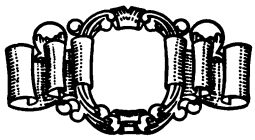
L H Van Wormer

Money and Credit

By

IRVING FISHER, PH. D.

Professor of Political Economy, Yale University. President of American Economic Association, 1918. Author, "The Nature of Capital and Income," "The Rate of Interest," "The Purchasing Power of Money," "Satbilizing the Dollar," etc.



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CHAPTER I

THE NATURE OF MONEY*

An Essential Characteristic

We live in a complicated civilization in which we talk in terms of money. Is this talk accurate and effective in the conduct of business? Or has money, in the way we commonly use the term, come to be a sort of veil that hides the other and more important wealth of the world? An examination into the nature of money represents the best way to answer these questions.

Money is well defined as goods generally acceptable in exchange for other goods. The facility with which it may be exchanged, or its general acceptability, is money's chief characteristic. This general acceptability very commonly in modern states has behind it the reinforcement of law, the money thereby being made "legal tender"; yet such reinforcement is not an essential element. All that is necessary in order that any goods may be made money is that general acceptability shall attach to them. Without legal sanction, for example, gold nuggets served as money among frontiersmen, tobacco in the colony of Virginia, and wampum among the Indians of New England.

The origin of money, and the choice of certain goods as money, came about, not through government decree, but because the commodity was very salable for other uses than money and could readily be resold. Gold was readily sold and resold. Many wanted it for jewelry, and many others could easily be

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induced to accept it in exchange, even if they had no personal use for it themselves, for they knew they could resell it at any time to some one who had such a use for it. Gradually it became customary to accept it with no thought of any other use than to resell it or pass it on indefinitely. Gold has finally survived, due to its superiority over other commodities for the purpose to be served, as the most important form of money.

The use made of this money, the service it performs in furthering the interests of business men in their manufacturing, sales and other activities, renders it desirable to consider the more basic subject, wealth itself.

Wealth and its Measurement

Wealth includes all those parts of the material universe that have been appropriated to the uses of mankind. It includes the food we eat, the clothing we wear, the dwellings we inhabit, the merchandise we buy and sell, the tools, machinery, factories, ships and railroads by which other wealth is manufactured and transported, the land on which we live and work, and the gold by which we buy and sell other wealth. Dealings in these various forms of wealth for the purpose of gain we term business.

The desirability of a measure for wealth is apparent upon a moment's thought. Many articles are measured conveniently by units of space, whether of volume, of area, or of length. Other kinds of wealth are measured by weight. This is true, for instance, of coal, iron, beef, and in fact most "commodities." Units of weight have been handed down to us in considerable diversity. In England, besides the avoirdupois pound and the Troy pound, there is the pound sterling, used for measuring gold coin. This is much smaller than any other pound, owing partly to the frequent debasements of coinage that have occurred and partly to changes in the past from silver to gold money. In the United States a dollar of "standard gold" is a unit of weight employed for measuring gold coin. It is equivalent to 25.8 grains, or to $\frac{25.8}{7000}$ of a pound avoirdupois, since there are 7,000 grains in a pound avoirdupois.

The fact can scarcely be too much emphasized that the pound sterling and the dollar are units of *weight*. They should be understood as such before any attempt is made to understand them as units of "value."

Exchange and Price

Wealth is more or less continually being transferred from owner to owner. While some of these transfers are involuntary, as in the case of robbery; and others are one-sided, as gifts and bequests; the great majority are reciprocal transfers, or exchanges. An exchange is a pair of mutual and voluntary transfers of wealth between two owners, each transfer being in consideration of the other.

When a certain quantity of wealth of one kind is exchanged for a certain quantity of wealth of another kind, we may divide either of the two quantities by the other and obtain what is called the price of the latter. That is, the price of wealth of any given kind is the amount of any other kind of wealth supposed to be exchanged for one unit of the given kind of wealth. Thus if 100 bushels of wheat are exchanged for 75 dollars of gold, the price of the wheat in terms of gold is $75 \div 100$, or three quarters of a dollar of gold per bushel of wheat. Contrawise, the price of gold in terms of wheat is $100 \div 75$, or one and one-third bushels of wheat per dollar of gold. Thus there are always two prices in any exchange.

Practically, however, we usually speak only of one price, viz., the price in terms of money, obtained by dividing the number of units of the article exchanged for that money. It follows that, in practice, the price in money of any particular sort of wealth is the amount of money for which a unit of that wealth is exchanged.

Value

The value of a given quantity of wealth is that quantity multiplied by the price. In other words, the value of a certain quantity of one kind of wealth at a given price is the quantity

of some other kind for which it can be exchanged, if the whole quantity were exchanged at the price set.

The distinctions between quantity, price and value of wealth may be illustrated by an inventory such as the following:

Quantity	Price in Terms of Wheat	Value in Terms Wheat
Shoes .....1000 pr.	4¼ bushels per pair	4,250 bushels
Beef .....300 lb.	⅕ bushels per pound	60 bushels
Dwelling house..1 house	10,000 bushels per house	10,000 bushels
Wheat .....100 bu.	1 bushel per bushel	100 bushels

The measurement of various items of wealth in respect to "value," expressed in terms of a single commodity, such as wheat or money, has one great advantage over its measurement in respect of "quantity." This advantage is that it enables us to translate many kinds of wealth into *one* kind and then add them all together. To add up the "quantity" column would be ridiculous, because pairs of shoes, pounds of beef, houses, and bushels of wheat are unlike quantities. But the items in the value column, being expressed in a single common unit (the bushel), may be added together despite the diversity of the various articles thus valued in bushels of wheat.

Since prices and values are usually expressed in terms of money — the most exchangeable kind of wealth — money may be said to bring uniformity of measurement out of diversity. In other words, it is not only a medium of exchange, but it can be used also as a measure of value. It serves as a means of comparing values of different things by expressing them all in a common denominator.

Common Fallacies

The service which money performs having now been surveyed in brief, we are in a position more readily to see why certain ideas held concerning money are fallacies. The tendency to confuse wealth with money is extremely common. Few persons,

to be sure, are so naive as to imagine that a millionaire is one who has a million dollars of actual money stored away; but, because money is that particular kind of wealth in terms of which the value of all other kinds of wealth is *measured*, it is at times forgotten that not *all* wealth is money.

