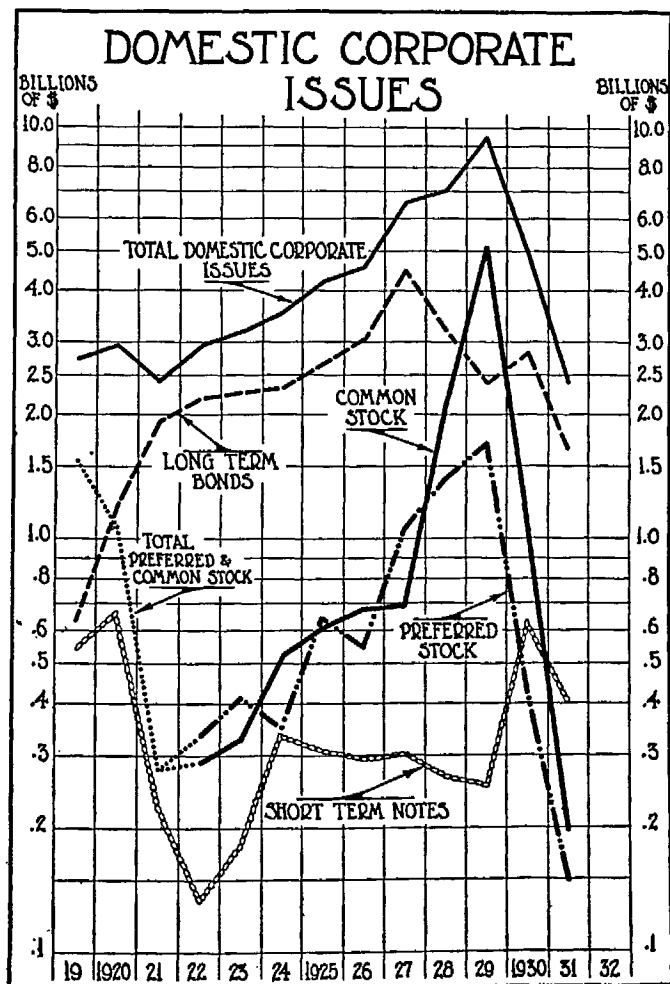


CHART 7

peak in October, 1929, at \$26,165 million, a four-fold increase over December, 1914 (\$6,419 million) and very nearly 50 per cent over December, 1922 (\$17,930 million). The rates of increase correspond very closely to the rates for all banks combined.

The decline of 26 per cent to \$19,261 million at the end of December, 1931, brought their loans to the lowest figure since June, 1924.

The percentage declines in loans for all banks and for Reserve member banks are nearly identical.

We may here note, in passing, that bank deposits (demand plus time), which are directly related to bank loans and investments, reached their maximum for all banks in December, 1928, at \$56,766,000,000—an increase of three-fold since 1914 and of 50 per cent since 1922. No available figures exist for demand deposits outside of the Federal Reserve System. The net demand deposits of Federal Reserve member banks alone reached the peak in November, 1929, at \$19,979 million which is an increase of more than three-fold over December, 1914, and nearly 24 per cent more than December, 1922.⁴

The trend has been steadily downward since 1929. The figure for November, 1931, was \$16,358 million, a decrease of 18 per cent from the peak. Demand deposits had sunk in February, 1932, to \$14,789 million, 26 per cent below the peak, the lowest figure since March, 1922.

The percentage increases and decreases in loans on the one hand and demand deposits on the other are almost identical.

Beginning in December, 1929, Reserve Bank credit fell until, from February to July, 1931, it was about \$525 million below the average for October, 1929. This great drop in credit nearly counterbalanced the entire increase of \$577 million in gold imports during this period. After July, 1931, Reserve Bank credit increased \$996 million from July to December, 1931, but member bank reserve balances declined \$338 million. This decline in reserve balances was almost entirely due to with-

⁴ See "Reports of the Federal Reserve Board" for 1930, pp. 94 and 95, and "Federal Reserve Bulletins" for June, 1931 and for April, 1932.

drawals of gold for export and the increase of money "in circulation" which resulted from the large number of bank failures and the loss of confidence in the stability of the dollar, and in the solvency of our whole banking system both at home and abroad. (See Tables 9 and 10, also Chart 4 in Chapter VIII.)

TABLE 9
LOANS, INVESTMENTS AND TOTAL DEPOSITS
All Banks in the United States
(millions of dollars)

| | <i>Loans</i> | | <i>Investments</i> | | <i>Total Deposits Excluding Inter- bank Deposits</i> | |
|------|--------------|---------|--------------------|---------|--|---------|
| | June 30 | Dec. 31 | June 30 | Dec. 31 | June 30 | Dec. 31 |
| 1913 | | | | | | |
| 14 | 15,248 | | 5,541 | | 18,566 | |
| 15 | 15,643 | | 5,823 | | 19,131 | |
| 16 | 17,961 | | 6,626 | | 22,759 | |
| 17 | 20,510 | | 7,777 | | 26,352 | |
| 18 | 22,392 | | 9,421 | | 28,765 | |
| 19 | 24,710 | | 11,860 | | 33,603 | |
| 20 | 30,824 | | 10,861 | | 37,721 | |
| 21 | 28,970 | | 11,029 | | 35,742 | |
| 22 | 27,732 | | 12,224 | | 37,615 | |
| 23 | 30,378 | 30,778 | 13,360 | 13,225 | 40,688 | 42,163 |
| 24 | 31,523 | 32,440 | 13,657 | 14,742 | 43,405 | 45,853 |
| 25 | 33,865 | 35,640 | 14,965 | 14,963 | 47,612 | 49,224 |
| 26 | 36,157 | 36,759 | 15,404 | 15,260 | 49,733 | 50,029 |
| 27 | 37,360 | 38,407 | 16,391 | 17,043 | 51,662 | 52,909 |
| 28 | 39,464 | 40,763 | 17,801 | 17,504 | 53,398 | 56,766 |
| 29 | 41,512 | 41,898 | 16,962 | 16,519 | 53,852 | 55,289 |
| 30 | 40,618 | 38,135 | 17,490 | 18,074 | 54,954 | 53,039 |
| 31 | 35,384 | 31,616 | 19,637 | 18,481 | 51,782 | 46,261 |

Source: Annual Report Federal Reserve Board, 1930, pp. 89-90, tables 42-43 and Federal Reserve Bulletin, April, 1932, p. 297.

TABLE 10
 LOANS AND DEPOSITS OF ALL MEMBER BANKS
 (in millions)

| <i>Call Date</i> | <i>Loans*</i> | <i>Invest- ments</i> | <i>Net Demand Plus Time Deposits†</i> | <i>Net Demand Deposits</i> | <i>Time De- posits‡</i> |
|------------------|---------------|--------------------------|---|--------------------------------|---------------------------------|
| 1914—Dec. 31 | 6,419 | 2,079 | 7,468 | 6,235 | 1,233 |
| 1915—June 23 | 6,720 | 2,044 | 8,163 | 6,811 | 1,352 |
| Dec. 31 | 7,622 | 2,239 | 9,477 | 7,971 | 1,506 |
| 1916—June 30 | 7,964 | 2,351 | 10,001 | 8,226 | 1,775 |
| Dec. 27 | 8,714 | 2,561 | 11,485 | 9,502 | 1,983 |
| 1917—June 30 | 9,370 | 3,083 | 11,993 | 9,690 | 2,304 |
| Dec. 31 | 12,316 | 4,580 | 15,643 | 12,487 | 3,156 |
| 1918—June 29 | 13,233 | 5,274 | 15,612 | 12,217 | 3,395 |
| Dec. 31 | 14,224 | 6,368 | 18,397 | 14,563 | 3,834 |
| 1919—June 30 | 15,414 | 6,827 | 19,069 | 14,725 | 4,344 |
| Dec. 31 | 18,149 | 6,630 | 21,881 | 16,576 | 5,305 |
| 1920—June 30 | 19,533 | 6,026 | 22,333 | 16,422 | 5,911 |
| Dec. 29 | 19,555 | 5,976 | 21,533 | 15,345 | 6,188 |
| 1921—June 30 | 18,119 | 6,002 | 20,688 | 14,321 | 6,367 |
| Dec. 31 | 17,394 | 6,088 | 20,900 | 14,449 | 6,451 |
| 1922—June 30 | 17,165 | 7,017 | 22,714 | 15,539 | 7,175 |
| Dec. 29 | 17,930 | 7,649 | 23,848 | 16,203 | 7,645 |
| 1923—June 30 | 18,750 | 7,757 | 24,444 | 16,066 | 8,378 |
| Dec. 31 | 18,842 | 7,645 | 25,027 | 16,376 | 8,651 |
| 1924—June 30 | 19,204 | 7,963 | 26,042 | 16,838 | 9,204 |
| Dec. 31 | 19,933 | 8,813 | 28,273 | 18,468 | 9,805 |
| 1925—June 30 | 20,655 | 8,863 | 28,652 | 18,277 | 10,381 |
| Dec. 31 | 21,996 | 8,888 | 29,933 | 19,260 | 10,653 |
| 1926—June 30 | 22,060 | 9,123 | 29,977 | 18,804 | 11,173 |
| Dec. 31 | 22,652 | 8,990 | 30,362 | 18,922 | 11,440 |

* Includes rediscounts and overdrafts; excludes acceptances of other banks and bills of exchange sold with indorsement.

† Deposits subject to reserve requirements.

‡ Includes postal-savings deposits, except that such deposits of State bank members prior to June 20, 1917, are included with demand deposits.
 Source: Seventeenth Annual Report of the Federal Reserve Board, for the year 1930, pp. 94-5; Federal Reserve Bulletin, May, 1932, p. 296.

| <i>Call Date</i> | <i>Loans</i> | <i>Invest- ments</i> | <i>Net Demand Plus Time Deposits</i> | <i>Net Demand Deposits</i> | <i>Time De- posits</i> |
|------------------|--------------|--------------------------|--|--------------------------------|--------------------------------|
| 1927—June 30 | 22,938 | 9,818 | 31,460 | 19,250 | 12,210 |
| Dec. 31 | 23,886 | 10,361 | 32,870 | 20,105 | 12,765 |
| 1928—June 30 | 24,303 | 10,758 | 32,629 | 19,191 | 13,439 |
| Dec. 31 | 25,155 | 10,529 | 33,397 | 19,944 | 13,453 |
| 1929—June 29 | 25,658 | 10,052 | 32,102 | 18,977 | 13,325 |
| Oct. 4 | 26,165 | 9,749 | 32,269 | 18,952 | 13,318 |
| Dec. 31 | 26,150 | 9,784 | 33,030 | 19,797 | 13,233 |
| 1930—June 30 | 25,214 | 10,442 | 32,982 | 19,170 | 13,812 |
| Dec. 31 | 23,870 | 10,989 | 32,516 | 18,969 | 13,546 |
| 1931—June 30 | 24,678 | 12,106 | 31,602 | 18,055 | 13,548 |
| Sept. | 20,301 | 12,199 | 28,218 | 16,358 | 11,860 |
| Dec. 31 | 18,471 | 11,314 | 27,353 | 15,925 | 11,428 |

BROKERS' LOANS

The Federal Reserve System tried—in 1928 and 1929—to discourage the rash speculative boom partly by moral suasion and then by the exercise of its rediscount power to force member banks to discriminate against brokers' loans. There are those who think they would have succeeded if more skill and promptitude had been marshalled. But even so, lending is too fluid to be effectively stopped by a dam half-way across the stream. The desired result was circumvented by borrowing not from the banks but from corporations and individuals who preferred to get 10 per cent on call loans rather than to invest in enterprises which were paying only 4 to 6 per cent. A portion of "loans by others" were made by banks for out of town customers who carried large deposits which they instructed their banks to lend for them on call. During the frenzied boom of 1929 the "loans by others" exceeded greatly the loans by member banks to brokers.

Chart 8 and Table 11 show the growth of all security loans including brokers' loans during the boom and their sudden collapse since 1929.

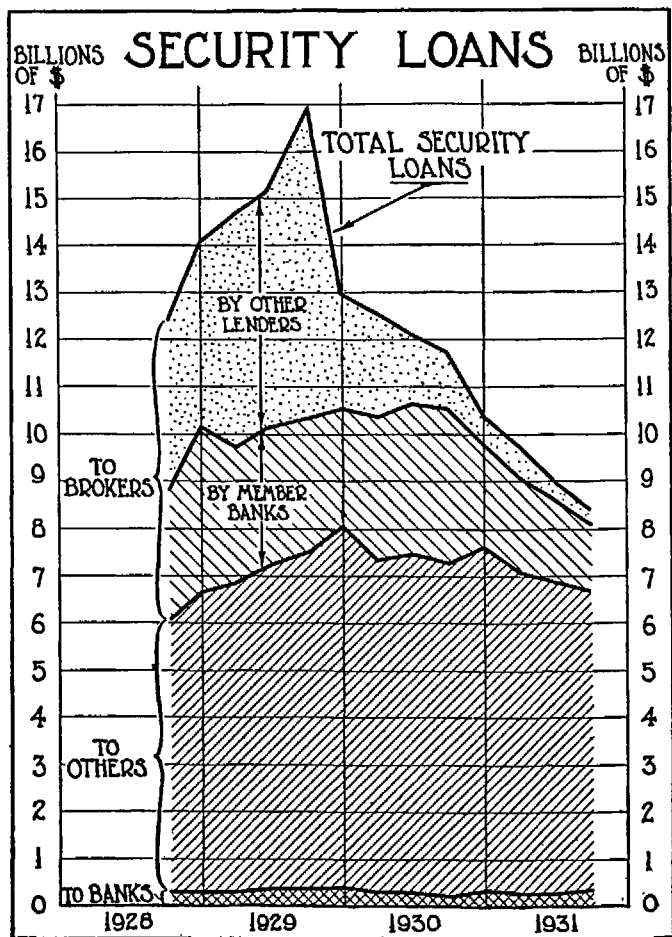


CHART 8

TABLE 11
TOTAL REPORTED SECURITY LOANS
(in millions of dollars)

| Dates | Total Security Loans | BROKERS' LOANS | | | To Banks | To Others* |
|--------------|----------------------------|----------------|-----------------------|------------------------|-------------|---------------|
| | | Total | By Member Banks | By Other Lenders | | |
| 1928—Oct. 3 | 12,429 | 6,359 | 2,749 | 3,610 | 274 | 5,796 |
| Dec. 31 | 14,052 | 7,411 | 3,531 | 3,880 | 269 | 6,373 |
| 1929—Mar. 27 | 14,643 | 7,843 | 2,893 | 4,950 | 274 | 6,526 |
| June 20 | 15,144 | 7,996 | 2,946 | 5,050 | 335 | 6,813 |
| Oct. 4 | 16,954 | 9,464 | 2,824 | 6,640 | 320 | 7,170 |
| Dec. 31 | 12,955 | 4,913 | 2,463 | 2,450 | 357 | 7,685 |
| 1930—Mar. 27 | 12,544 | 5,260 | 3,050 | 2,210 | 260 | 7,024 |
| June 30 | 12,085 | 4,614 | 3,184 | 1,430 | 230 | 7,242 |
| Sept. 24 | 11,701 | 4,436 | 3,246 | 1,190 | 175 | 7,090 |
| Dec. 31 | 10,364 | 2,783 | 2,173 | 610 | 315 | 7,266 |
| 1931—Mar. 25 | 9,752 | 2,685 | 2,205 | 480 | 219 | 6,848 |
| June 30 | 8,943 | 2,112 | 1,732 | 380 | 229 | 6,602 |
| Sept. 29† | 8,378 | 1,724 | 1,444 | 280 | 312 | 6,333 |

Source: Federal Reserve Bulletin, Jan. 1932, p. 18.