A curious result of this confusion is the claim occasionally heard that the people of the earth can never pay off their debts because their debts amount to more than the existing supply of money. "If we owe money," it is argued, "we can't pay more money than there is." This assertion sounds plausible; but a moment's thought will show that the same money can be, and in part is, paid over and over again in discharge of several different debts; not to mention that some debts are paid without the use of money at all.

A fallacy much more common, and more mischievous in its ill effects, is the notion that sometimes there is not enough money with which to do the world's business, and that unless at such times the quantity of money is increased, the wheels of business will either stop or slacken their pace. The fact is, however, that *any* quantity of money, whether large or small, will do the world's business as soon as the level of prices is properly adjusted to that quantity. The significance of this fact will be explained more fully in Chapter V which follows.

A more subtle form of money fallacy is one which admits that money is not identical with wealth, but contends that money is an indispensable means of *getting* wealth. At a recent meeting of the American Economic Association the assertion was made by a very intelligent gentleman that the railways of this country could never have been built in the early fifties had it not been for the lucky discovery of gold in California in 1849, which provided "the means by which we could pay for the construction of the railways." He overlooked the fact that the world does not get its wealth by buying it. One person may buy from another; but the world as a whole does not buy wealth, for the simple reason that there would be no one to buy it from. The world gets its railways, not by buying them, but by building them.

"Making" Money

If money in itself could make the world rich, we should not need to wait for gold discoveries. We could make paper money. This, in part, has again and again been tried. The French people once thought they were going to get rich by having the government print unlimited quantities of paper money. Austria, Germany, Italy, Japan, as well as many other countries, including the American colonies and the United States, and, to cite the worst recent example, Russia have tried the same experiment with the same result — no real increase in wealth, but simply an increase in the amount of money to be exchanged for wealth. The only result of such emissions of money is an increase in prices.

Money fallacies of the kinds here described, and similar, must be carefully avoided. Propositions concerning money should undergo strict scrutiny and all catch phrases need to be avoided.

Having considered the nature of money, we are ready to examine more closely in the next chapter the ways which have been devised for its effective use.

CHAPTER II

CURRENCY

Two Chief Classes of Currency

Currency may be any kind of goods which, whether generally acceptable or not, do actually, for their chief purpose and use, serve as a means of exchange.

Currency consists of two chief classes: (1) money; (2) bank deposits. Through the use of checks, bank deposits serve as a means of payment in exchange for other goods. Checks are the evidence of the transfer of bank deposits. While they are acceptable to the respective payers only by their consent and would not be accepted by strangers, checks, bank deposits, even more than money, do actually serve as a medium of exchange. So fully are the people of this country accustomed to make use of checks in their various business transactions that bank deposits subject to check, or, as they are sometimes called, "deposit currency," are by far the most important kind of currency or circulating medium.

But, although a bank deposit transferable by check is included in circulating media, it is not money. A bank *note*, on the other hand, is both circulating medium and money. Between these two lies the final line of distinction separating what is money and what is not. The line is delicately drawn, especially in the case of such checks as cashier's checks, "travellers' checks" or certified checks. The latter are extremely similar, in respect to acceptability, to bank notes. Each is a demand liability on a bank, and each confers on the holder the right to draw money. Yet while a bank note is generally acceptable in exchange, a check is acceptable only by special consent of the payee. Real money is what a payee accepts without question, because he is induced to do so by "legal tender" laws or by a well established custom.

"Mystery" of Circulating Credit

The transfer of bank deposits gives rise to the so-called "mystery of banking" which we term circulating credit. Many persons, including some economists, have supposed that credit is a special form of wealth which may be created out of whole cloth, as it were, by a bank. Others have maintained that credit has no foundation in actual wealth at all, but is a kind of unreal and inflated bubble with a precarious if not wholly illegitimate existence.

Let us illustrate the real nature of bank deposits by supposing that several persons secure a vault, under proper custodianship, for the safe keeping of their money. This money is deposited to the amount of, let us say, $100,000 in gold, each person accepting a receipt for the amount of his deposit. A, we assume, deposited $10,000; B, $10,000; and all others $80,000. The accounts of this vault or bank then would be:

Assets		Liabilities	
Gold	$100,000	Due depositor A...	$10,000
		Due depositor B...	10,000
		Due other depositors	80,000
	$100,000		$100,000

A, it is assumed, owes, and wishes to pay B, $1,000. The former could draw out $1,000 in gold, upon his order, or receipt, for the same; and B, upon receiving this coin, could then carry it back to the place of deposit, securing his receipt for it. This would represent in practice, as a rule, considerable inconvenience. Instead, consequently, of both persons visiting the place of deposit and of counting and otherwise handling the money itself, A might give B a check for $1,000, which would effect the same result of reducing A's holdings from $10,000 to $9,000 and increasing B's holdings from $10,000 to $11,000. The accounts then would read:

Assets		Liabilities	
Gold	$100,000	Due depositor A ...	$9,000
		Due depositor B....	11,000
		Due other depositors	80,000
	$100,000		$100,000

The orders upon the bank, or checks, would in practice circulate in place of cash among the various depositors. What really circulates, or changes ownership, is the *right to draw* money. The check is merely the evidence of this right and of the transfer of this right from one person to another.

Bank Loans

The gold on deposit, however, could in addition make a profit were some of it lent on interest. This would be entirely feasible, for the depositors do not expect to get back the identical gold they deposited but want, primarily, to be able at any time to obtain the same *amount* of gold. The idle gold represents an opportunity for those in charge of it to make loans.

A loan is really an exchange of money for a promissory note (or similar evidence of indebtedness) which the lender — in this case the bank — receives in place of the gold. Assuming a loan of $50,000, which the borrowers draw out, the books then read:

Assets		Liabilities	
Gold	$50,000	Due depositor A....	$9,000
Promissory notes ..	$50,000	Due depositor B....	11,000
		Due other depositors	80,000
	$100,000		$100,000

It is seen that now the gold in bank is only $50,000, while the total deposits are still $100,000. In other words, the depositors now have more "money on deposit" than the bank has in its vaults! But this form of expression involves a popular fallacy in the word "money." *Something* of equivalent value is behind each loan, but not necessarily money.