* Commercial borrowers.

† Preliminary.

TOTAL DEBTS

Estimates of public and private debts have been made by Professors G. F. Warren and F. A. Pearson.⁵ They have omitted all foreign debts due to American nationals and have included estimates of loans on life insurance policies and by pawn brokers and loan sharks. Some of their figures for other debts differ considerably from estimates made by other students. They make no estimate of the reduction in the total money debt since 1929 and of the amount of the real debt today in terms of 1929 dollars. They say in part:

"Extremely rough estimates of the total indebtedness are shown in table 3. The total debt is approximately \$1,700 per

⁵ *Farm Economics*, No. 74, February 1932, pp. 1667-1668.

capita, or about one-half of the national wealth in 1929. If the value of commodities is to drop one-third and remain at that level, the debt would become about 75 per cent of the value of the property. So much of this can never be collected that it is probable that the lenders would have a greater buying power if they were paid in full at a price level of 150. The usual argument for reducing wages is that a dollar has more buying power. This same argument might be applied to debts which are the most serious result of deflation.

"Table 3.—Rough Approximation of Public and Private Debts (from table 2)

| | <i>Amount (billions)</i> | <i>Per Cent</i> | <i>Per Capita</i> |
|--|------------------------------|---------------------|-----------------------|
| Corporations | \$ 76 | 37.4 | \$ 618 |
| Urban mortgages ⁶ | 37 | 18.2 | 301 |
| Bank loans | 35 | 17.3 | 284 |
| State, county and local | 21 | 10.3 | 171 |
| National | 18 | 8.9 | 146 |
| Farm mortgages | 9 | 4.4 | 73 |
| Life insurance policy loans and premium notes | 3 | 1.5 | 24 |
| Retail installment papers ⁷ | 3 | 1.5 | 24 |
| Pawn brokers' loans and unlawful loans of all kinds ⁸ | 1 | 0.5 | 8 |
| Total | \$203 | 100.0 | \$1,649" |

The estimate in the table prepared for this book by Dr. Meeker of 234,281 million for the total money debts in 1932 corresponds approximately with Dr. Edie's estimates ranging from a minimum of 120 billion to "more probably 150 billion." Dr. Edie excluded bank loans, 39 billion; consumers'

⁶ Based on estimates furnished through the courtesy of George Terborgh of the Brookings Institute.

⁷ Based on reports of the National Association of Finance Companies.

⁸ Ryan, F. W. "Family Finance in the United States, *The Journal of Business* of the University of Chicago, Vol. III, No. 4, Part I, p. 404, October 1930.

credits, 2.2 billion, external debts, 25.6 billion and apparently life insurance loans, 2.4 billions, which would raise his totals to 189.2 billion as a minimum and 219.2 billion as a more likely figure.

APPENDIX IV

GOLD BASE (AND GOLD SHORTAGE) DEPRESSION OF 1929-32

Mr. Joseph Kitchin is the leading authority on gold scarcity, and based on his data the gold scarcity idea has been emphasized by Professors Gustav Cassel, J. Maynard Keynes and other economists of international reputations. These views have been endorsed in their several Reports in 1930 and 1931 by the Gold Delegation of the League of Nations and by the Report of the Macmillan Committee of Parliament in June, 1931. Meanwhile, the production of gold has increased somewhat beyond the estimates made by Mr. Kitchin and the metallurgical engineers. Instead of gold production falling one-half of one per cent, it increased by 5 per cent from \$416.8 million to \$438.4 million from 1930 to 1931 and it is still increasing. It is reported that large new fields of low grade gold ores have been discovered in Canada. India, the great gold absorbing sponge, is being squeezed and has become a leading exporter of gold. During 1931, she exported \$95.7 million gold, whereas in 1930 she *imported* \$57.7 million. During January and February 1932 she exported \$51.4 million but in these two months in 1930 she *imported* \$9,214,000 and in 1931, \$727,000.

The total world monetary gold supply increased in three-year periods as follows:

| | | |
|--------------------------------|------|----------|
| December, 1913—December, 1916, | 34 | per cent |
| “ 1916 “ 1919, | 2.5 | per cent |
| “ 1919 “ 1922, | 23.6 | per cent |
| “ 1922 “ 1925, | 6.9 | per cent |
| “ 1925 “ 1928, | 11.8 | per cent |
| “ 1928 “ 1931, | 12.2 | per cent |

In the two months from December, 1931, to February, 1932, the increase has been one per cent. Beginning in 1929, there has been a tremendous falling off in production and trade, thus reducing greatly the demand for money.

There is great inequality in the distribution of gold. In the United States, until the Glass-Steagall bill released more "free gold," gold was virtually scarce because so much of it was technically tied up and unusable under our laws. Thus while statistically gold has been abundant, so far as usability is concerned, it has been scarce. The scarcity has been accentuated by the higher price level since the war.

See also "The English View" by Sir Henry Strakosch, in *Fortune*, April, 1932, pp. 52-55 and 104-108, and *America Weighs Her Gold* by James Harvey Rogers, Yale University Press, 1931.

Sir Henry attributes the persistent flow of gold to France and the United States to the Reparations and war debts. He attempts to show that the policy of debt collections in gold brought on liquidation and plunged the whole world into the disastrous plight of deflation.

Sir Henry says that from the beginning of 1925 to the end of 1927 countries other than France and the United States absorbed gold at a slightly greater rate than the rate of total world production. Early in 1929 an abnormal gold movement began which increased the gold holdings of France 76 per cent and of the United States 23 per cent from January 1, 1929, to June 30, 1931, while the rest of the world (excluding Russia) lost 15 per cent of their holdings.

The concentration of gold in France has continued unchecked. Between June 30, 1930, and March, 1932, the gold holdings of the United States have declined from \$4,593,000,000 to \$3,985,000,000, a loss of 13 per cent, while the holdings of France have risen from \$2,212,000,000 to \$3,002,000,000 or almost 36 per cent. The rest of the world lost about 1.8 per cent of their gold. In March, 1932, France held more than 26 per cent and the United States, about 35 per cent of the world's monetary gold.

Professor Rogers has shown that the accumulation of gold in the Federal Reserve Banks of the United States has not made money in circulation abundant, nor made the gold standard secure against the possibility of overthrow by raids from the French banks and other holders of short term credits. Our total gold holdings are misleading. Our "free gold," which is neither required as collateral and reserves against Federal Reserve Notes nor foreign owned gold masquerading as American gold, is not greatly in excess of our legitimate requirements. That is the reason for the apprehension of our bankers during the raid on our gold holdings in the fall of 1931.

Table 12 compiled from data published in the Federal Reserve Bulletins gives the distribution of gold at the end of December in each of several years from 1913 to 1931 and for February, 1932.

TABLE 12
GOLD HOLDINGS OF CENTRAL BANKS AND GOVERNMENTS
(millions of dollars)

| | <i>Total</i> | <i>United States</i> | <i>France</i> | <i>Eng-land</i> | <i>Ger-many</i> | <i>Italy</i> | <i>Japan</i> | <i>Spain</i> | <i>All Others</i> |
|--------------------|--------------|----------------------|---------------|-----------------|-----------------|--------------|--------------|--------------|-------------------|
| 1913 Dec. | \$4,933.4 | \$1,290.4 | \$ 678.9 | \$164.9 | \$278.7 | \$265.5 | \$ 65.0 | \$ 92.4 | \$2,097.6 |
| 1916 | 6,619.6 | 2,202.2 | 652.9 | 395.8 | 600.4 | 223.4 | 113.4 | 241.4 | 2,190.1 |
| 1919 | 6,788.1 | 2,517.7 | 694.8 | 578.1 | 259.5 | 200.1 | 350.0 | 471.5 | 1,716.4 |
| 1922 | 8,394.1 | 3,505.6 | 708.4 | 742.7 | 239.4 | 217.3 | 605.5 | 487.0 | 1,888.2 |
| 1924 | 8,947.9 | 4,090.1 | 710.4 | 748.2 | 180.9 | 218.4 | 585.7 | 489.2 | 1,925.0 |
| 1925 | 8,965.3 | 3,985.4 | 711.0 | 694.8 | 287.8 | 218.8 | 575.8 | 489.5 | 2,002.2 |
| 1928 | 10,018.7 | 3,746.1 | 1,253.5 | 748.4 | 650.1 | 265.7 | 540.9 | 493.8 | 2,320.2 |
| 1929 | 10,297.0 | 3,900.2 | 1,633.4 | 709.8 | 543.8 | 273.0 | 542.5 | 495.1 | 2,199.2 |
| 1930 | 10,907.4 | 4,225.1 | 2,100.2 | 718.4 | 527.8 | 278.6 | 411.8 | 470.5 | 2,175.0 |
| 1931 | 11,242.0 | 4,051.0 | 2,699.0 | 588.0 | 209.0 | 296.0 | 234.0 | 434.0 | 2,731.0 |
| 1932 Feb. | 11,364.0 | 3,947.0 | 2,942.0 | 588.0 | 221.0 | 296.0 | 215.0 | 434.0 | 2,721.0 |
| <i>Percentages</i> | | | | | | | | | |
| 1913 Dec. | 100 | 26.2 | 13.6 | 3.5 | 5.6 | 5.4 | 1.3 | 1.9 | 42.5 |
| 1916 | 100 | 33.3 | 9.9 | 6.0 | 9.1 | 3.4 | 1.7 | 3.6 | 23.0 |
| 1919 | 100 | 37.1 | 10.2 | 8.5 | 3.8 | 2.9 | 5.2 | 6.9 | 25.4 |
| 1922 | 100 | 42.0 | 8.4 | 8.8 | 2.9 | 2.6 | 7.2 | 5.8 | 22.3 |
| 1924 | 100 | 45.7 | 7.9 | 8.4 | 2.0 | 2.4 | 6.5 | 5.5 | 21.6 |
| 1925 | 100 | 44.5 | 7.9 | 7.7 | 3.2 | 2.5 | 6.4 | 5.5 | 22.3 |
| 1928 | 100 | 37.4 | 12.5 | 7.5 | 6.5 | 2.7 | 5.4 | 4.9 | 23.1 |
| 1929 | 100 | 37.9 | 15.9 | 6.9 | 5.3 | 2.7 | 5.3 | 4.8 | 21.2 |
| 1930 | 100 | 38.7 | 19.3 | 6.7 | 4.8 | 2.6 | 3.8 | 4.3 | 19.8 |
| 1931 | 100 | 36.0 | 24.0 | 5.2 | 1.9 | 2.6 | 2.1 | 3.9 | 24.3 |
| 1932 Feb. | 100 | 34.7 | 25.9 | 5.2 | 1.9 | 2.6 | 1.9 | 3.8 | 24.0 |

Compiled from *Federal Reserve Bulletins*.

APPENDIX V

DEPRESSION OF 1929-32

STATISTICS OF CURRENCY VOLUME AND VELOCITY
(FACTORS 2 AND 8)

For the First Half of 1930

Federal Reserve Member Banks reported that time deposits increased by \$570 million, and demand deposits decreased by \$627 million in the first half of 1930.

Money in Circulation (nominally)

The total "money in circulation" in the United States normally drops abruptly every year from the end of December to the end of January. From December 1926 there was a slow downward trend to December 1930, when the amount was \$4.9 billions, nearly 16 per cent below December 1926. The "money in circulation" during 1930 had been excessively low, reaching \$4.4 billions in August. From that time the amount was sharply increased to December 1930. During 1931 the depressive effects of sagging prices continued despite large increases in Federal Reserve Notes in circulation. These increases were due largely to bank failures which led to the use of cash in place of bank checks. Total "money in circulation" reached \$5.65 billion in December 1931—an increase of 16 per cent over December 1930 and 22 per cent over April 1931. Federal Reserve note circulation increased 80 per cent from \$1.46 billion in February 1931 to \$2.6 billion in December 1931. (See Chart 9.)

Meanwhile, deposit currency (demand deposits) for member

banks of the Federal Reserve System acted as follows (measured by a velocity index number based on 1919-25 as 100):

IN NEW YORK CITY

From October 1929 to March 1932

Volume fell 13 per cent (from \$5,752 millions to \$4,959 millions); velocity fell 72 per cent. The resulting efficiency ($87\% \times 28\%$) was 24% of what it was in October, 1929.

IN 140 CITIES OUTSIDE OF NEW YORK CITY

October 1929 to March 1932

Volume fell 28% (from \$13,373 million to \$9,616 million); velocity 44%. Resulting efficiency ($72\% \times 56\%$) 40%.

FOR ALL MEMBER BANKS IN 141 CITIES
INCLUDING NEW YORK

October 1921 to February 1932

Volume fell 21% (from \$18,726 million to \$14,789 million); velocity fell 61%. Resulting efficiency ($79\% \times 39\%$) 31%.

See Table 13 and Chart 9, also Charts 3 and 4 in Chapter VIII, p. 94.

STOCK PRICES (FACTOR 3)

From December 27, 1929, to April 10, 1930, the level of stock prices rose 20 per cent. From April 10, 1930, to December 1930, it fell 43.5 per cent; and this continued till it reached 48.8 at the end of January 1932.