Very commonly in practice, however, those granted loans do not draw the money, but leave it on deposit in the bank and draw checks upon it. What the borrower secures is the *right to draw;* the gold really does not budge. Since the average banker prefers that the borrower should not withdraw actual cash but that he be a depositor and place the amount of the loan to the credit of his account, the result of the foregoing transaction in which $50,000 was borrowed would in all probability be thus:

Assets		Liabilities	
Gold	$100,000	Due depositor A....	$9,000
Promissory notes ..	50,000	Due depositor B....	11,000
		Due other depositors	80,000
		Due new depositors, *i.e.* the borrowers	50,000
	$150,000		$150,000

Besides lending deposit rights, banks may also lend their own notes, called "bank notes." And the principle governing bank notes is the same as the principle governing deposit rights. The holder simply gets a pocketful of bank notes instead of a bank account. Assuming that the bank issues $50,000 of notes, the balance sheet becomes:

Assets		Liabilities	
Gold	$100,000	Due depositors	$150,000
Loans (Promissory notes).....	$100,000	Due note holders ...	50,000
	$200,000		$200,000

Functions of Banking

The deposits and notes of a bank, by means of credit, may evidently *exceed its cash.* There would be nothing mysterious or obscure about this if these operations were thought of not as

money but as *credit* operations. What really is transferred are promises to pay money on demand. There is wealth somewhere behind these promises, whether an individual's or company's promissory note or a bank's note; though this wealth has different degrees of accessibility. The noteholder's promise is secured by his assets; and the bank's promise is secured by the bank's assets. The noteholder has "swapped" his own less-known credit for the bank's better known credit.

The bank finds itself in the course of its business operations with liabilities which exceed its *cash* assets; but this excess of liabilities is balanced by the possession of other assets than cash. These other assets of the bank are the liabilities of business men, and the basis of these liabilities in turn is actual wealth — real estate, goods in storage, equipment, etc.

Instead of taking grain, machines, or steel ingots on deposit, in exchange for the sums lent, banks prefer to take interest-bearing notes of corporations and individuals who own, directly or indirectly, just such wealth. By the banking laws, in part, banks are *compelled* to take the notes instead of the actual wealth.

This ultimate basis of the entire credit structure is kept out of sight, but the basis exists. Indeed, we may say that banking, in a sense, causes this visible, tangible wealth to circulate. If the acres of a landowner or the iron of a stove dealer cannot circulate in literally the same way that gold dollars circulate, yet the landowner or stove dealer may give to the bank a note on which the banker may base bank notes or deposits; and these bank notes and deposits will circulate like gold dollars.

Through banking, he who possesses wealth difficult to exchange can create a circulating medium based upon that wealth. He has only to give his note, for which, of course, his property is liable, get in return the right to draw, and lo, his comparatively unexchangeable wealth becomes liquid currency. To put it crudely, banking is a device for coining into dollars land, stoves, and other wealth not otherwise generally acceptable in exchange.

Regulating Bank Reserves

The lending operation described, in which the bank loans its credit to various borrowers and itself owes money on demand, involves risks which the depositors as such would be unwilling to assume. Consequently, the responsibility and expense of running the bank are taken by another class of people — stockholders — who are willing to assume the risk for the sake of the chance of profit. Stockholders, in order to guarantee the depositors against loss, put in some cash of their own. Their contract is, in effect, to make good any loss to the depositors.

Since the business of a bank is to furnish easily exchangeable property (cash or credit) in place of the "slower" property of its depositors, it fails of its purpose when it is caught with insufficient cash. Yet it makes profits partly by tying up its quick property, *i.e.*, lending it out where it is less accessible. Its problem is to tie up enough to increase its earnings, but not to tie up so much as to get tied up itself.

Where insufficiency of cash impends, the bank tries to forestall this condition by "calling in" some of its loans, or if none can be called in, by selling some of its securities or other property for cash. But it happens unfortunately that there is a limit to the amount of cash which a bank can suddenly realize.

No bank could escape failure if a large percentage of its note holders and depositors should *simultaneously* demand cash payment. All their "money in the bank" is *never* really there.

The bank, in coping with the situation described, aims to so regulate its loans and note issues as to maintain a sufficient cash reserve. This reserve can be regulated in various ways. For instance, it can increase its reserves relative to its liabilities by "discounting" less freely — by raising the rate of discount and thus discouraging would-be borrowers, by outright refusal to lend or even to renew old loans, or by "calling in" loans subject to call.

Reversely, it can decrease its reserve relatively to its liabilities by discounting more freely — by lowering the rate of discount and thus attracting borrowers. The more the loans

in proportion to the cash on hand, the greater the profits, but the greater the danger also.

Through alternately raising and lowering the rate of interest, a bank keeps its loans within the sum which the reserve can support, but endeavors to keep them (for the sake of profit) as high as the reserve will support.

CHAPTER III

CAPITAL AND INCOME

Fund and Flow Distinguished

The foregoing chapters have described briefly what wealth is and the *means* whereby it is exchanged. They have paved the way for consideration of the relation of wealth, services, prices and values to that great "independent variable" of human experience, *time*.

When speaking of certain quantity of wealth we may have reference either to a quantity existing *at* a particular instant of time, or to a quantity produced, consumed, exchanged, or transported *during* a period of time. The first quantity is a *stock* (or fund) of wealth; the second quantity is a *flow* (or stream) of wealth. The contents of a manufacturer's store room at noon January 1, 1922, is a stock of finished parts; the amount brought from the factory into this room or shipped out to branch houses during a week, or a year, is a flow of finished parts. The term "wealth" by itself is insufficient to determine which of these two kinds of magnitudes is meant. Similarly, when we speak of property or of value, we may have in mind either a fund or a stream. The value of the checks held at noon of any day by one bank drawn on other banks constitute a fund of value; the value of the checks which pass through a clearing-house in twenty-four hours consitutes a flow of values. Services and satisfactions, unlike wealth and property, can exist only as a flow; a fund of either is impossible.

A fund is fully specified by one magnitude only; a flow required two — the *amount* of flow and the *duration* of flow. From these two a third follows — the *rate* of flow or the quotient of the amount divided by the duration. The rate of flow is often more important than the amount of flow. Thus the aggregate

earnings of a corporation extending, as it possibly would, over a half century, interest us less than knowledge of how fast the earnings are running now.

Difference Between Capital and Income

The most important application of the distinction between a fund and a flow is to differentiate between capital and income. Capital is a fund and income a flow. This difference between capital and income is, however, not the only one. There is another important difference, namely, that capital is *wealth* and income is the *service* of wealth. The railroads of the country are capital; their services of transportation or the dividends from the sale of that transportation are the income they yield. Thus we have the following definitions: A *stock of wealth* existing at an *instant* of time is called capital. A *flow of service* through a period of time is called income.