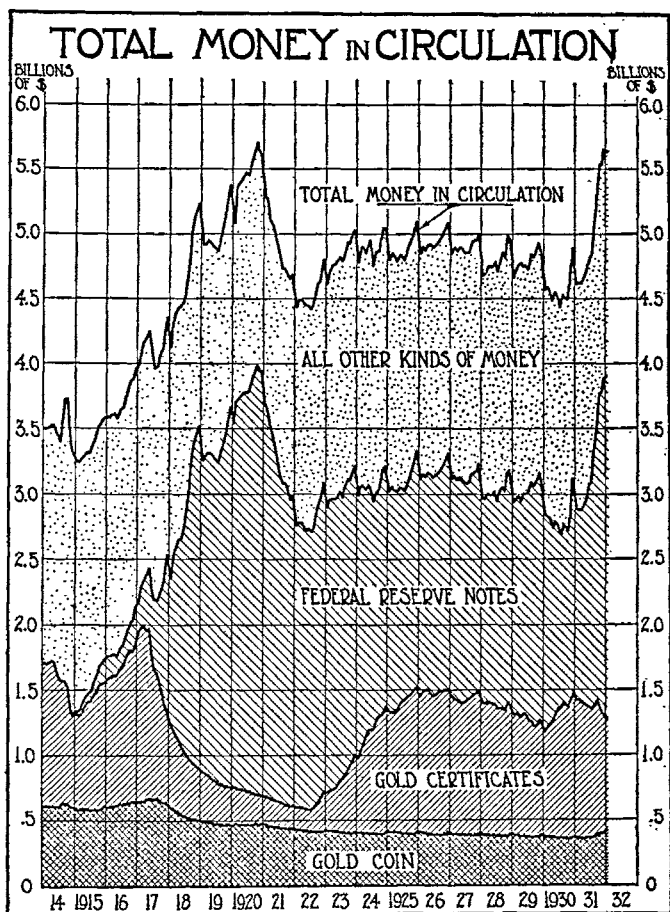


CHART 9

TABLE 13
FEDERAL RESERVE BANK OF NEW YORK
REPORTS DEPARTMENT
INDEXES OF VELOCITY OF BANK DEPOSITS

Daily basis. Normal equals 1919-1925 average. Seasonal allowed for
Velocity based on relation of debits to individual account to demand
deposits in weekly reporting member banks

I

NEW YORK CITY

| Years | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Aver. |
|-------|------|------|------|------|-----|------|------|------|-------|------|------|------|-------|
| 1919 | 84 | 84 | 80 | 85 | 94 | 104 | 111 | 112 | 106 | 110 | 115 | 105 | 99 |
| 1920 | 101 | 95 | 95 | 96 | 89 | 88 | 91 | 95 | 93 | 99 | 101 | 99 | 95 |
| 1921 | 95 | 87 | 83 | 84 | 91 | 89 | 93 | 92 | 96 | 95 | 96 | 94 | 91 |
| 1922 | 92 | 95 | 95 | 105 | 100 | 100 | 102 | 100 | 106 | 113 | 97 | 97 | 100 |
| 1923 | 99 | 103 | 105 | 107 | 102 | 105 | 101 | 99 | 102 | 98 | 104 | 105 | 103 |
| 1924 | 102 | 106 | 102 | 100 | 100 | 100 | 97 | 103 | 97 | 92 | 101 | 99 | 100 |
| 1925 | 104 | 108 | 108 | 100 | 112 | 112 | 112 | 116 | 117 | 121 | 120 | 115 | 112 |
| 1926 | 120 | 118 | 128 | 124 | 114 | 115 | 123 | 132 | 127 | 129 | 115 | 124 | 122 |
| 1927 | 127 | 134 | 135 | 134 | 131 | 128 | 135 | 145 | 153 | 144 | 135 | 136 | 136 |
| 1928 | 140 | 138 | 162 | 164 | 169 | 177 | 154 | 166 | 190 | 188 | 191 | 201 | 170 |
| 1929 | 202 | 210 | 216 | 195 | 201 | 182 | 208 | 228 | 242 | 244 | 189 | 139 | |
| 1930 | 129 | 143 | 159 | 150 | 143 | 146 | 118 | 112 | 118 | 115 | 87 | 95 | |
| 1931 | 83 | 87 | 97 | 99 | 93 | 96 | 80 | 77 | 84 | 80 | 62 | 71 | |
| 1932 | 73 | 70 | 68 | | | | | | | | | | |

II

140 CITIES (OUTSIDE NEW YORK CITY)

| Years | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Aver. |
|-------|------|------|------|------|-----|------|------|------|-------|------|------|------|-------|
| 1919 | 103 | 98 | 97 | 96 | 102 | 111 | 112 | 111 | 108 | 108 | 111 | 107 | 105 |
| 1920 | 112 | 107 | 107 | 109 | 110 | 109 | 113 | 111 | 111 | 111 | 109 | 105 | 110 |
| 1921 | 102 | 94 | 92 | 94 | 95 | 94 | 96 | 95 | 98 | 99 | 101 | 94 | 96 |
| 1922 | 96 | 95 | 93 | 94 | 92 | 94 | 94 | 91 | 93 | 96 | 92 | 97 | 94 |
| 1923 | 98 | 98 | 98 | 102 | 100 | 100 | 99 | 99 | 102 | 98 | 98 | 100 | 99 |
| 1924 | 99 | 100 | 101 | 100 | 98 | 97 | 96 | 97 | 92 | 94 | 93 | 92 | 97 |
| 1925 | 100 | 97 | 98 | 97 | 100 | 99 | 101 | 100 | 100 | 103 | 102 | 100 | 100 |
| 1926 | 106 | 104 | 105 | 105 | 103 | 101 | 108 | 103 | 98 | 105 | 99 | 101 | 103 |
| 1927 | 108 | 108 | 105 | 107 | 108 | 106 | 110 | 104 | 109 | 110 | 106 | 104 | 107 |
| 1928 | 109 | 104 | 111 | 116 | 117 | 119 | 114 | 113 | 121 | 117 | 117 | 121 | 115 |
| 1929 | 121 | 125 | 128 | 124 | 123 | 126 | 131 | 136 | 135 | 137 | 130 | 115 | 128 |
| 1930 | 115 | 115 | 116 | 111 | 112 | 114 | 105 | 103 | 100 | 100 | 94 | 95 | 107 |
| 1931 | 97 | 91 | 91 | 90 | 91 | 89 | 88 | 86 | 85 | 88 | 81 | 83 | |
| 1932 | 90 | 81 | 77 | | | | | | | | | | |

III

141 CITIES (INCLUDING NEW YORK CITY)

| Years | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Aver. |
|--------|------|------|------|------|-----|------|------|------|-------|------|------|------|-------|
| 1919 | 95 | 92 | 90 | 93 | 101 | 109 | 113 | 113 | 105 | 110 | 112 | 107 | 103 |
| 1920 | 105 | 99 | 100 | 102 | 100 | 97 | 101 | 103 | 101 | 104 | 103 | 103 | 102 |
| 1921 | 98 | 89 | 86 | 88 | 92 | 90 | 94 | 93 | 96 | 96 | 98 | 95 | 93 |
| 1922 | 94 | 95 | 95 | 101 | 99 | 97 | 99 | 96 | 99 | 104 | 94 | 98 | 98 |
| 1923 | 98 | 101 | 100 | 103 | 100 | 100 | 99 | 98 | 98 | 97 | 99 | 103 | 100 |
| 1924 | 100 | 102 | 101 | 101 | 99 | 100 | 99 | 103 | 98 | 95 | 98 | 100 | 100 |
| 1925 | 103 | 102 | 103 | 99 | 107 | 105 | 106 | 108 | 108 | 111 | 109 | 109 | 106 |
| 1926 | 113 | 110 | 117 | 114 | 108 | 108 | 114 | 116 | 110 | 115 | 104 | 113 | 112 |
| 1927 | 117 | 120 | 120 | 121 | 120 | 117 | 123 | 126 | 131 | 128 | 124 | 123 | 123 |
| 1928 | 128 | 124 | 141 | 143 | 146 | 148 | 134 | 140 | 154 | 150 | 153 | 165 | 144 |
| 1929 * | 160 | 164 | 169 | 155 | 160 | 149 | 167 | 176 | 182 | 195 | 180 | 120 | 164 |
| 1930 | 120 | 126 | 136 | 131 | 127 | 130 | 110 | 106 | 108 | 109 | 90 | 97 | 116 |
| 1931 | 90 | 89 | 96 | 95 | 93 | 92 | 84 | 81 | 85 | 84 | 71 | 77 | |
| 1932 | 81 | 75 | 73 | | | | | | | | | | |

* Decrease in 1929 in the 141 cities is probably due to revision in "net due to banks" figures; therefore index is not exactly comparable to those in the past years.

Commodity Prices

Commodity price index (1926 equals 100) the peak 167.2 in May 1920, low 91.4 in January 1922, then 104.3 in August 1925, 93.7 in May 1927, 100.1 in September 1928, then down a little and relatively stable instability until July 1929. For what happened after that, see Chapter VIII with Chart 1; also see Charts 10 and 11 (as to both stock and commodity prices).

NET WORTHS AND FAILURES (FACTOR 4)

In 1919, (one year after the World War) the record was the best since 1890, not only in the percentage of existing firms that went to the wall, but in the absolute number and in the sum of their liabilities. Ever since then, though the record has varied a good deal, its trend on the whole has been to the bad. The year 1931 was the worst on record for the number of failures and for the liabilities of the failed firms, and the percentage of failures to firms in business. (See Table 14.)

Bank Suspensions

The failure or the suspension of a bank is of vastly more consequence than the failure of an industrial or commercial company, because banks are the custodians of the funds and the creditors of most industries.

Canada has long since come out of the banking jungle. She was as hard hit by the economic crisis and depression as we were, but not a Canadian bank or branch has closed its doors. Her banking system is much stronger than ours because her chartered banks are strong financially and serve the country by means of branch banks. There are 10 large banks with 4,000 branches. There have been only three bank failures in Canada during the past 22 years with total liabilities of \$27.8 million. As for the United States, see Tables 15 and 16.

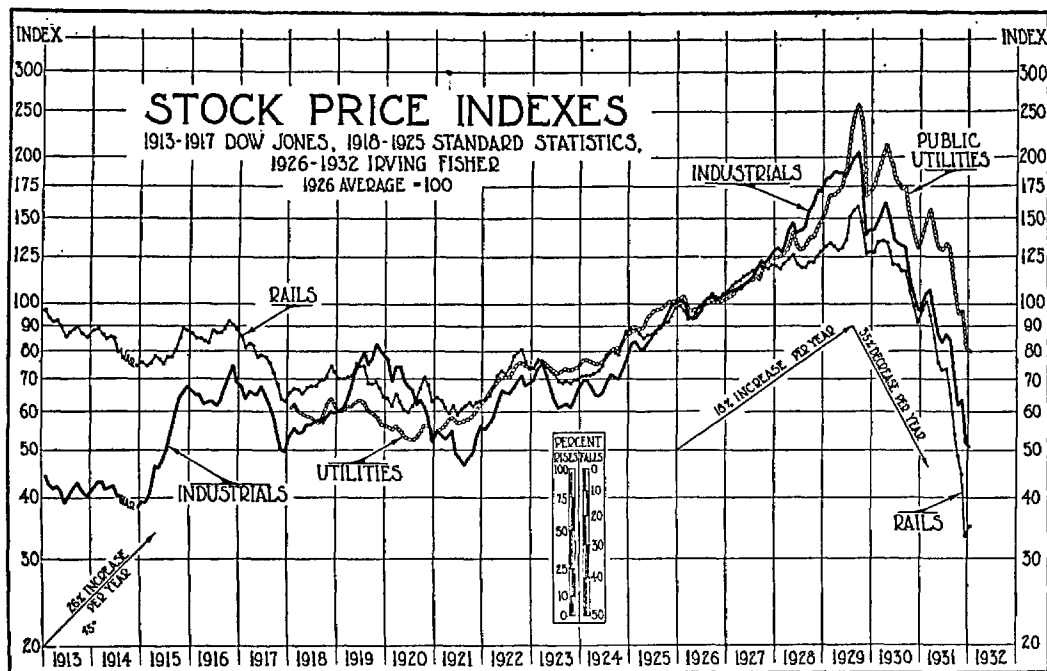


CHART 10

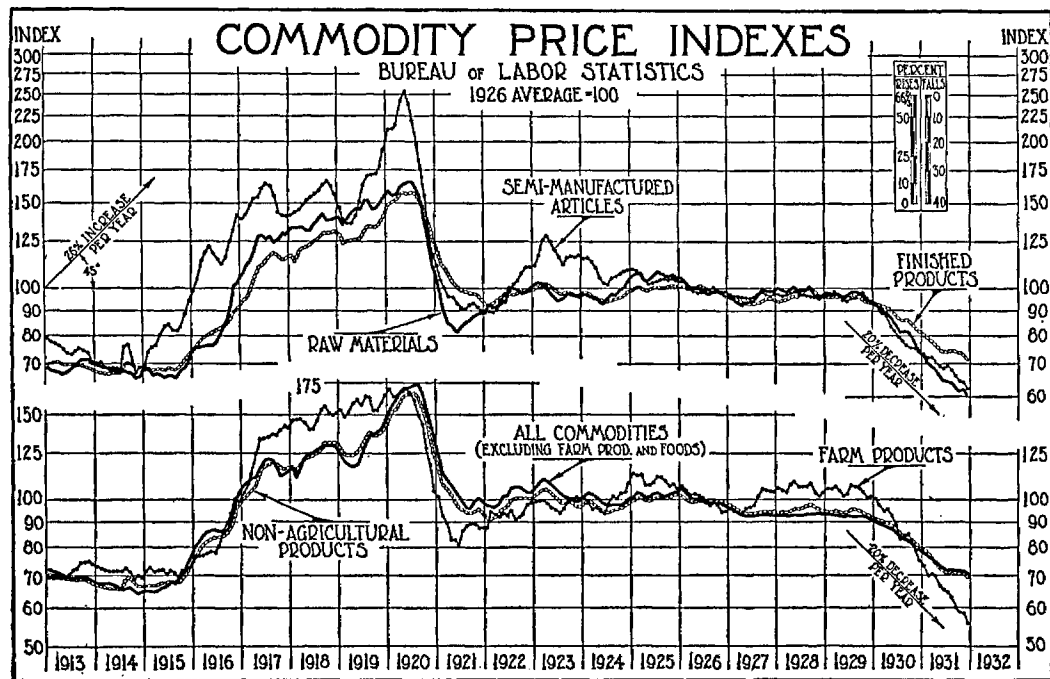


CHART II

TABLE 14

PERCENTAGES OF COMMERCIAL FAILURES TO THE TOTAL NUMBER OF BUSINESS CONCERNS IN THE UNITED STATES

| Years | No. of Failures | No. of Business Concerns | Per Cent of Failures | Years | No. of Failures | No. of Business Concerns | Per Cent of Failures |
|-------|-----------------|--------------------------|----------------------|-------|-----------------|--------------------------|----------------------|
| 1891 | 12,273 | 1,142,951 | 1.07 | 1912 | 15,452 | 1,564,279 | .98 |
| 1892 | 10,344 | 1,172,705 | .88 | 1913 | 16,037 | 1,616,517 | .99 |
| 1893 | 15,242 | 1,193,113 | 1.28 | 1914 | 18,280 | 1,655,496 | 1.10 |
| 1894 | 13,885 | 1,114,174 | 1.25 | 1915 | 22,156 | 1,674,788 | 1.32 |
| 1895 | 13,197 | 1,209,282 | 1.09 | 1916 | 16,993 | 1,707,639 | .99 |
| 1896 | 15,088 | 1,151,579 | 1.31 | 1917 | 13,855 | 1,733,225 | .80 |
| 1897 | 13,351 | 1,058,521 | 1.26 | 1918 | 9,982 | 1,708,061 | .58 |
| 1898 | 12,186 | 1,105,830 | 1.10 | 1919 | 6,451 | 1,710,909 | .38 |
| 1899 | 9,337 | 1,147,595 | .81 | 1920 | 8,881 | 1,821,409 | .49 |
| 1900 | 10,774 | 1,174,300 | .92 | 1921 | 19,652 | 1,927,304 | 1.02 |
| 1901 | 11,002 | 1,219,242 | .90 | 1922 | 23,676 | 1,983,106 | 1.19 |
| 1902 | 11,615 | 1,253,172 | .93 | 1923 | 18,718 | 1,996,004 | .94 |
| 1903 | 12,069 | 1,281,481 | .94 | 1924 | 20,615 | 2,047,302 | 1.01 |
| 1904 | 12,199 | 1,320,172 | .92 | 1925 | 21,214 | 2,113,300 | 1.05 |
| 1905 | 11,520 | 1,357,455 | .85 | 1926 | 21,773 | 2,156,400 | 1.01 |
| 1906 | 10,682 | 1,392,949 | .77 | 1927 | 23,146 | 2,171,700 | 1.07 |
| 1907 | 11,725 | 1,418,075 | .82 | 1928 | 23,842 | 2,199,000 | 1.08 |
| 1908 | 15,690 | 1,447,554 | 1.08 | 1929 | 22,909 | 2,212,779 | 1.04 |
| 1909 | 12,924 | 1,486,389 | .80 | 1930 | 26,355 | 2,183,068 | 1.21 |
| 1910 | 12,652 | 1,515,143 | .80 | 1931 | 28,285 | 2,125,288 | 1.33 |
| 1911 | 13,441 | 1,525,024 | .81 | | | | |

Source: *Dun's Review*, Jan. 16, 1932, p. 6.