Capital-Goods, Capital-Value

A full view of capital would be afforded by an instantaneous photograph of wealth. This would reveal, in addition to the durable wealth, a large amount of goods of rapid consumption. It would disclose, not the annual procession of such goods, but the members of that procession that had not yet been transmuted in form or passed off the stage of existence, however swiftly they might be moving across it. Trainloads of meat, eggs and milk in transit, leather and iron in process of manufacture into finished products, the clothes in one's wardrobe, the tobacco in a smoker's pipe, the gasoline in a motor car, would all be elements in this flash-light picture of capital.

Such a collection of wealth is, however, heterogeneous; it cannot be expressed in a single sum. We can inventory the separate items, but we cannot add them together. They may, however, be reduced to a homogenous mass by considering, not their kinds and quantities, but their values, as has been shown in Chapter I.

We have seen in Chapter I, also, that wealth may be meas-

ured either by quantities (such as so many bushels of powder or so many shares or bonds of a particular description) or by value (such as so many dollar's worth). When a given collection of capital is measured in terms of the quantities of the various goods of which it is composed, it is sometimes called *capital-goods;* when it is measured in terms of its value, it is sometimes called *capital-value.* The business man ordinarily uses the term "capital" in the sense of capital-value.

Capital Accounts

A statement of the amount and value of the property of a specific owner at any instant of time, is a capital account. It consists of two columns — the assets and the liabilities. Each item in the account is an element of the owner's total capital, the assets being positive elements and the liabilities being negative.

The items in a capital account are constantly changing, and their value also. However, accountants are accustomed to keep the item "capital" intact from the beginning of their account and to denominate any increase of it as "surplus" or "undivided profits." Often the surplus also is put in round numbers and kept at the same figure for several successive reports. All the smaller fluctuations have an effect simply on the latter item, "undivided profits." The distinction between surplus and undivided profits is thus merely one of degree. The three items, capital, surplus, and undivided profits — together make up the present net capital. Of this, "capital" represents the original amount, "surplus" the later and minor. The undivided profits are likely soon to disappear in dividends, that is, to become *divided* profits, although this may happen to the surplus, or even in certain cases to the capital itself.

Function of the Capital-Balance

The original capital of a concern, since it is constantly subject to change, in the course of its fluctuations may sometimes shrink to zero, or below zero, as in cases of insolvency. The assets in

cases of insolvency fall short of the liabilities. The capital-balance is intended to prevent this very calamity; that is, it is for the express purpose of guaranteeing the value of the other liabilities.

These other liabilities represent, for the most part, fixed blocks of property carved out, as it were, of the assets, and which the business man or company has agreed to keep intact at all hazards. The fortunes of business will naturally cause the whole volume of assets to vary in value, but all this "slack" ought properly to be taken up or given out by the capital, surplus and undivided profits. Capital thus acts as a buffer to keep the liabilities from overtaking the assets. It is the "margin" put up by those most interested in an enterprise, as a guarantee to others who advance their capital to it.

The amount of capital-balance necessary to make a business reasonably safe will differ with circumstances. A capital-balance equal to five per cent of the liabilities may, in one kind of business, such as mortgage companies, be perfectly adequate, whereas fifty per cent may be required in another. Much depends on how likely the assets are to shrink and how much; and much, likewise, on the character of the liabilities. If the assets have stability of value, less capital will be required than if they consist of speculative securities. The risk of insolvency is, then, the chance that the assets may shrink below the liabilities. This risk is greater, the more shrinkable the assets, and the less the margin of capital-value between assets and liabilities.

A Stream of Services

The capital, which we have had under consideration, exists merely for the sake of income, and the ownership of the capital has no other significance than the ownership of possible income from that capital. The division of income between different owners constitutes in reality a division of ownership of the capital which bears the income, and the individual shares constitute what are called property rights. Whether the capital

brings us money or other return does not matter; its income is the flow of its *services*.

All work done by human beings, all the operations of industry, all the transactions of commerce, are services, and enter into income accounts. A bird's-eye view of this busy planet would reveal wealth — real estate, commodities, and human beings — ceaselessly at work performing services. Land, men, and implements are changing land, seed, and live stock into grain, beef, lumber and steel. Manufacturing plants are converting raw materials into flour, furniture, cloth, and implements. In domestic establishments, we find the services of cooking, warming, cleaning and sheltering. Agriculture, mining, transportation and commerce are simply names that we give to the group of services performed by farm, mine, railroad, and business capital.

The owners of capital in part enjoy its services direct, as in the case of a man who lives in his own house; but usually the individual owner does not utilize these services but sells them to some one else, the owner receiving a money payment instead. Whether the income consists partly of other services or benefits than money receipts, all income, like all capital, may be translated into terms of money. And to all items of income, as to those of capital, may be applied the concepts of price and value discussed in Chapter I.

Income and Outgo

Income has its negative side, which is termed *outgo*, just as the capital account has its liabilities set over against its assets. A railroad, for example, performs a vast service of transportation, hauling passengers and commodities, but it requires a prodigious amount of coal supplies, and labor to keep it going. This is typical, rather than otherwise, of the operation of capital in producing services; an instrument very seldom yields services without involving some disservices or costs. When disservices exist they are usually over-balanced, in the estimation of the owner, by prospective services. Should the opposite be the case, the article would be considered "more trouble than it is

worth" and, ceasing thereby to be wealth in the estimation of its owner, would be cast aside.

The value of any individual service or disservice constitutes an *element* of income or outgo. The value of all the services flowing from an article of wealth through any period, that is, the sum of all the elements of income, is called its *gross* income. The excess of the gross income over the outgo, in other words, the algebraic or net sum of all elements of income and outgo, is the *net income*. If, instead of an excess, there is a deficiency, it is called *net outgo*, or net loss.

Net income is of far more importance, both in practice and in theory, than gross income. Gross income may often be measured in more than one way, according as the elements of which it is composed are considered with or without accompanying offsets; but the sum called net income will be the same in either case.

Were we to construct an income account and enter there the respective services and disservices, those instruments which rendered the services would be credited with the value of such services; while the instruments which received the services, and are thus improved in position on condition, are said to have rendered a disservice and are at the same time debited with exactly the same item. When we thus come to put together the entire total of income, all such pairs of items or "interactions" cancel. These double-faced events or interactions constitute the overwhelming mass of items in the actual inventory of income which enter into the accounts of business men. Out of this fact, combined with the fact that every "transaction" is also double-faced, grows the entire theory of double-entry bookkeeping.