TABLE 15

BANK SUSPENSIONS

| NUMBER OF BANKS | | | | | | | | | | | |
|-----------------|------|------|------|------|------|------|------|------|------|-------|-------|
| Month | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 |
| Jan. | 59 | 51 | 41 | 145 | 103 | 65 | 133 | 53 | 54 | 99 | 202 |
| Feb. | 27 | 43 | 41 | 92 | 61 | 52 | 81 | 50 | 60 | 85 | 77 |
| Mar. | 45 | 33 | 46 | 69 | 43 | 51 | 75 | 66 | 51 | 76 | 86 |
| Apr. | 44 | 28 | 28 | 74 | 48 | 56 | 49 | 43 | 29 | 96 | 64 |
| May | 39 | 25 | 30 | 81 | 54 | 68 | 47 | 29 | 112 | 55 | 89 |
| June | 20 | 17 | 32 | 51 | 34 | 77 | 41 | 28 | 48 | 66 | 107 |
| July | 27 | 14 | 36 | 47 | 29 | 140 | 37 | 24 | 69 | 65 | 93 |
| Aug. | 35 | 28 | 46 | 34 | 14 | 52 | 27 | 21 | 17 | 67 | 158 |
| Sept. | 31 | 17 | 51 | 36 | 30 | 37 | 36 | 20 | 39 | 66 | 305 |
| Oct. | 57 | 28 | 68 | 39 | 53 | 88 | 44 | 41 | 43 | 72 | 522 |
| Nov. | 61 | 35 | 110 | 47 | 74 | 154 | 43 | 72 | 68 | 254 | 169 |
| Dec. | 57 | 35 | 121 | 62 | 69 | 116 | 49 | 44 | 52 | 344 | 618 |
| Total | 502 | 354 | 650 | 777 | 612 | 956 | 662 | 491 | 642 | 1,345 | 2,550 |

Total Suspensions 1921-1931—number, 9,541.

Sources: Annual Reports of the Federal Reserve Board and the Federal Reserve Bulletin, Jan. 1932.

TABLE 16
BANK SUSPENSIONS
Deposits (in thousands of dollars)

| <i>Month</i> | <i>1921</i> | <i>1922</i> | <i>1923</i> | <i>1924</i> | <i>1925</i> | <i>1926</i> | <i>1927</i> | <i>1928</i> | <i>1929</i> | <i>1930</i> | <i>1931</i> |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Jan. | 23,301 | 13,873 | 9,032 | 45,403 | 25,477 | 13,384 | 32,038 | 10,983 | 16,413 | 28,903 | 78,130 |
| Feb. | 25,202 | 20,024 | 9,240 | 26,501 | 15,593 | 11,763 | 25,157 | 18,352 | 21,746 | 32,800 | 35,123 |
| Mar. | 17,867 | 15,196 | 14,629 | 15,667 | 10,142 | 10,249 | 31,222 | 16,953 | 9,002 | 23,769 | 35,285 |
| Apr. | 9,653 | 9,404 | 7,887 | 17,843 | 16,055 | 12,512 | 11,750 | 8,190 | 7,790 | 33,388 | 42,417 |
| May | 13,957 | 8,430 | 7,961 | 29,861 | 15,930 | 16,324 | 13,198 | 6,394 | 24,090 | 19,315 | 43,963 |
| June | 17,543 | 4,389 | 14,110 | 9,033 | 10,368 | 34,229 | 10,784 | 13,496 | 19,219 | 70,566 | 195,951 |
| July | 12,315 | 4,071 | 13,353 | 16,620 | 5,882 | 48,618 | 12,162 | 5,368 | 66,161 | 32,333 | 41,334 |
| Aug. | 6,493 | 7,733 | 15,946 | 7,545 | 1,837 | 10,001 | 17,364 | 6,147 | 8,532 | 21,951 | 185,902 |
| Sept. | 4,804 | 3,223 | 11,367 | 6,081 | 14,141 | 12,050 | 8,988 | 7,888 | 10,050 | 23,666 | 236,511 |
| Oct. | 15,972 | 5,072 | 21,534 | 9,824 | 15,581 | 18,209 | 11,542 | 9,011 | 13,153 | 24,599 | 493,751 |
| Nov. | 18,825 | 10,105 | 30,617 | 10,418 | 19,791 | 45,983 | 11,210 | 24,784 | 22,646 | 186,306 | 83,409 |
| Dec. | 32,422 | 9,201 | 33,129 | 18,648 | 22,103 | 39,166 | 8,476 | 11,076 | 15,730 | 367,119 | 287,148 |
| Total | 198,354 | 110,721 | 188,805 | 213,444 | 172,900 | 272,488 | 193,891 | 138,642 | 234,532 | 864,715 | 1,758,924 |

Total Suspensions 1921-1931—deposits, \$4,347,416,000.

PROFITS AND INCOMES (FACTOR 5)

Total dividend and interest payments by corporations are an imperfect index even of corporate earnings and they are often quite misleading as to changes in total net national income. No soundly managed corporation ever pays out in dividends during prosperous years all its earnings above fixed charges. Part of net earnings is set aside as surplus against the proverbial rainy day and part is turned back into the enterprise. When adversity comes, dividends are paid out of the accumulated surplus as long as possible or desirable.

The net profits of corporations are better indicators of business conditions. The Federal Reserve Bank of New York has compiled reports of quarterly earnings from more than 500 corporations including 163 industrials, 171 Class I railroads, 103 telephones and 63 other large public utilities. The averages for 1931 are not strictly comparable with other years.

The net profits of all reporting corporations increased 41 per cent from the third quarter of 1925 to the third quarter of 1929. They declined for the third quarter of 1931, 64 per cent, and for the fourth quarter 15 per cent.

Telephone net profits increased 41 per cent from the fourth quarter of 1925 to the fourth quarter of 1929. The decline the last quarter of 1931 is 11 per cent. Profits of other large public utilities increased 52 per cent from the last quarter of 1925 to the last quarter of 1929, the third quarter of 1931 showing a decline of nearly 80 per cent. The last quarter profits rose, reducing the slump to 71 per cent since 1929.

Net Profits of Class I railroads for the third quarter increased 11 per cent from 1925 to 1929 and declined 58 per cent to the same quarter of 1931, and sunk for the last quarter to nearly 70 per cent below the 1929 peak.

Net profits of industrial companies for the third quarter increased 75 per cent from 1925 to 1929 and slumped 75 per cent in that quarter in 1931, and more than 100 per cent in the fourth quarter to a net deficit.

Table 1 in Chapter VIII, pp. 97-8, shows these and other facts.

Inflation and over-borrowing swelled corporation profits inordinately from 1925 to 1929. Deflation and "liquidation" since 1929 have reduced these profits appallingly and have even transformed them into deficits in many leading industries.

Total and Per Capita National Income

The estimates of total national income and per capita income are better indicators of the amounts available for expenditure for consumption. These estimates of income give no measure of well being or ill being, because they cannot indicate anything regarding the distribution of the national income. Total national income has been estimated by the National Bureau of Economic Research, by the National Industrial Conference Board and by Mr. W. R. Ingalls.

All are but approximations, sometimes so rough as to be mere guesses, but they do show an astonishing degree of agreement.¹ The Bureau's figures² are reproduced here because they are based on much more careful research and the estimates in current dollars are converted into 1913 dollars. (See Table 17.)

Figures for the years 1929, 1930 and 1931 are added using the methods employed by the Conference Board in making their estimates for 1929 and 1930.³ The decline in current dollar income in 1931 was estimated at \$15 billion or 21.2 per cent. The amounts obtained in current dollars have been

¹ Mr. W. R. Ingalls compares the three series for 1920-1928 in his article, "The National Income for 1929 Tentatively Estimated at Eighty-Three Billion," in *The Annalist*, January 30, 1931, p. 270.

² *The National Income and Its Purchasing Power*, by W. I. King, National Bureau of Economic Research, Inc., New York, 1930, pp. 74 and 77.

³ See *New York Times*, January 25, 1932, p. 30, and *Conference Board Bulletin*, Feb. 20, 1932, No. 62, pp. 497-500.

TABLE 17

ESTIMATED REALIZED INCOME AND PURCHASING POWER IN 1913
DOLLARS OF THE PEOPLE OF CONTINENTAL UNITED STATES

(millions of dollars)

| <i>Year</i> | <i>Total Income in Current Dollars</i> | <i>Total Income in 1913 Dollars</i> | <i>Per Capita Income in 1913 Dollars</i> |
|-------------|--|---|--|
| 1909 | \$27,661 | \$29,221 | \$322 |
| 1910 | 29,345 | 30,207 | 327 |
| 1911 | 29,660 | 30,634 | 332 |
| 1912 | 31,755 | 32,373 | 341 |
| 1913 | 33,393 | 33,413 | 346 |
| 1914 | 33,227 | 32,841 | 335 |
| 1915 | 34,690 | 34,137 | 335 |
| 1916 | 40,585 | 36,996 | 367 |
| 1917 | 48,314 | 37,613 | 368 |
| 1918 | 56,658 | 37,261 | 360 |
| 1919 | 61,628 | 35,098 | 334 |
| 1920 | 68,442 | 34,348 | 322 |
| 1921 | 58,271 | 33,638 | 310 |
| 1922 | 61,187 | 37,623 | 342 |
| 1923 | 69,295 | 42,072 | 377 |
| 1924 | 71,905 | 43,577 | 384 |
| 1925 | 76,561 | 45,191 | 392 |
| 1926 | 80,284 * | 47,261 * | 403 |
| 1927 | 82,921 * | 49,655 * | 419 |
| 1928 | 84,119 * | 50,692 * | 423 |
| 1929 | 87,500 † | 51,200 | 421 |
| 1930 | 72,900 † | 44,500 | 365 |
| 1931 | 57,500 † | 38,900 | 314 |

Source: The National Income and Its Purchasing Power, by W. I. King, pp. 74 and 77.

* Preliminary estimate.

† Estimates made by applying the methods used by the national Industrial Conference Board.

deflated into 1913 dollars by the United States Bureau of Labor Statistics cost of living indexes for those years.

The most striking comparisons brought out by these figures are that 1917 was the peak year in total "real" national income and that 1920, instead of showing an increase as is commonly assumed, shows a decrease in real income of \$750 million, or 2 per cent compared with 1919.

The per capita buying power shows a continuous increase except for 1914-15 and 1918-21. The depression of 1914 cut down the buying power per person only \$11 from 1913, or 3 per cent. The depression of 1921 cut it only \$12 below 1920, or 3.7 per cent. The depression of 1924-25 actually increased the buying power per person over 1923 by \$15, or 4 per cent. The present depression has for 1931 cut the buying power per capita by \$107, or 25 per cent, below the 1929 peak and the trend is still downward.

Dr. W. I. King has shown that the crisis and depression of 1920 and 1921 took from some of the people of the United States \$40 billion. This consisted mostly in transfer of ownership. The actual loss of national income in 1920 compared with 1919 was only \$750 million, or \$12 per person. The statistical estimates confirm the view that depressions transfer ownership of wealth and income but destroy little if any real values. The present depression has transferred ownership probably more sweepingly than ever before and at the same time has seemingly destroyed for the time being approximately 34 per cent of the money income, or 25 per cent of the real national income. The loss in real wealth cannot be estimated, but deterioration of plants and equipment has been disconcertingly great.

THE FARMER'S INCOME

The farmer, as usual, has been chief sufferer, next to the unemployed. In the first place, he did not fully recover from the depression of 1920 to 1922. Beginning with 1926, the

slump in agriculture was caused by falling prices which were in turn caused by increased production in the United States, Canada, Australia, Argentina, Brazil, Cuba, Russia and Eastern Europe, coupled with diminished consumption due to debts and depression. Agriculture in 1929-31 was an easy mark for any monetary appreciation.

The greatest losses in commodity prices have hit farm products. According to the *Crop Reporter*, published by the United States Department of Agriculture, farm products declined from October 1929 to January 1932 by 55 per cent while the goods bought by farmers receded only 22 per cent. The ratio of the prices farmers received to the prices they paid in January 1932 was 53, which means that the farmers' "commodity dollar" will buy only slightly more than half as much as it would buy on the average in the period 1909-1915. The farmer who contracted a debt in 1929 must pay today about two and one-quarter times as much in produce as the original debt was worth.

The Department of Agriculture estimates that the total farm income for 1929 was \$11,851 million, for 1930 \$9,300 million, and for 1931 only \$6,920 million—a decline in two years of 42 per cent in the dollar income of farmers, despite the fact that physical production has increased for most products. (See Table 18.)

The statistics of gross incomes from farm production in earlier years are somewhat inconsistent and confusing, but from 1924 the Department of Agriculture reported gross incomes as in Table 19. The loss in buying power of the farmer's commodity dollar, coupled with the loss in the number of dollars farmers receive, gives a startling statistical picture of the agricultural depression. The evils of deflation and liquidation through bankruptcy and default manifest themselves more malevolently in agriculture than in any other great industrial group.

TABLE 18
INDEX NUMBERS OF FARM PRICES RECEIVED BY COMMODITIES, AND
RETAIL PRICES PAID BY FARMERS

| <i>Year and Month</i> | <i>Index Number of Farm Prices (August, 1909-July, 1914 = 100) All Groups</i> | <i>Prices Paid by Farmers for Commodities bought *</i> | <i>Ratio of Prices Received to Prices paid</i> |
|-----------------------|---|--|--|
| 1919 | 209 | 205 | 102 |
| 1920 | 205 | 206 | 99 |
| 1921 | 116 | 156 | 75 |
| 1922 | 124 | 152 | 81 |
| 1923 | 135 | 153 | 88 |
| 1924 | 134 | 154 | 87 |
| 1925 | 147 | 159 | 92 |
| 1926 | 136 | 156 | 87 |
| 1927 | 131 | 154 | 85 |
| 1928 | 139 | 156 | 90 |
| 1929 | 138 | 155 | 89 |
| 1930 | 117 | 146 | 80 |
| 1930: | | | |
| January | 134 | 153 | 88 |
| February | 131 | 152 | 86 |
| March | 126 | 151 | 83 |
| April | 127 | 150 | 85 |
| May | 124 | 150 | 83 |
| June | 123 | 149 | 82 |
| July | 111 | 148 | 75 |
| August | 108 | 147 | 74 |
| September | 111 | 146 | 76 |
| October | 106 | 144 | 74 |
| November | 103 | 142 | 73 |
| December | 97 | 139 | 70 |
| 1931: | | | |
| January | 94 | 137 | 69 |
| February | 90 | 136 | 66 |
| March | 91 | 134 | 68 |
| April | 91 | 132 | 69 |

Source: Crops and Markets, June, 1932.

* These index numbers are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are straight interpolations between the successive quarterly indexes.

BOOMS AND DEPRESSIONS

TABLE 18—*Continued*INDEX NUMBERS OF FARM PRICES RECEIVED BY COMMODITIES, AND
RETAIL PRICES PAID BY FARMERS

| <i>Year and Month</i> | <i>Index Number of Farm Prices (August, 1909—July, 1914 = 100) All Groups</i> | <i>Prices Paid by Farmers for Commodities bought</i> | <i>Ratio of Prices Received to Prices paid</i> |
|-----------------------|---|--|--|
| May | 86 | 131 | 66 |
| June | 80 | 129 | 62 |
| July | 79 | 127 | 62 |
| August | 75 | 125 | 60 |
| September | 72 | 123 | 58 |
| October | 68 | 122 | 56 |
| November | 71 | 120 | 59 |
| December | 66 | 119 | 55 |
| 1932: | | | |
| January | 63 | 118 | 53 |
| February | 60 | 116 | 52 |
| March | 61 | 114 | 54 |
| April | 59 | 113 † | 53 † |
| May | 56 | 112 † | 50 † |

† Preliminary.

TABLE 19

FARMERS' GROSS INCOMES, EXPENDITURES AND BALANCE AVAILABLE
FOR CAPITAL, LABOR AND MANAGEMENT
(millions of dollars)

| <i>Year</i> | <i>Gross Income</i> | <i>Total Expenditures</i> | <i>Balance Available for Capital, Labor, and Management</i> |
|-------------|---------------------|---------------------------|---|
| (1) | (2) | (3) | (4) |
| 1924 | 11,337 | 5,853 | 5,486 |
| 1925 | 11,968 | 6,233 | 5,735 |
| 1926 | 11,480 | 5,939 | 5,541 |
| 1927 | 11,616 | 6,041 | 5,575 |
| 1928 | 11,741 | 6,263 | 5,478 |
| 1929 | 11,851 | 6,273 | 5,578 |
| 1930 | 9,300 | | |
| 1931 | 6,920 | | |

Source: *Yearbook of Agriculture*, 1931, p. 979.

For corporate profits, see Table 1, Chapter VIII, pp. 97-8.

PRODUCTION, TRADE AND EMPLOYMENT (FACTOR 6)

The decrease in department store sales under-estimates the loss of physical trade, because the figures come from the large department stores which, in the depression, took over smaller ones and so showed a gain when sales as a whole declined. On the other hand, the growth of the dollar made the money sales decline much more than the volume of goods. Department store sales reached the peak in September, 1929, and from then to January, 1932, fell 30 per cent ⁴—the volume of goods probably fell only about 18 per cent.

The Federal Reserve Board and the several Reserve Banks, especially the Reserve Bank of New York have compiled most valuable index numbers relating to Trade, Production, Employment and Consumption. The Reserve Board's compilations are based on 1923-1925 equals 100. The index of total freight car loadings increased 38 per cent from 78 in May 1922 to 108 at the peak in June 1929, then declined 41 per cent to 64 in January 1932. Merchandise less than carload lots, which are more representative of retail trade, showed an increase of 14 per cent from December 1922 to 104 at the peak in October 1929 and slumped 22 per cent to 81 in January 1932. These are quantitative indexes and therefore reflect accurately changes in tonnage transported by rail. The slump in car loadings has been greatly aggravated by the competition of auto-trucks, especially on merchandise shipments. Average monthly tonnage passing through the Panama Canal increased 32 per cent from 1,975 thousand tons in 1925 to 2,621 thousand tons in 1929. The monthly average declined 67 per cent from 1929 to 864 thousand tons in 1931. The tonnage for January 1932 was 652 thousand tons or 77 per cent less than in January 1929 (2,859 thousand tons).

Industrial production indexes are published each month in

⁴ The sale of house furnishings *increased* about 18 per cent for substantially the same period.

the Federal Reserve Bulletin. These indexes were originally constructed for the Board by Dr. Woodlief Thomas.⁵ These are indexes of physical quantities. The base is the period 1923-1925 equals 100 and all indexes are adjusted to eliminate seasonal variations.

The *combined* index increased with only a slight interruption in 1924, from the low of 65 in April, 1921, to 125 at the peak in June, 1929, a gain of 91 per cent. The decline in 23¼ years to 67 in March, 1932, or 46 per cent, was much more rapid than the rise during 8 years. During the same periods manufacturing production rose from 63 to 129 or 105 per cent and fell 50 per cent to 64. Mineral production rose from 71 to 118 in October, 1929, or 66 per cent and fell 29 per cent to 84 in March, 1932.

BUILDING AND CONSTRUCTION

Building and construction is one of the most important types of production. Indexes of value of building contracts awarded are published in the Federal Reserve Bulletins. These indexes show extraordinary fluctuations in the construction industries. All classes of building rose from the low of 43 in February, 1921 to the high of 139 in June, 1928, an advance of 223 per cent. This index for March, 1932, is 26, which is 81 per cent below the peak and nearly 40 per cent below the low of 1921. Residential building has fluctuated even more widely during this period, shooting up from the low of 24 in 1921 to the high of 142 in February, 1928, and down to 15 in March, 1932. The rise was 492 per cent and the drop 90 per cent, bringing this type of building nearly 38 per cent below the low of 1921.

Construction has in certain past depressions been the key industry to keep business alive during the lean years and to lift it out of the slump. In this depression it has been a chief cause to aggravate and prolong the depression.

⁵ The methods of construction are fully described in Federal Reserve Bulletins for February and March, 1927.

Employment and Payrolls

Employment and payroll indexes ⁶ as indicators of production activity and of the total wage bill are valuable if used with due caution. The figures cannot include small establishments or newly established plants and industries; hence they are likely to be misleading during periods of rapid change in industrial production, organization and technique.

The Federal Reserve Board makes use of the employment figures collected by the United States Bureau of Labor Statistics, correcting them with the more complete figures of the Census and adjusting them for seasonal variations. The base is the same as that of the other indexes published by the Board, 1923-1925 equals 100.

The index of total factory employment rose 32 per cent from the low of 80.4 in July 1921 to the high of 106.4 in June 1923. It reached a secondary high of 102.8 in July 1929, 28 per cent above the 1921 low. Since then it has slumped to 66.4 in March 1932, nearly 36 per cent below the 1929 high and 17 per cent below the low of 1921.

The factory payroll index was 72.2 in July 1921, the lowest recorded during that depression except for January 1922. It rose 56 per cent to the peak of 112 in September 1929 and dropped 54 per cent to 52.3 in March 1932, or 22 per cent below the low of 1921.

The declines in production, employment and payrolls have been especially drastic in iron and steel, machinery, textiles, lumber and lumber products and especially automobiles.

Iron and steel production rose more than five-fold from 30 in July 1921 to 155 in June 1929. It then fell 78 per cent to 34 for March 1932. Employment in iron and steel rose 86 per cent from 54.5 in July 1921 to 101.4 in August 1929 and fell 40 per cent to 60.9 for March 1932. The payrolls in iron and steel rose nearly three-fold from 37.4 in July 1921 to

⁶ Revised indexes of employment are shown in Federal Reserve Bulletin for November 1930 and of payrolls in the Bulletin for November 1929.

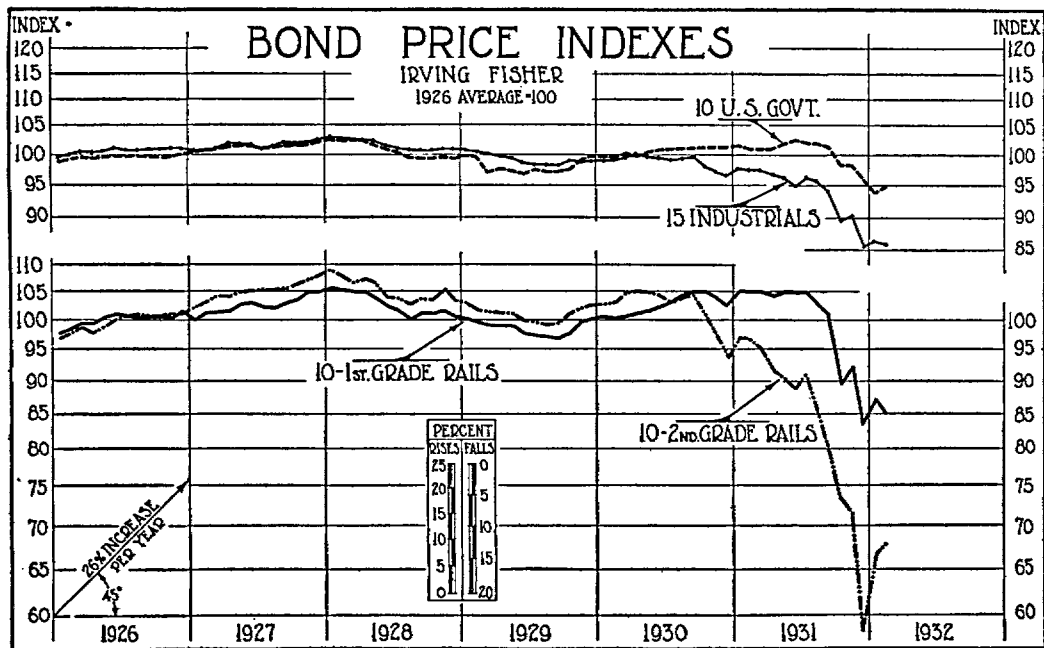


CHART 13

TABLE 20
INDEXES OF PRODUCTION, EMPLOYMENT AND PAYROLL
WITH SEASONAL ADJUSTMENT

1923-1925 averages = 100

| | <i>Iron and Steel</i> | | | <i>Textiles</i> | | | <i>Paper and Printing</i> | | | <i>Leather and Products</i> | | |
|---------------|-----------------------|------------|----------|-----------------|------------|----------|---------------------------|------------|----------|-----------------------------|------------|----------|
| | Production | Employment | Payrolls | Production | Employment | Payrolls | Production | Employment | Payrolls | Production | Employment | Payrolls |
| Low in 1921 | 30 | 54.5 | 37.4 | 64 | 71.4 | 66.1 | 60 | 83.9 | 76.4 | 70 | 73.4 | 72.0 |
| High in 1929 | 155 | 101.4 | 111.6 | 121 | 120.8 | 108.8 | 128 | 106.3 | 114.9 | 117 | 96.0 | 117.8 |
| November 1931 | 46 | 65.3 | 41.2 | 89 | 73.6 | 59.3 | 97 | 89.7 | 90.6 | 77 | 70.1 | 47.0 |
| December 1931 | 38 | 65.4 | 41.0 | 85 | 72.2 | 58.1 | 97 | 89.2 | 91.0 | 82 | 75.3 | 50.3 |
| January 1932 | 43 | 64.0 | 36.3 | 89 | 71.1 | 55.5 | 101 | 88.3 | 85.5 | 84 | 75.4 | 53.3 |
| February 1932 | 41 | 62.4 | 37.2 | 86 | 72.4 | 59.8 | 98 | 87.2 | 83.5 | 89 | 78.1 | 61.4 |
| March 1932 | 34 | 60.9 | 35.4 | 82 | 71.0 | 59.3 | 99 | 86.2 | 82.4 | 92 | 80.2 | 62.3 |

| | <i>Automobiles</i> | | | <i>Food and Food Products</i> | | | <i>All Manufacturing</i> | | |
|---------------|--------------------|------------|----------|-------------------------------|------------|----------|--------------------------|------------|----------|
| | Production | Employment | Payrolls | Production | Employment | Payrolls | Production | Employment | Payrolls |
| Low in 1921 | 25 | 31.9 | 25.2 | 77 | 92.4 | 89.8 | 63 | 80.4 | 76.1 |
| High in 1929 | 166 | 131.4 | 152.0 | 103 | 100.1 | 108.8 | 129 | 102.8 | 111.7 |
| November 1931 | 36 | 56.1 | 42.3 | 90 | 85.9 | 83.0 | 71 | 69.3 | 56.2 |
| December 1931 | 66 | 68.8 | 48.0 | 89 | 86.3 | 82.7 | 73 | 69.4 | 55.8 |
| January 1932 | 45 | 67.1 | 47.7 | 94 | 85.3 | 78.6 | 71 | 68.1 | 52.4 |
| February 1932 | 35 | 64.7 | 52.0 | 90 | 83.7 | 76.3 | 68 | 67.8 | 53.5 |
| March 1932 | 28 | 60.9 | 51.3 | 84 | 83.1 | 74.4 | 64 | 66.4 | 52.3 |

Sources: *Federal Reserve Bulletins* for March 1927, November 1929, November 1930, and subsequent issues.

111.6 in May 1929, then sunk 68 per cent to 35.4 in March 1932. The low and high points did not fall in the same months in 1921 and 1929 for each industrial group.

Automobile production rose $6\frac{2}{3}$ times from 26 in 1921 to 166 in 1929 and dropped 83 per cent to 28 in March 1932.

It will be noted that the index volume of production in all the groups shown was higher in 1932 than at the low in 1921. Employment indexes are somewhat lower than in 1921 in foods and all manufacturing combined. Payroll indexes are smaller in all groups shown, except paper and printing and automobiles.

See Chart 5 in Chapter VIII, p. 99, and Table 20.

INTEREST RATES (FACTOR 9)

The variations in the interest rates on the principal types of loans are given in Chart 12 for comparison. The rates on call loans have always varied the most. The high call loan rates in 1929 indicate the feverish speculative demand during the boom.

Changes in the prices of bonds reflect in part changes in the long term rate of interest and in part changes in the riskiness of the bond as an investment. Hence there is a marked contrast in the movement of the price indexes of Government bonds and first grade and second grade corporations' bonds, as will be noted on Chart 13.

[To find the "real" interest for a given period, take the percentage by which the dollar has increased and add to it the annual interest, raised by said percentage. For 1929 to 1932 the dollar increased by 53 per cent and to the third week of June 1932, by 62 per cent.]

APPENDIX VI

AN OUTLINE OF COMPLETE STABILIZATION PROGRAM

which, if adopted, would provide stabilization expeditents sufficient to meet all circumstances which could reasonably be expected to arise.

COMMISSION ON STABILIZATION

1. Create a commission on stabilization.

Members: Governor of Federal Reserve Board, ex officio
Comptroller of the Currency, ex officio
One representative of the Governors of the Federal Reserve banks, to be chosen by them.

Four other (appointed) members with terms of 3, 6, 9, 12 years; all replacements to be for 12 years.