This leads us to the important conclusion, very commonly overlooked, that most of what is termed "cost of production" is, in the last analysis, not cost at all. It costs flour to produce bread; but all that the flour costs to the baker is income to the miller. The same is true of wages. The employer counts his pay roll on cost of production, but the laborer counts it as earnings. Viewed from the standpoint of society as a

whole, these items are neither costs nor benefits but mere interactions.

The "cost of production," as the term commonly is used, refers only to money payments. These payments usually from person to person, are interactions, or items which balance and thus, in the final total, wipe themselves off the slate.

Psychic Income

The only ultimate item of cost, we conclude from the foregoing, is the labor cost, or, if the term "labor" be not itself sufficiently broad, labor, anxiety, trouble, annoyance, and all the other subjective experiences of an undesirable nature which are necessary in order that the experiences of an agreeable nature may be secured. Income, in the last analysis, consists of satisfactions and outgo of efforts to secure satisfactions. Between efforts and satisfactions intervene as a rule in our complicated civilization innumerable interactions, the machinery connecting these efforts and satisfactions.

Out of the entire mass of instruments, or forms of capital, thus acting and reacting upon each other, there finally emerges an uncanceled or net income which does not represent a mere transfer from one category to another *within* the mass, but an actual contribution issuing *from* the mass to the benefit of man, the owner. These final elements are his real income. In the last analysis they consist purely of subjective or psychic satisfactions, that is, of conscious desirable experiences.

CHAPTER IV

INTEREST RATES

Connection Between Capital and Income

Capital and income, we have seen, are strictly correlative; all capital yields income and all income flows from capital — at least when the term "capital" is used in its broader sense, which includes human beings. The nature of the connection existing between them, however, needs examination: what is the bridge over which we can pass from capital to income or from income to capital?

The bridge, or link, between capital and income is the rate of interest. This rate of interest is the ratio of the value of income to the value of capital. Thereby the relations between capital and income are expressed in terms of money value.

The rate of interest, according to the views current among business men, is the "price of capital" or the "price of ready money." We may also define it as the premium on goods in hand at one date in terms of goods of the same kind to be in hand one year later. Present and future goods seldom exchange at par. Today's ready money will always buy the right to more than its full value of next year's money.

The rate of interest enables us to translate, as it were, present money-value into its equivalent future money-value, or future money-value into its equivalent present money-value. Thus it serves to link values at any two points of time, enabling us in this way to compare values at different dates.

Interest Periods

The saying that the rate of interest is "the price of money" or "the price of capital" is based upon the thought that any capital sum is the equivalent of some annuity. "Five per cent"

or "seven per cent" postulates a uniform and perpetual flow of income at this rate. Although such an annuity does not actually exist, it is often convenient to employ it as a vehicle of thought. Suppose $10,000 today will secure a perpetual annuity of $600 per year *payable annually*, the first payment accruing *one year* from the day of purchase; then the rate of interest is said to be six per cent per annum *payable annually;* that is the rate of interest (when the interest is payable annually) is the ratio between the rate of flow of a perpetual annuity and its equivalent in present capital.

In practice, interest payments are at times made quarterly, semi-annually, etc.; for short-time loans, actually less than a year, "the rate of discount" often is employed; and the price of income in terms of capital gives us "the rate of capitalization" —the number of years during which there would flow an amount of income equal to the capital. However, these present no new principles nor real difficulties; they are but variations, readily to be translated into the commonly accepted magnitude here employed; the rate of interest per annum reckoned annually and considered as a premium on the goods of one year compared with those of the year following.

The Principle of Present Worth

Consideration of the value-return, or the ratio of the value of income to the value of capital, leads us to the fundamental principle that the value of capital at any instant is derived from the value of the future income which that capital is *expected* to yield. The expected service may, of course, not be the actual service. In our ignorance of the future we fix our present valuations on the basis of what we expect the future to be.

The principle of present worth is of fundamental importance in all consideration of value and prices. It means that the value of any article of wealth or property is dependent alone on the future, not the past. Of course, past costs of production are not to be lost sight of, yet their real significance lies in the insight they afford into future costs. However determined, it

is only these future costs which enter into the calculation of present value.

The buyer of any article of capital values it for its expected services to him, and "at the margin" of his purchases the price he will pay is the equivalent to him of those expected services, or, in other words, their "present worth," their "discounted value" or "capitalized value." Professional buyers and sellers simply speculate as to the possible demand, selling for what they can get, affixing whatever price they believe will, in the end, profit them most, sometimes making out of the transaction more than their costs of acquisition, sometimes less.

The same principle applies all the way back in the production process. The labor expended is staked (either by the laborer or his employer) in anticipation of the prices which the buyers will be willing to pay. If these anticipated prices are not expected to cover the value of the labor and other costs plus the interest upon them, the result will be that the labor and other costs will not be expended. Hence by trial and error the labor and other costs will, under normal conditions, gradually be fitted to the prices.

When prices find this normal level at which costs plus interest are covered, it is not because the past costs of production have determined prices in advance, but because the sellers have been good speculators as to what prices would be. If they had foreseen that prices would not cover costs and interest on costs, they would have refrained from production entirely, while if they had foreseen the opposite condition, that of large profits, competition would have tended to reduce these profits to the usual dimensions.

We see, then, that although prices bear a normal relation to past costs, this relation does not always hold true; and that, whether it holds true or not, the costs do not predetermine the prices except in the sense that the producers have skillfully adapted the stocks available now, and those to be available at succeeding points of time, to the expected demand for them.

Interest Rates, High or Low

The rate of interest in any community, we conclude from the foregoing considerations, is an index of the preference in that community, for a dollar of present over a dollar of future income. What are the deeper economic courses which, through their influence upon this preference, operate in determining whether interest rates themselves shall be high or low?

The incomes which flow from the use of capital goods are more or less varied in nature, with the consequence that each individual possesses with respect to them a certain range of choice. This range of choice, which actually may be narrow or extremely wide, depends principally upon the amount and character of the capital-property which the individual possesses. It follows that, for society as a whole, the range of choice of incomes will depend upon, first, the existing capital of the country, that is, its "resources" or the amount and character of the different capital-goods existing within it at the instant of time considered; and, secondly, the distribution of ownership of these capital-goods throughout the community. In short, the available range of choice depends upon capital and its distribution.

A wide range of choice causes the rate of interest to tend to be steady. When the range of choice is narrow, the rate of interest will be comparatively *variable*. A range of choice relatively rich in the *remote future* income as compared with the more immediate income, brings about a *high* interest rate. Thus the United States in its abundant undeveloped resources has favored a remote future income, which chiefly explains the fact of its high interest rates. Should the range of choice tend to favor immediate income as compared with remote future income, however, the rate of interest will be *low*.

The range of choice in any community is subject to many changes as time goes on. The progressive decrease of natural resources tends to make the income-stream decrease, which in turn tends to keep the rate of interest low. The discovery of new resources or means of developing old resources with

increased effectiveness, tends to make richer the income-stream of the remote future, with a corresponding tendency to increase the rate of interest.

The character of the income-stream is subject to variation in another respect, which operates strongly in all attempts to measure the preference of present income over future income and hence to determine the rate of interest. This is the element of *risk*. In general, risks tend to raise the degree of impatience and hence tend to increase the rate of interest *with respect to a given period* in comparison with other and lower risk periods.

Individual Traits and Differences

Though the rate of preference for immediate as compared with remote income depends upon the character of the income-stream selected, as we have seen, the *manner* of this dependence is subject to great variation and change. The manner in which a spendthrift reacts to an income-stream is very different from the manner in which the shrewd accumulator of capital will react to the same income-stream. Much is due, in short, to a difference in personal characteristics.

There are five traits which in this connection exercise decisive importance:

1. Foresight and self-control.
2. Love of offspring or regard for posterity.
3. Prospective length and certainty of life.
4. Habit.
5. Fashion.

It is evident that each of these traits, or personal characteristics, is subject to change. The causes most likely to effect such changes are, first, education and training in thrift, whether accomplished through the home, the school, charitable organizations, or banks for small savings, building and loan associations, and other similar institutions calculated to have an educational influence; second, the tendency toward or away from a spirit of extravagance and ostentation through social

rivalry; third, the changes in the character of the institutions of marriage and the family which, in one direction or the other, will profoundly affect the love of offspring and regard for the welfare of posterity; fourth, the development of the science of hygiene, which may tend to make human life longer and more certain; fifth, the causes which tend to make the distribution of wealth either more concentrated or diffused, and also those which tend to make the existing economic stratification of classes fixed and stereotyped or elastic and variable. These various factors will act and react upon each other, and will affect profoundly the rate of preference for present over future income and thereby influence greatly the rate of interest.

The foregoing enumeration renders clear the fact that the rate of interest depends upon very unstable influences, many of which have their origin deep down in the social fabric and involve considerations not strictly economic. Any causes tending to affect intelligence, foresight, self-control, habits, the longevity of men, and family affection will have their influence upon the rate of interest. For the rate of interest is not a phenomenon restricted to money markets but is omnipresent in economic and social relations. It is the link, which binds man to the future and by which he makes all his far-reaching decisions.

Real and Nominal Variations

The foregoing deals with the deeper economic and social causes which operate in determining the rate of interest. These causes explain what may be termed the real variations in interest rates. But there is also a nominal variation in the rate of interest, due to the fact that interest is not only the price *of* money but it is the price *in* money. This latter element, the fact that it is the price *in* money, renders the interest rate subject to those important influences involved in the changing purchasing power of money over other goods. The nature, and practical applications, of these influences will now be examined.

CHAPTER V

MONEY'S PURCHASING POWER

Recent Price Movements

Prices, beginning with 1896 or 1897, have moved upward, accompanied by world-wide complaint over the "high cost of living." This upward movement has been in sharp contrast with the downward movement occurring in the period between 1873 and 1896. The upward movement during the past decade, however, has occurred in every country for which statistics are available, in all gold-standard countries. While statistics do not agree in all respects as to the extent of this movement, they do all agree as to its direction.

The price movement under consideration refers to the average of many commodities, and the rise shown by it does not, of course, hold true with respect to every commodity. Some prices have not risen but have actually fallen. Others have risen much more than the average. The prices of securities have also moved, some up and some down. Bonds, both public and private, have fallen. Good stocks, in general, have risen. We must not make the mistake of looking at the prices of particular commodities when our question is one of the general price level.

The events connected with the World War have emphasized in a most striking way the movement upward of prices already under way. Prices mounted skyward the world over, until few subjects received more discussion in the newspapers nor have been brought home more clearly to the masses. That the price level does change has now come to be almost universally recognized.

Popular Explanations

The reasons for this changing price level are accounted for in various ways; all of the following having been brought forward

at one time or another: the tariff, the trusts, the labor unions, shortened hours of labor, the middleman, cold storage, longer hauls on railroads, marketing by telephone, the free delivery system, the individual package, the enforcement of sanitary laws, advertising, unscientific management, extravagance, concentration of population in cities, poor rural conditions, armaments, and wars.

The tariff — to take up for brief consideration some of these alleged causes, does obviously tend to keep certain *individual* prices high, but whether or not it increases the *general* price level is not so obvious. Such reasoning from individual to general prices is usually fallacious. The American tariff certainly cannot be held responsible for the *world* rise of prices with which we have to deal. Prices have risen in countries both with high tariffs and with low tariffs. Similarly have prices risen in countries with and in countries without trusts. In addition, trust-made goods have apparently risen in price less than goods in general.

Extravagance or Luxury

Extravagance or luxury is another item which has not been confined to the period under discussion; prices fell in former times while luxury existed, just as truly as prices have risen in recent years.

The increase in extravagance and luxury during the last twenty or thirty years — so far as such an increase has actually occurred — is due partly to the fact that, in actual wealth, the world is more able to enjoy luxury today than formerly, and partly to the fact that the rise of prices itself has shifted wealth into the hands of an easy spending class. People spend more today on automobiles, electric lights, bath tubs, etc., because these modern conveniences have only recently been perfected and been made generally available. And with respect to the second reason for increased extravagance, we may say that, so far as there has been any real increase in this general direction, it is a symptom or effect of the high cost of living, rather than a

cause. When prices are rising, wages, interest, and rent tend to lag behind; consequently the "enterpriser" in business, for a time, gains, because these expenses do not increase as fast as the prices of his products increase. The enterpriser, the speculator, the plunger, who gain for a time by rising prices, constitute a class especially prone to display and luxury. In short, those who would ascribe the high cost of living to the cost of high living are reversing cause and effect.