The Commission to elect its own chairman.

2. The Secretary of the Treasury to be authorized and directed to execute and deliver to said commission short term U. S. Government 3% bonds.

3. The Commission to offer to every national and state bank and trust company, in proportion to its deposits, its quota of said bonds, and in return be credited with deposits. These deposits to be time ¹ deposits bearing the same rate of interest as the

¹ Demand deposits could also be used. They would have the advantage of quicker results but the disadvantage of being less acceptable to the banks in time of depression. They would make taxation unnecessary to the extent of the demand deposits. This is precisely what was done during

said bonds; thus no expense will be incurred by either party.

4. Said time deposits to be withdrawn only after the expiration of one year or by mutual agreement between the Commission and the individual bank.

5. The bonds are to be the property of the bank and may be resold or hypothecated with the Federal Reserve Banks.

6. The Commission to agree to accept at par at any time said bonds in payment for any of said deposits.

The effect of the bonds as liquid assets for the banks would be to improve their position so as to enable them to increase their loans and investments, thus creating new purchasing power for the public, and raising the price level. The effect on the individual bank would be almost the same as pouring into a bank's vaults the equivalent of its quota of bonds in gold. Only 3% is required as reserve against the time deposits.

This strengthening of the banks' position can be accomplished by telegraph within a day or two, even before the physical delivery or even the printing of the bonds.

7. After the price level has been restored to the legal normal, the commission to stabilize the price level by repeating or reversing the above operations, increasing or decreasing the amount of said bonds and deposits, as may be necessary, to maintain the stated level.

8. Such stabilization to be with the cooperation of the Federal Reserve System, and if possible, of foreign governments and central banks.

COOPERATION OF FEDERAL RESERVE SYSTEM

9. The main policies of the Federal Reserve System to include:

(1) Open market operations—that is, buying and selling eligible bills and securities.

(2) Buying and selling gold or gold certificates in ex-

the World War. The Government paid for war materials out of these deposits and raised the price level thereby (to the country's injury at that time).

change for Federal Reserve notes or other funds (the price of gold being, unless hereafter changed as hereinafter provided, \$20.67 per ounce of pure gold, i. e., \$1 per 23.22 grains of pure gold).

(3) Adjustment of rediscount rates.

(4) Rationing of credit.

(5) Adjustment of gold reserve ratios of Federal Reserve Banks as hereinafter prescribed.

(6) Advice to member banks and non-member banks, with the object of securing their cooperation in stabilization policy, including, especially, adjustment of discount rates to customers, open market operations and rediscounts with Federal Reserve banks.

(7) Relations, consultation, cooperation, and lawful transactions with non-American banks, including the Bank for International Settlements at Basle known as the World Bank.

(8) Statistical studies.

(9) Publicity.

(10) If the free gold of the system is deemed, at any time, to be too near exhaustion, the system is authorized to utilize its holdings of Government bonds as backing for Federal Reserve notes. This would perpetuate the like provision in the Glass-Steagall bill now limited to one year.

(11) If the securities held by the Federal Reserve System, and available for sale, seem at any time, to be too near exhaustion, the System is authorized to issue and sell, in the open market (and at any later time, rebuy) new interest-bearing debentures in such volume and of such date of maturity and rate of interest as may be deemed by it most suitable.

(12) All net profit or loss from buying and selling said debentures or paying interest thereon shall accrue to the United States Government and shall annually be paid into, or reimbursed from, the Treasury of the United States.

(13) If the gold reserve ratio is deemed to be too near to the prescribed minimum, the System is authorized and di-

rected to lower the legal minimum reserve requirement for Federal Reserve Banks in accordance with and under the conditions and restrictions already prescribed in Section II, subsection c of the Federal Reserve Act;

If, on the other hand, the legal minimum gold reserve ratio is deemed to be too high, the System is authorized and directed to raise the legal minimum ratio for Federal Reserve Banks.

10. If the gold reserve is deemed by the commission to be too near to the prescribed minimum, the commission is authorized, if the other methods already authorized appear inadequate, to raise the official price of gold.

If, on the other hand, the gold reserve ratio is deemed to be too high, the commission is authorized, if the other methods already authorized appear inadequate, to lower the official price of gold.

11. Should, at any time, the price of gold thus be changed, either up or down, the commission is authorized to introduce temporarily a differential between its selling and buying prices sufficient to prevent speculators (for instance, on rumor of a proposed change in price) from taking advantage of the commission, the Federal Reserve System or the United States Government either by buying gold from them at one price and later selling it back to them at a higher price, or by selling gold to them at one price and later buying it back from them at a lower price.

12. At all times the United States Treasury, mints, Government assay offices, and any other agencies authorized to buy or sell gold to employ the same identical prices as those employed by the Federal Reserve System.

The reason why there should be a special safeguard against speculation injurious to the Government is because the Government, unlike an ordinary buyer and seller, now stands ready to buy and sell at the same price instead of making a profit in the selling price over the buying price.

After the price of gold has been sufficiently changed to safeguard the reserve ratio so that the new price may, presumably,

again be left unchanged for a considerable period, the differential may be removed so that the buying price and selling price may again coincide.

13. All profits and losses from buying and selling gold to accrue to United States Treasury.

COMMENTS

It will be observed that there is no mandate put upon the commission ever to change the price of gold. Such a change is merely authorized if and when found necessary to prevent inflation or deflation. As long as the retention of the present basis of \$20.67 an ounce continues to be compatible with the maintenance of a stable price level, that basis will remain.

But if and when the retention of a constant price of gold and the maintenance of a fairly constant level of prices are found to be incompatible, a change can and should be made. The authorities can be trusted not to make it any sooner than need be. But it is only fair to them that, when given the responsibility to stabilize the price level and to keep the legal gold reserve ratio, they should not be eventually hamstrung in their attempts by the fixity of the price of gold. Inasmuch as the only proper purpose of maintaining a uniform price of gold is to prevent inflation and deflation, no one can properly object to changing the gold price if that purpose can better be served thereby.

Any change, made with such a purpose, is not an abandonment of the gold standard but simply a revaluation of gold to correspond to any great change in its purchasing power. The present price of \$20.67 an ounce might conceivably be maintained indefinitely without producing material inflation or deflation, and it is altogether probable that no change would be required in many years.

It is further to be noted that any change which might become necessary after it is once made in a thoroughgoing manner so that the reserve ratio is again moderate—neither absurdly high

nor low—this new price will probably stand unchanged for many years.

Under these circumstances there seems no occasion for alarm, on the part of those who regard the figures \$20.67 as sacred, over the remote prospect of its being some day changed, especially as any change is authorized only in furtherance of maintaining the gold standard and its chief purpose—stability.

Thus, while all the virtues of the gold standard are retained, its periodical evils are avoided. Instead of those periodical evils of inflation and deflation there will be occasional readjustments in the price of gold. But these changes in the gold price basis will be made solely in order to avoid changes in the commodity price base. In this respect, they will differ from such revaluations as those of France and Italy in recent years. These nations regained the gold standard after war-time inflation, through devaluing the gold franc and lira.

The above provisions make possible the perpetuation of the gold standard under all possible circumstances. They also permit the retention of the present price of gold, \$20.67 per ounce, and the corresponding weight of the dollar except when, if ever, a change of price should be necessary to supplement the other efforts to prevent deflation or inflation of the price level. The chief justification of the gold standard has been that it afforded, to some extent, a safeguard against inflation such as has so often occurred when a country has gone off the gold standard and has adopted irredeemable paper money.

But this safeguard against inflation has only been partial. For instance, we experienced a great gold inflation between 1896 and 1920.

Moreover, the gold standard has afforded no safeguard whatever against deflation. England in effect, preferred going off the gold standard rather than suffer further deflation.

Under the present plan there would never be any need of America following the English example by abandoning the gold standard. She would have a gold standard safeguarded against deflation and inflation alike, a gold standard almost fully

assimilated to a virtual goods standard—in short, a genuine standard of purchasing power, fair to debtors and creditors alike. It may never be necessary to change the price of gold; but when, if ever, a change should become necessary, it would always be a benefit and never an injury.

If the price of gold is ever raised it will only be because otherwise we should suffer deflation. That is, the price of gold would be raised only when gold became so scarce that its price clearly ought to be raised.

Contrariwise, if the price of gold is ever lowered it will only be because otherwise we would suffer inflation. In other words, the price of gold would be lowered only when gold becomes so superabundant that its price clearly ought to be lowered.

Should, at any time, the price of gold be raised, this operates automatically to raise and thereby improve the reserve ratio in two ways, namely:

- (1) It stimulates the sale by gold owners of their gold to the Federal Reserve System and discourages the purchase of gold from it.

- (2) It increases the dollar value of the gold in the vaults of the Federal Reserve banks.

If, for instance, the price of gold is increased by 1 per cent, a hundred million ounces of gold in the vaults now worth \$20.67 an ounce or 2,067 million dollars is thereupon worth, instead, 1 per cent more, rising, namely, to \$20.8767 per ounce or to 2,087.67 million dollars, an increase of 20.67 million dollars which can be entered on the books of the Federal Reserve banks as a profit.

Contrariwise, if at any time the price of gold should be reduced, this operates automatically to reduce the reserve ratio in two ways, namely:

- (1) It discourages the sale by gold owners of their gold to the Federal Reserve System and encourages the purchase of gold from it.

- (2) It decreases the dollar value of vault gold.

This, of course, registers a loss on the books of the Federal Reserve banks.

There is practically no limit under this plan, to the power of the commission system, either to counteract deflation or to counteract inflation. Its buying power is practically unlimited and, when exercised, it will raise the prices of securities and other goods, not only of those it buys but of the great mass of others. This is true not only because of the sympathetic movement of securities but because the buying power does not cease with its exercise by the system. Those who receive this buying power pass it on by buying other securities and goods of all sorts, raising their price in turn and so on indefinitely. This new buying power is not at the expense of some other buying power as in the case of an individual spending money already in circulation before he gets it. The Federal Reserve notes or other forms of credit are newly created, a net addition to the circulating medium. Until withdrawn this new circulating medium adds permanently to the annual buying power of the country.

To see how resistless is the power of the Federal Reserve System to sustain the price level, under this plan suppose that, as was threatened recently, there should be a nationwide run on banks and continued hoarding, causing an increasing vacuum in our circulating medium; this vacuum, however great, could be filled as fast as created, by pouring out Federal Reserve notes in purchasing securities, or by paying in deposit balances. Yet the gold reserve need never be too low if the price of gold be raised sufficiently. Furthermore, if action were prompt enough there would be no hoarding, as hoarding is the result of deflation. If action were not prompt enough, hoarding might take place; but it could probably be more than neutralized by vigorous action, although the fear that grips the hoarder is apt to be unreasonable and capricious.

For the same reasons the outflow of gold to foreign countries can not prevent safeguarding the price level against deflation so long as there is the power to raise the price of gold.

The only limit to be encountered would be reached when the Federal Reserve System had exhausted the entire legally available security market so as to have gathered within its own walls all Government bonds, and other securities on its eligible list.

To take an example of the reverse sort, suppose there should be a threat of inflation, due, say, to speculative activity resulting in increasing loans and swelling the volume of deposits subject to check. The Federal Reserve could then, if need be, sell newly created debentures without limit, receiving back their own Federal Reserve notes (or deposit balances on their books to the credit of member banks or the United States Government). This shrinkage of outstanding Federal Reserve credit would cause member banks in turn to curtail the credit extended by them to their customers. Otherwise their reserve ratios would be reduced below the legal requirement. This shrinkage would have no limit since there is no limit to the possible issue of debentures.

The importation of gold from abroad can not upset the control of the Federal Reserve over inflation so long as the latter can decrease the price of gold.

Of course, every change in the price of gold changes the rates of foreign exchange. But the slight additional inconvenience caused by this to foreign commerce will be as easily and regularly allowed for as any other, and the inconvenience is small as compared with the advantages obtained in the fact that domestic commerce has a stable level of prices; for foreign commerce is of very small volume, say one-tenth the volume of domestic commerce.

Moreover, at present, several of our chief foreign customers are now off the gold standard, so that there is scarcely any inconvenience added to that we already have. Ultimately, it is altogether likely that all important commercial nations will adopt uniform stabilization laws and policies.

There is only one obstacle to fully safeguarding the price level against both inflation and deflation. It can not stop the danger of Government inflation. The Government can, in its sovereign power, break any or all rules laid down, break away from the gold standard, and inflate the currency to suit itself.

In times of great distress, such as war, this usually happens. There is no way by law to prevent inflation by the Government; for the Government is the law-maker. But as long as

the rules here laid down are observed, the commission and Federal Reserve system have full control of the circulating medium, including deposit currency, and can stop either inflation or deflation to any conceivable extent.

SOME TECHNICAL DETAILS

14. If at any time the price of gold is changed as herein provided—

(a) The coinage of gold by the Bureau of the Mint shall cease except as provided under (d) below, although its equivalent, the unlimited purchase of gold at the official price, shall continue.

(b) The redemption, by the United States Treasury, of United States notes, Treasury notes, and all other paper money, now redeemable in gold except gold certificates, shall be accomplished by selling gold bullion therefor, at the official price.

(c) The United States Treasury shall continue to redeem gold certificates, being warehouse receipts, in gold bullion or gold coin at the option of the holder, at the present rate of \$20.67 an ounce of pure gold, or 23.22 grains per dollar.

(d) The mint is authorized and directed to coin at the present rate of 23.22 grains of pure gold per dollar such of the gold bullion belonging to the Government as may be required to satisfy any demand for gold coin by holders of gold certificates.

(e) Any (full weight) gold coin in circulation shall be redeemable by the United States Treasury at its face value in gold bullion and shall continue to be full legal tender.

(f) Gold bullion shall be full legal tender at the official price at which the Federal Reserve System sells it, provided this bullion is in the form of standard gold bars nine-tenths fine, officially stamped as to such fineness and as to weight by the United States Government under rules and regulations prescribed by the Secretary of the Treasury.

COMMENTS

The holders of gold certificates or gold coin can thus have no cause for complaint. For they can, at any time, become holders of gold coin; and the holders of gold coin can, if their coined dollars of 23.22 grains each are bigger than the new current gold bullion dollar, melt them into bullion and get more dollars than they originally had; while, on the other hand, if their coined dollars of 23.22 grains are smaller than the new current bullion dollars these coins can be used like token coins, at their face value, or redeemed in the new and bigger bullion dollars.

15. In preparation for the contingency that the price of gold may sometime be changed, the Federal Reserve System is authorized to accumulate systematically gold certificates in exchange for Federal Reserve notes, and the Treasury is authorized, as occasion offers, to retire and destroy systematically such certificates when not further needed, to the end that, long before the possible contingency arrives of a change in the price of gold, the gold certificates in circulation shall be almost wholly replaced by Federal Reserve notes.

16. If, in the opinion of the commission, there is danger of deflation, Federal Reserve notes returned to Federal Reserve banks may be reissued and put back in circulation either via member banks or otherwise.