"Profiteering"

Of all the alleged explanations of the high cost of living, none are more shallow than those which explain it in terms of high money costs of production. Such an explanation merely explain one price in relation to another price. It is, of course, true that many prices are related to each other. The price of bread and the price of wheat are related to each other and must always move in sympathy. One of these prices cannot go up very much without the other going up also, but when the baker tells us that bread has risen in price because of the rise in the price of wheat, he has not explained the rise of either bread or wheat. He has merely shoved the explanation on to something outside of his own business. Such a method of explanation never strikes at the root of the matter.

The rise of prices of things in general, is what is to be explained. It does not help us much when our grocer tells us he is charging higher prices because he is charged higher prices by some one else. Naturally the retailer likes to excuse himself by putting it off on the wholesaler, and the wholesaler in turn explains that he is charged more by the jobber. The jobber in turn accuses the manufacturer, and the manufacturer points to his increased wage bill; but this does not give us any final result. The wage-earner tells us that he has to get higher wages because of the higher retail prices which he has to pay. So this effort to explain the high cost of living merely comes round again to the high cost of living itself.

Such reasoning reminds one of a cartoon published a few years ago in which a number of men were standing in a circle,

each labelled and each pointing an accusing finger at his neighbor around the circle from retailer to wholesaler, jobber, producer, wage-earner, and retailer again.

Changing Price Levels Historically Considered

Were we to view not merely recent events but survey a century and more of price movements, the inadequacy of all the foregoing popular explanations will become more apparent.

Between 1789 and 1809 prices doubled in England; between 1809 and 1849 they fell all the way back, and more; between 1849 and 1873 they rose 50%. Between 1873 and 1896, in gold standard countries prices fell, while in silver standard countries prices rose. Between 1896 and 1914 prices in the United States and Canada rose 50%, and in the United Kingdom 35%.

During the war, prices in the United States rose seven or eight times as rapidly as in the last-named period. In Europe the rise was even faster — fastest of all in Russia. Prices doubled in the United States and England, trebled in western Europe, and increased a hundred fold in Russia. The purchasing power of a dollar in 1920 was about that of 35 cents in 1896.

Detailed examination of these price movements (which cannot be presented here in view of the limits of space) shows that the foregoing theories in explanation of the high cost of living are none of them in agreement with the facts.

Money's Changing Purchasing Power

The true cause of changes in the level of prices, and of the present high prices, lies in the mechanism by which the scale of money prices is determined. This mechanism has been briefly referred to in Chapter I and II. The principles determining the general scale of prices, even though few people realize the fact, are quite distinct from the principles determining the individual prices themselves. The money price of any commodity, to cite another fact commonly overlooked, has to do not only

with that commodity but also with money, and therefore a monetary element enters into every price.

A dollar consists of 25.8 grains of gold. But these 25.8 grains of gold in their power to exchange for other goods vary from time to time.

Five Factors Regulating Purchasing Power

What particular factors, we may now go a step further and ask, regulate the purchasing power of money, or its reciprocal, the level of prices? There are five definite factors:

1. Volume of money in circulation.
2. Velocity of circulation.
3. Volume of bank deposits subject to check.
4. Velocity of its circulation.
5. Volume of trade.

Of course, each one of these five influences itself depends on other more remote influences, and these others on others still more remote, and so on *ad infinitum*. But no cause can affect the scale of prices except as it acts through one of the five above enumerated.

The facts of history, so far as we have evidence, agree with the foregoing conclusions. In particular, prices have risen after new gold discoveries or banking expansion; have fallen after monetary or credit contraction; have moved alike among countries having the same monetary standard; have moved differently among countries having different monetary standards (gold, silver, paper); and, when we have statistics for all the causes affecting price levels, have changed from year to year by almost exactly the amounts to be expected from the conclusion above stated.

Standardizing the Dollar

The world for a hundred years has been suffering from periodic changes in the scale of prices, affecting and producing alternate expansive and depressions of trade. These evils of a

variable monetary standard, it is not too much to say, are among the most serious economic evils with which civilization has to deal. With conditions as they are, we all take our chances as to what the future dollar will buy.

Are there not means, however, whereby the purchasing power of a dollar can be made stable, so that a dollar may *be* a dollar — the same in value at one time as another? The chapter which follows deals with this problem.

CHAPTER VI

CONTROLLING THE PRICE LEVEL

Increased Knowledge

The course of prices, like the course of true love, never runs smoothly. In the early '90's the world was seeking relief from an intolerable fall in prices and at first the prospect of rising prices was hailed with delight. Should prices during the next ten years fall rapidly, the world will not be thankful but will resume the old complaints of depression of trade, the burden of debts, and all the evils in men's minds twenty-five years ago.

The real evils of changing price levels, viewing the matter now from the standpoint of business men and investors, do not lie in these changes *per se*, but in the fact that they usually take us unawares. The present monetary system, in fact, makes every one interested in long-time contracts, whether debtor or creditor, stockholder or bondholder, wage-earner or savings-bank depositor, to some extent a partaker of chances in that future dollars will buy less, or more, than present dollars. In a sense every one of us who uses gold as a standard for deferred payments becomes a speculator in gold.

Increased knowledge represents one method for dealing more effectively with these risks, and thus mitigating the evils with respect to prospective price levels. To be forewarned is to be forearmed, and a foreknown change in price levels may be so taken into account as to neutralize its evils. While we cannot expect our knowledge of the future ever to become so perfect as to reach the ideal in which compensations for every price fluctuation are made by corresponding adjustments in the rate of interest, nevertheless every increase in our knowledge carries us a little nearer this ideal.

Outlook for Increased Knowledge

Fortunately, the increase of knowledge here under consideration is now rapidly going on. The editors of trade journals today scan the economic horizon as weather predictors scan the physical horizon; and every indication of a change in the economic weather is noted and commented upon.

The situation with respect to finance has been well described by Messrs. Holt and Williams in their Text on "Market Information." They have shown how wide, sensitive, rapid, and accurate the news gathering mechanism is; and how these data are used in the making of forecasts.

It is with respect to the latter point, the fundamental operations under which forecasts are made, that there exists the greatest need of a wider diffusion of knowledge. The range of the ordinary business man's theoretical knowledge is extremely narrow. He is even apt to be suspicious of such knowledge, if not to hold it in contempt. The consequences of this narrowness are often disastrous. Every day the business man is hampered by a lack of understanding of the principles regulating the purchasing power of money; and in proportion as he fails to understand these principles he is apt to fail in predictions.