17. Six months after the passage of this act all bonds, notes or other contractual obligations then outstanding containing the well-known "gold clause"—"payable in gold coin of the present standard of weight and fineness," or other words to that effect, shall be subject to a tax of——per cent unless both parties shall have within said six months agreed to substitute in said contract the stabilized dollar in place of the gold dollar of the present weight and fineness.

FEDERAL RESERVE

18. If there is danger of deflation, the system is authorized, on due notice in addition to or in conjunction with other

measures already authorized in such a contingency, to lower the minimum reserve requirements of member banks, the reduction to be by a uniform percentage.

If, on the other hand, there is danger of inflation, the system is authorized, on due notice, in addition to, or in conjunction with, other measures already authorized in such a contingency to raise the minimum reserve requirements of member banks, the increase to be by a uniform percentage.

19. Better than the last is the plan proposed by Dr. Riefler of the staff of the Federal Reserve Board and recommended by the Board, whereby bank reserves shall be adjusted according to velocity of deposits, being 5 per cent plus half the daily turnover (with a maximum limit of 15 per cent).

This would operate to control member bank credit very promptly and effectively.

20. The act of March 3, 1865, imposing a tax on state bank notes is to be amended by adding:

"The Federal reserve system is authorized and directed to make a service charge of — per cent on all checks cleared for nonmember banks."

An alternative is to tax State banks' deposits, just as their notes were taxed in 1865 and for the same reason: to help bring about a unified national medium of exchange.

21. To the above may well be added the "Stamped money plan" described below in Appendix VII.

Many of the foregoing provisions would be unnecessary if the others were adopted. They are inserted, however, to show the abundance of means available for stabilization under almost all conceivable circumstances, although even the means enumerated do not include all possible ones. Of the various means, we may note that:

(1) Those already more or less consciously used for stabilization purposes, that is to combat inflation and deflation, are changing the rediscount rate and the open market operations.

(2) The speediest in their action on the price level are probably the stamped money plan of paragraph 21 and Appendix VII, the bond deposit plan, described in paragraphs 3-9

supra, and the automatic adjustment of reserves to velocity of deposit turnover of paragraph 19.

(3) The freest from hampering limitations is the plan of changing the price of gold.

APPENDIX VII

OTHER PLANS FOR REFLATION AND STABILIZATION

MAKING GENERAL USE OF ACCEPTANCES

Mr. Andrew W. Robertson, Chairman of the Westinghouse Electric and Manufacturing Company, suggests that, wherever possible, we should all pay our bills by 90 day acceptances—drafts on us by tradesmen. These would to some extent operate like an addition to the medium of exchange and, if widely adopted, would tend appreciably to raise the price level.

SUBSIDIES TO PRODUCERS

A plan for subsidizing producers has been suggested by Col. Malcolm C. Rorty. Enterprises that have been holding back from desirable undertakings could be rewarded by a government subsidy for borrowing from the banks the necessary funds for such undertakings—the enterprisers bidding against one another for the favor.

SUBSIDIES TO RETAILERS

A retailers' subsidy scheme has been suggested by H. B. Brougham and E. F. Harvey. According to this plan, the Government would add a percentage to the daily deposits coming into the banks from the tills of the retailers, thus enabling the retailers to give discounts to their customers. Temporarily, the discounts would reduce retail prices, but eventually the general price level would rise on the increased expenditures—that is, on the increased circulation.

LOANS TO RETAILERS' CUSTOMERS

A scheme is in actual operation (June 1932), known as "The Great Falls, Montana, Plan." It is propounded by Byron DeForest, manager of the Great Falls Credit Exchange. As far as it has gone, it is simply a plan for trusting the humble but embarrassed purchasers. Nearly all steady workmen eventually pay up. Unsecured loans to them are usually as safe as most other loans—provided health remains and the job is restored. The plan enables these storekeepers to raise money by endorsing their customers' notes. The proposal has been thus expressed by Mr. DeForest:

"We propose a 'Finance Corporation' set up by Congress putting at the disposal of the various credit bureaus throughout the United States billions of dollars to be loaned to worthy men and women, said loans to be repaid in easy payments, over as long a period as is necessary, at any rate of interest not to exceed six per cent per annum, and with no security other than the endorsement of the creditor. Such a plan would, at once, release billions of dollars into trade channels."

THE STAMPED MONEY PLAN

Nearly ten billion dollars of deposit currency have disappeared since 1929, and the residue has only 40 per cent of the 1929 velocity. The greater part of this depletion is due to the timidity of business borrowers. They would borrow if they were sure of buyers. If a plan could be devised whereby the buying could start first, the business borrowing would follow.

To stimulate buying, an ingenious scheme of which the following is an adaptation has been suggested, though I cannot find by whom.¹ Let the government print billions of special dollar bills, the reverse side to be divided into 12 spaces, each

¹ Since the above was written, I have learned that essentially this plan was proposed by Silvio Gesell of Argentina in 1890. It was, in effect, actually used locally in Germany in 1931. See an article, "Wara," by Hans R. L. Cohnsen in *The New Republic*, August 10, 1932.

the size of a one-cent postage stamp and each space dated; the dates to represent the first day of 12 consecutive months. Let one hundred of these dollars be given to each citizen (or every registered voter, or every person designated in such other way as may be deemed best suited to be fair and not subject to fraud and duplication). This "gift" would be to all of us from all of us (and so no gift at all), the object being merely to increase circulation and raise the price level. Each dollar bill would be legal tender provided it had the required one-cent stamps on it up to that month in which it is tendered. No one could refuse it at par because it would be legal tender; and no holder would be likely to keep it more than one month, lest it cost him another stamp; much less would he hoard it. In many cases it would circulate several times in the same month, at the saving of a cent to each user until the stamp date arrives at the beginning of the next month. Presumably such a dollar would circulate on the average more than 12 times a year. The plan would operate as a stamp tax on hoarding—increasing the velocity as well as the quantity of money.

After all the 12 stamp spaces have been filled, the dollar could be redeemed either by another of the same kind or by an ordinary dollar, at the option of the Government. If the stamped dollar, renewed, runs for nine years (108 months), the funds for this redemption will have already been provided to the government by the public in the 108 cents paid for the affixed stamps,—with 8 cents in excess.

If \$100 have been given to each of 40 million people, this excess will amount in all to $\$8 \times 40$ million or \$320,000,000 revenue for the government.

This unique plan would put immediate purchasing power into the hands of every consumer, including the unemployed. In fact, if desired, it could be confined to the unemployed and the original gift raised to, say, \$500 per person, which, for, say, 8 million unemployed, would make the same total issue. It would then help solve two problems at once, immediate unemployment relief and reflation.

These new dollar bills would constitute an addition to the cir-

culating medium. Moreover, they would circulate faster than money ordinarily circulates.²

Finally, as soon as the effect in raising the price level was felt appreciably, if not in anticipation of this effect, hoarding of other money would cease and all money, including deposit currency, would quicken its pace. In short, the new money would simply prime the pump or start the machinery going, both by providing new purchasing power and by putting a penalty on any delay in using it.

There would be a slight recession in other circulation medium. The money paid by the public in purchase of the stamps would divert this amount from other uses. But this money diverted is only equal to one per cent of the new money each month. Even if all this money paid in by the public for stamps were kept idle by the government until the 108 months were up, there would always be outstanding (except in the last eight months) more of the (new) dollar bills than of the (old) money paid into the government and held for their redemption. The excess would average for the nine years about two billions, or half of the total issue. But presumably the government would not keep idle all of the money paid in for stamps.³

One advantage of this plan is that it puts no added strain on gold reserves. Nor would it involve any raid on the Treasury, nor be special legislation, like the bonus bill (unless specially used as unemployment relief and, in that case, only the sort of special legislation which has long been sanctioned in emergencies). While it might be called a dole if used especially

² See "The Purchasing Power of Money" by Irving Fisher (Chapter XII), Macmillan, 1931.

³ There would, of course, be other readjustments. For instance, as soon as hoarded money came out of hiding there might be temporarily in circulation a disproportionate amount of pocket currency.

This would result in the deposit in banks of some of the superfluous or redundant pocket currency—largely Federal Reserve notes. The depositor would receive a deposit credit, thus increasing deposit currency. The Federal Reserve notes would be sent to the Federal Reserve Bank and cancelled, and the 40 per cent gold behind them would be released for reserve against bank deposits.

for unemployment relief, it would at least be a costless dole. In fact, it would actually enrich the rest of us through attacking the dollar disease just as the cancellation of inter-governmental debts would probably enrich, not impoverish, the taxpayers of the United States. These paradoxes will surprise no one who realizes the overwhelming importance of correcting the broken-down price structure.

Nor should there be fear that such a gift to the unemployed would encourage unemployment, for there would be no chance of repeating such a distribution until, or unless, another depression came upon us. Certainly no unemployed person will voluntarily stay unemployed in order to enjoy another \$500 years hence.

Meantime, involuntary unemployment would disappear with recovery.

But if, in spite of this argument, gifts to the unemployed or gifts to anybody are objected to, the reader is reminded that the stamped money could be put into circulation, though more slowly, in several other ways.

This strange-appearing plan will not seem so strange if we think of it as a loan to the public from the government, to be repaid in monthly installments of one per cent. It is as if Mr. Everyman were to borrow, on good security, of the Reconstruction Finance Corporation, agreeing to repay in monthly installments, repayment to be made in postage stamps (whether by one person or by 108 persons makes no difference).

There is no one who has any cause for complaint in these transactions. The Government has ample security; that is, repayment is certain. The borrower (the original recipient) gets what seems to him individually a gift, and he seems to pass on to others most of the burden of repayment—although, of course, he himself will be called upon to supply stamps when, in his turn, he receives such dollars. All the stamp-affixers get more benefit than injury because of the up-turn in business which the plan will so speedily bring. Each stamp-affixer will merely feel that he is paying a small "stamp-tax," or sales tax, just as now he pays a stamp-tax on checks. (And in 1898 the individual draw-

ing the check had the trouble of affixing the stamps personally.)

There would, of course, be administrative details to be arranged. It might save some bickering if the person offering one of these dollars in payment for less than a dollar's worth of goods should be required to pay the other party the one cent for the next stamp due (so that the other party would not have to bear more than his one per cent).

The plan could conceivably be put into operation as a private expedient—by individuals, corporations, banks, clearing houses, or municipalities, instead of by the Federal Government, if the latter raised no objection—just as clearing house certificates have been so used; even the help of a legal tender law might not be necessary. It was, in fact, in such a voluntary way that substantially the same plan was used locally in Germany.⁴ But properly, of course, the plan should be under the control of the Government to secure any prescribed reflation.

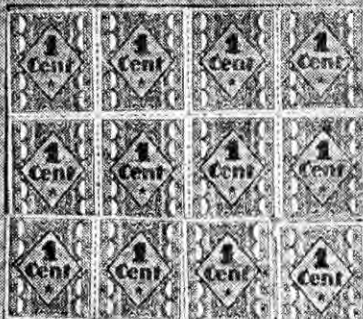
Besides serving as a temporary expedient to break the depression, stop hoarding, and start reflation, the plan could also be adapted to serve as a permanent instrument of stabilization by varying the interval between stamps, or the quantity in circulation, or both. Of course the Government could issue such bills in payment of its own expenses or purchase of bonds. (In fact, the original issue itself could be made in this way instead of as a gift.)

With this power the volume of the bills could, from time to time, be regulated up or down as required. This regulation should, of course, be restricted by law to the sole purpose of stabilization according to an index number.

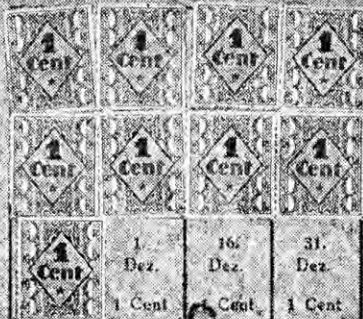
THE GOLD TRUCE PLAN

Dr. Hermann Scheibler, head of the European branch of

⁴ This so-called "Wära" money was also backed by a 100% reserve of German marks, so that its substitution for those marks in circulation made no net addition to the total circulating medium, its only superiority being its more rapid circulation. A facsimile of the back of one of these "Wära" notes which had actually circulated and had had stamps affixed is given in Chart 14.



**ZWEI
WARA**
1931



Eine Wära = 100 Cent kostet eine RM., wenn von der Tauschgesellschaft kein anderer Preis auf Grund ihrer Richtlinien bekannt gegeben ist. Wära wird von allen Mitgliedern der Tauschgesellschaft in Zahlung genommen. Die Geschäftsstelle und die Wechselstellen der Tauschgesellschaft erheben, wenn sie Wära gegen Mark o. andere Geldsorten zurückkaufen, eine Umtauschgebühr von 1%. Von dieser Gebühr kann Befreiung gewährt werden. An den in den Feldern bezeichneten

Tagen tritt ein Preisverlust von 1% ein, falls der Verlust nicht durch Aufkleben entsprechender Centmarken auf die betreffenden Felder ausgeglichen wird. Vom 20. Dez. 1931 bis 10. Jan. 1932 wird die Wära von der Geschäftsstelle und den Wechselstellen der Tauschgesellschaft gegen Wära des Jahres 1932 kostenlos umgetauscht unter Abzug etwa fehlender Centmarken. Nach dem 10. Jan. 1932 wird dieser Schein von der Tauschgesellschaft nicht mehr angenommen.

Serie C

12509

TAUSCHGESELLSCHAFT

i. A.

*Karl Frenn Paul Hock
Rudolf Kitzinger Hermann Heng*

my Index Number Institute, has proposed a plan. A resolution of the International Labor Organization, April 29, 1932, states: "To this end the Conference requests the League of Nations to place before its competent bodies as early as possible the proposal for a gold truce." It has been discussed by the Economic Council of the League of Nations.

The essential point of the plan, in Dr. Scheibler's words, is:

"The high contracting powers guarantee each other the possession of their present gold holdings.

"In order to make this guarantee effective the contracting parties report monthly or quarterly on the movements of their gold holdings to an international clearing office. Those countries, which during the period preceding the settling-day received more gold from abroad than they paid out, would hand over this surplus gold to the international clearing office as a long-term loan at a certain rate of interest with provisions for specified sinking fund payments—both being fixed in advance by the gold truce convention. The clearing office would, in turn, forward these amounts of surplus gold to those parties which had a gold deficit for the period under consideration. In short, on each settling-day the status quo as to effective gold holdings would be reestablished between the contracting parties."

This plan would largely remove the fear of gold withdrawals which now paralyze banking and commerce in countries short of gold.

MISCELLANEOUS

Among other "reflationary" expedients that might be used in a depression are:

As during the World War, an embargo could be put on gold. This would greatly enlarge the amount of currency that can maintain parity with gold and so help avoid losing gold parity and going off the gold standard completely.

National banks could be authorized to issue bank notes based on government bonds.⁵

Clearing House certificates could be used as emergency currency, as before the Federal Reserve Act was passed.

ON SILVER AND GOLD

The gold standard is chiefly useful because of the fact that it has a traditional prestige, and of the fact that gold is the most convenient medium for international settlement. The notion that gold has, in itself, stability in value is unwarranted; and in 1932 (the present writing) when so many nations are off the gold standard and some of them seeking something more stable to take its place, it is quite possible that the gold standard may be generally abandoned or modified. One such modification ("the compensated dollar") has been mentioned above.

Another modification would consist in a partial rehabilitation of silver, so as to enable silver to serve with gold in broadening the base of our credit structure.

The demonetization of silver in India by England's action in 1926 caused a fall in the price of silver in terms of gold as well as a fall in silver's purchasing power over commodities. This is well shown by the rise in the commodity price level in China, the only important silver standard country now remaining. This rise of prices in silver standard countries has helped their business and exports, just as the fall of prices in gold standard countries has hurt *their* business and exports.

A rehabilitation of silver would help overcome this handicap to the gold countries as compared with the silver countries. It might be worth the while of the United States for this purpose to bring about a rise in the price of silver in terms of gold. But the principal advantage probably would be the one just named—to broaden the base of our currency. There are several ways in which this might be done. Silver might again lawfully serve for bank reserves. This is the purpose of broadening

⁵ Since this was originally written, the Glass-Borah bill has been passed for this purpose.

the base of our credit structure. Apparently there is (1932) not enough gold to maintain the predepression price level with safety. Or if there is enough it may in a few years cease to be enough. This would mean that either we must be resigned to a lower price level and all its embarrassments to debtors, or else, if we do return to the old levels, we must run the risk of again suffering a collapse in the price level.

In any case, to make silver again available for bank reserves would make for a safer and longer continued maintenance of a proper price level. There are various ways of restoring silver. One is bimetallism. But this is not very satisfactory because it is itself so precarious.⁶ Sooner or later bimetallism is sure to turn into monometallism of one kind or the other.

Another method is "symmetallism," or linked bars of gold and silver. But this, even if politically feasible, would require going off the gold standard immediately. This, while theoretically desirable, would be fraught with practical complications, including "gold clause" contracts (although, as already indicated, these could be taxed out of existence).

The best plan it seems to me, is one proposed by James H. Rand, Jr. He suggests that we (preferably with other countries) buy silver as we did under the Sherman Act, at market prices and, with the silver so purchased, issue, or stand ready to issue, new gold-silver coins, using in each dollar 40 cents of gold (a "forty per cent gold reserve" as Mr. Rand calls it) and an amount of silver equal to the silver in our present silver dollar. These new dollars would, like our silver dollars, be full legal tender. Certificates (more or less like silver certificates) would be issued, representing these gold-silver coins (or the bullion equivalent).

Subject to a maximum limit, the governmental purchase of silver would be continued until the gold-silver dollar became "intrinsically" worth a dollar, i. e., until the silver bullion in it came to be worth 60 cents. This, with the 40 cents gold, would make up a full value dollar. The silver purchases would then

⁶ See "The Mechanics of Bimetallism," by Irving Fisher, (British) *Economic Journal*, 1894.

cease. If and when the silver came to be worth more than 60 cents, say 61 cents, so that the "intrinsic" worth of the gold-silver dollar would be 101 cents, the government would then sell silver bullion instead of buying it, until the gold-silver dollar was no longer intrinsically worth more than one dollar. If and when it again became intrinsically worth less than a dollar, the purchases would recommence. In this way, the gold-silver dollar would be kept at, or very near, par.

Such gold-silver dollars could serve as reserve and yet gold would remain the standard.

There would be limits beyond which the silver purchases and sales could or should not go. No more silver could or should be sold than was possessed by the government and no more should be bought than could be bought without surrendering the gold standard.

SHALL WE KEEP THE GOLD STANDARD?

In case the gold standard is to be entirely abandoned and all nations resort to a managed currency, the place of gold for redeeming other money can be taken by managed fiat paper money, just as, already in the Federal Reserve System, "lawful money," such as our silver dollars and silver certificates (which are "fiat" money in the sense of being legal tender for much more than their "intrinsic" worth), operates as reserve against the deposits of member banks. The new fiat base would preferably be international paper money made legal tender in all countries by treaty.⁷

But going off the gold standard is not an easy matter, especially in the United States.

In Britain it was done as follows: on Sunday, September 20, 1931, the Cabinet met and decided to suspend the provisions of the Bank Acts of 1825 and of 1844 which obligate the Bank of England to buy all gold that is offered at the rate of £3 17s 9d per troy ounce of standard gold (11/12 fine) and to sell to all

⁷ This money could be created as a part of a plan for international debt settlement as proposed by James H. Rand, Jr.

purchasers standard gold at the rate of £3 17s 10½d per troy ounce. Notice of this decision was sent to the officers of the Bank of England. Accordingly, when the Bank opened on the morning of Monday, September 21, the officers refused to buy or sell gold. This refusal by the bank officers was illegal until Parliament passed an act later in the day, formally suspending the gold purchase and sale provisions.

In the United States, we have no traditions for such summary legislation. While our Senate was debating the question, our gold would be withdrawn by foreigners and speculators and every bank would be forced to suspend specie payments. No other and more orderly way of going off the gold standard seems practicable for the United States. The legislation would have to come after the harm had been done.

In 1932 there was once an attempt to secure legislation authorizing the Federal Reserve Board to alter the buying and selling prices of gold. One thought in the legislation was that it could be used, in an emergency, to put us off the gold standard summarily by raising to a prohibitive figure the price at which gold would be sold by the government (i. e., used in redemption). In other words, the Board would lower the weight of the gold dollar enormously. The chief virtue of this proposal was that its implications might not be understood until the action was taken! But the very fact that it was not understood prevented its adoption.

One of the chief difficulties for America in getting off the gold standard is the existence of a great mass of gold clause contracts, by which payment is stipulated in gold coin "of the present weight and fineness." It is true that the greenback decision certified the right of Congress to make United States notes legal tender for the payment of debts contracted prior to the legislation. The legal tender act, it is true, related only to contracts to pay money generally and not to contracts to pay a specific kind of money such as "gold coin of the present weight and fineness." But Justice Bradley (12 Wall. 457, 566, 567) said: "I do not understand the majority of the Court to decide that an Act so drawn as to embrace in terms contracts payable

in specie would not be constitutional. Such a decision would completely nullify the power claimed for the Government."

But it is probable, I am told on good legal authority, that Congress does not have the power, constitutionally, to abrogate the gold clause contracts.

Apparently the most promising way to handle these gold clause contracts would be to tax prohibitively their fulfillment. The power to tax seems to be almost unlimited.

However, the complications and disturbances which would be incident to going off the gold standard seem, in America, to be so great that for this reason alone it would be advisable, if possible, to retain the gold standard.

There remains one possibility which may be worth mentioning. Since gold today does not really contribute appreciably to the value of other money, but, on the contrary, derives its value almost wholly from other money, it might prove feasible (1) to add to the "lawful money" (now available for reserve against the member bank deposits) enough other "lawful" fiat money to make gold superfluous; (2) to make this other money available for reserve against Federal Reserve notes also; and (3) having thus no further need of gold as a redemption base, demonetize it to the extent of no longer *requiring* redemption in it, but requiring only that gold money be required to be redeemable in other money, and not the other money in gold. Gold would then still keep parity with other money, could still serve in settlements of international balances, and would still keep its place in gold clause contracts, as Sir Arthur Salter has recently suggested.

Ideally a fiat paper money base would be far superior to any metallic standard; but, as Sir Arthur says, we must wait until we can have confidence that the issuing government will not abuse the privilege. Perhaps if the issue were under the auspices not of one nation only but of a number, there would be security in numbers. No country would be likely to permit the other countries in the agreement to abuse the privilege.

Gold is far from being a satisfactory standard, despite its traditional reputation for being "the best standard which has

been tried," and despite the recent efforts of conservative followers of tradition to bolster it up—including the majority report of the League of Nations "Gold Delegation" in June 1932. The majority almost invariably follows tradition right or wrong.

It is interesting to find in conservative England a few economists, business men and bankers who favor a continuance of managed currency. Sir Basil Blackett, a director of the Bank of England, was quoted in the newspapers of October 22, 1931, as saying,

"We are bound to ask whether there is an alternative international standard, such as bimetallism, symmetallism or a non-metallic standard which would work better than gold. Even if there is such an alternative, however, the question will still be asked whether conditions are ripe for its adoption.

"If by sacrificing the stability of exchange Britain can be made the master of its own economic destiny, not to be dragged at the wheels of the chariot of the Federal Reserve System of the United States or the Bank of France, and give real stability to the internal price level, the alternative of a managed sterling currency system is at least worth examining."

The gold standard is too much subject to the accidents of gold discoveries and too easily manipulated, consciously or unconsciously. It sometimes seems, as it were, suddenly to pull a string and precipitate a depression because of accidental coincidental influences depleting some great bank's reserves, as in the case in 1931 of the Bank of England.

A fiat base could be instantly reinforced. It would require far less skill than the open market operations now require to pump the fiat money reserve in or out so as to maintain a really stable price level. Depressions could scarcely occur in any degree worthy of the name. And, in case a depression did occur, instead of "balancing the budget" governments would pay bills with fiat money, thus killing two birds with one stone—solving

the problem of public finance and solving the problem of deflation.

Fiat money has a bad name and deservedly. But its shortcomings are purely political, not economic, and economists ought not to be afraid to say so. The old ideas that money must derive its value from something else has been exploded both by theory and experience. Sweden during the war made its paper money more valuable than the gold which was supposed to give it value! In the Ukraine, paper money circulated after the invading German general who issued it and his government had passed off the scene! In neither of these two cases nor in others which might be mentioned could the value of the money be explained by any hope of redemption. Our own silver certificates are redeemable only in silver dollars which are worth "intrinsically" twenty-five cents and which are not redeemable in gold. Before the gold standard act of 1900 there was not even any express policy of parity—only legal tender and quantity limitation. Moreover, if we were now to change this status and to make silver certificates and silver dollars not legal tender but redeemable in gold, requiring, say, a 40 per cent reserve as for Federal Reserve notes, the result would be to weaken not strengthen our monetary system, to put an added strain on our gold reserve, to run the risk of sudden raids and manipulations which might at any time pull the string which would bring deflation with a jerk.

Yet, curiously enough, all our haphazard silver and greenback money now has the sanction of tradition. If it all had not been handed down to us but were today to be proposed as something new, it would be laughed to scorn—as it should be.

If we could only have inherited a logical systematic fiat system dedicated to stability in value, it also would have had the sanction of tradition. But, if this were now proposed as something new, it would probably be laughed to scorn—though it should not be.

Possibly, however, the time has come when such suggestions as those of Sir Basil Blackett can be seriously considered. At any rate our list of good expedients would not be complete

without the inclusion of a fiat substitute for gold reserves and as ideal in *economic*, if not in political, theory.

SUMMARY

Whenever there has been any intense interest in the stabilization problem it has always been after some great suffering from inflation or deflation. But after great and rapid deflation, as in 1932, some inflation is required; and after great and rapid inflation, as in 1920, some deflation. Either correction is properly to be called "reflation."

Thus reflation is, in practice, always the first and most urgent problem preliminary to stabilization as a permanent policy.

Practically all the means available for reflation are also available for stabilization and conversely. We have seen that the chief of these means available for the Federal Reserve System are two, both of which are for credit control only: adjustments of rediscount rates, and open market operations.

But any central bank will always be confronted with so many other problems that it can never be the ideal medium for effecting reflation and stabilization, though its influence must always be reckoned with and should always be a cooperative influence. What is really needed is a special agency of the government such as a Stabilization Commission.

We have found as the most important means available to such a stabilization agency:

For Gold Control

- The compensated dollar plan
- The plan of gold-mine control,
- The sterilized or surplus gold plan;

For Credit and Paper Money Control under a Gold Standard

- The stamped money plan,
- The bond deposit plan.
- If the gold standard be abolished the principal method is:

Adjusting legal tender paper money, to be used as a basis for credit instead of gold.

Preferably this paper money should be under international auspices. In that case each nation could have its own system of regulation of the credit structure based on said international paper money just as it may now, based on gold.

Either under the gold standard or a substitute it would be possible for each nation to have its own independent system of regulation. If they all employed the same index number, say, that of wholesale prices in London, they could keep their foreign exchanges substantially fixed, and maintain substantially fixed ratios between their several money units and also between their price levels.

An alternative would be to have one world system of stabilization.

MR. HOOVER'S RELIEF PROGRAM

President Hoover in his annual message on December 8, 1931, submitted to Congress and the country a comprehensive program for emergency relief and several measures which should help to mitigate the fearful booms and crises in business.

The program attempted by the Administration and Congress included: (1) planning public works in advance to give employment in times of depression; (2) an Economic Council to plan production and prevent or care for unemployment; (3) intergovernmental debt revision to restore solvency to Germany and the world; (4) the National Credit Corporation formed of bankers to unfreeze frozen bank assets and relieve distressed depositors; (5) the Railroad Pool for helping weaker railroads to meet interest payments on their bonds; (6) the Home Mortgage Corporation to make real estate borrowing easier and cheaper, thus stimulating building, especially residential building; (7) the Reconstruction Finance Corporation to make loans to distressed farmers, banks and any other distressed businesses so as to thaw out congealed assets and cause money and credit streams again to flow; (8) the Glass-Steagall Act amend-

ing the Federal Reserve Act to expand bank credit by making it possible for member banks to obtain loans from Reserve banks on their own promissory notes and to issue Federal Reserve notes secured by United States bonds, thus setting free gold reserves; (9) a vigorous (so it was then hoped) anti-deflation policy on the part of Federal Reserve Banks through lowering rediscount rates and buying United States securities in the open market, thus building up the gold reserves of member banks and encouraging them to inaugurate a more liberal loan policy; (10) further amendments to the Federal Reserve Act unifying and strengthening the banking system by bringing all or almost all banks into the Federal Reserve System; (11) the anti-hoarding campaign; (12) Committees of bankers and industrialists formed for the purpose of setting the unemployed bank reserves to work.

Some relief measures have not fulfilled the hopes entertained when they were conceived. The disappointment has been especially acute with the Public Works program, the Farm Board's Revolving Fund, and the Debt Moratorium.

The Reconstruction Finance Corporation may be described as the peace time prototype of the War Finance Corporation which served so well during the World War. It is referred to as the \$2 billion Finance Corporation, but its capital stock was originally limited to \$500 million, all of which was "subscribed by the United States of America, payment for which shall be subject to call in whole or in part by the Board of Directors of the Corporation." Later the capital was increased by 2 billion. The Corporation may loan this capital and issue \$1.5 billions of its notes and other obligations with maturities of not more than five years. Fifty million dollars were made immediately available to the Secretary of Agriculture for emergency farm relief with the possibility of extending the amount to \$200 million. The Corporation was "empowered to make loans, upon such terms and conditions not inconsistent with this act as it may determine, to any bank, savings bank, trust company, building and loan association, insurance company, mortgage bank, Federal intermediate credit bank, agricultural credit cor-

poration, live stock credit corporation, organized under the laws of any state or of the United States, including loans secured by the assets of any bank that is closed, or in process of liquidation." Not more than \$200 million is to be used for the relief of closed banks. The Corporation "may also, upon the approval of the Interstate Commerce Commission, make loans to aid in the temporary financing of railroads and railways engaged in interstate commerce," or under construction or in receivership.

APPENDIX VIII

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