The prejudice of business men against the variability of, and especially against a rise of the rate of interest, probably stands in the way of prompt adjustment in that rate and helps to aggravate the far more harmful variability in the level of prices and its reciprocal, the purchasing power of money. The business man has, in fact, never regarded it as a part of the preparation for his work to understand the broad principles affecting money and interest. He has rather assumed that his province was confined to accumulating a technical acquaintance with the nature of the goods he handles. The sugar merchant informs himself as to sugar, the grain merchant as to grain, the real estate trader as to real estate. It scarcely occurs to any of them that knowledge as to money is needed; yet every bargain into which he enters depends for one of its two terms on money. I cannot but believe that the diffusion among business men of

the fuller knowledge of the equation of exchange, of the relation of money to deposits, of credit cycles and of interest, which the future is sure to bring, will pay rich returns in mitigating the evils of crises and depressions which now take them so often unawares.

Lessening the Price Changes

While there is much to be hoped for from a greater foreknowledge of price changes, a lessening of the price changes themselves would be still more desirable. Various measures to effect such result have been proposed, of which we shall consider here briefly those more particularly applicable to secular price changes — those due chiefly to changes in money and in trade.

There has been for centuries, and promises to be for centuries to come, a race between money and trade. On the results of that race depends to some extent the fate of every business man.

The commercial world has become more and more committed to the gold standard through a series of historical events having little if any connection with the fitness of that or any other metal to serve as a *stable* standard. So far as the question of monetary stability is concerned, it is not too much to say that we have hit upon the gold standard by accident just as we hit on the present railroad gauge by accident of previous custom as to road carriages, and just as we hit upon the decimal notation by the accident of having ten fingers, and quite without reference to the question of numerical convenience in which other systems of numeration would be superior. Now that we have adopted a gold standard, it is almost as difficult to substitute another as it would be to change the gauge of railroads or to adopt the duodecimal system of numeration. And the fact that the question of a monetary standard is today so much an international question makes it all the more difficult.

Government Regulation of Money Supply

It is true, and at first thought appears perhaps an easy solution to our problem, that the level of prices might be kept

almost absolutely stable merely by honest government regulation of the money supply with that specific purpose in view. One seemingly simple way by which this might be attempted would be by the issue of inconvertible paper money in quantities so proportioned to increase of buiness that the total amount of currency in circulation, multiplied by its rapidity, would have the same relation to the total business at one time or at any other time. If the confidence of citizens were preserved, and this relation were kept, the problem would need no further solution.

But sad experience teaches that irredeemable paper money, while theoretically capable of steadying prices, is apt in practice to be so manipulated as to produce instability. In nearly every country there exists a party, consisting of debtors and debtor-like classes, which favors depreciation. A movement is possible therefore at any time, tending to pervert any scheme for maintaining stability into a scheme for simple inflation. As soon as any particular government controls a paper currency bearing no relation to gold or silver, excuses for its over-issue are to be found. The history of our own country in this respect is not reassuring. It is natural, therefore, that such schemes should be in bad odor.

A Proposed Method

The most practical method for dealing with our problem of controlling the price level does not appear to lie in the direction of inconvertible paper nor bimetalism nor kindred schemes; but rather, in taking the present gold standard as a working basis, and modifying, and improving the manner of its operation. Working along this line, the author has evolved a plan, the essentials of which will now be outlined.

CHAPTER VII

A STABILIZED DOLLAR

The Plan Briefly Stated

The remedy which is here proposed for price fluctuations consists in the "standardization" of the dollar. That there are other remedies is not overlooked, nor is the claim made that the remedy proposed constitutes a panacea for all the ills associated with the "high cost of living." The plan does not take the place of economics of production, neither does it concern itself with incomes and earning power. It aims merely to establish a more stable unit in which to measure all these things, to convert our dollar into a fixed yardstick of purchasing power.

Briefly stated, the plan is to introduce the multiple standard, in which the unit is a "composition" or "composite package" of many staple commodities, not of course by using such a package in any physical way but by employing instead its gold bullion equivalent. In essence it would simply vary the weight of gold in the dollar or rather behind the dollar. The aim is to compensate for losses in the purchasing power of each grain of gold by adding the necessary number of grains of gold to the dollar.

Both on the basis of theory and of facts, we may accept as sound the principle that the lighter the gold dollar the less its purchasing power and the more magnified the scale of prices; and that the heavier the dollar the greater its purchasing power and the more contracted the scale of prices. Evidently if we can find some way to increase the weight of the dollar just fast enough to compensate for the loss in the purchasing power of each grain of gold, we shall have a fully "compensated dollar" that is, a dollar which has constantly restored to it any purchasing power it may lose by gold depreciation.

We now have a dollar of fixed weight (25.8 grains), but varying purchasing power. Under the plan proposed, we should have a dollar of fixed purchasing power, but varying weight.

Two Vital Questions

But how is it possible to have a dollar of varying weight without the annoyance of a constant recoinage of gold coin? Moreover, if this can be done, how can we know at any time what weight the dollar ought to have without leaving this to the tender mercies of some political official? Here are two vital questions.

As a preparation for answering these questions, it will be a little easier to explain the principle of the proposal if we assume that there are no actual gold coins in circulation, but only gold certificates. This supposition is, in fact, not very far from the truth in the United States; for, outside of California, there is very little actual gold coin in circulation. We have instead nearly a billion dollars of gold certificates in circulation, representing gold in the Treasury of the United States. We are supposing that gold circulates in no other way. Under these circumstances it is evident that the ultimate gold dollar is out of sight in the Treasury of the United States in bars of gold bullion. Every 25.8 grains of this gold bullion is a *virtual dollar* behind a dollar of gold certificates outstanding. A gold bar (of standard bullion) weighing 25,800 grains virtually contains 1000 gold dollars.

The gold miner takes such bars of standard gold to the mint and deposits them without waiting for their coinage, receiving gold certificates in return, one dollar of gold certificates for each 25.8 grains of standard gold which he deposits. On the other hand, holders of gold certificates may at any time receive gold bullion in return, when they desire this for export or for use in the arts of jewelry, dentistry, gilding, etc., receiving 25.8 grains for each dollar of gold certificates. Thus the government on demand gives or takes money at the rate of 25.8

grains of bullion per dollar; the virtual, though invisible, dollar being this 25.8 grains of gold bullion, nine-tenths fine.

Changing the Dollar's Weight

The proposal here made is to adjust and readjust the weight of the dollar. If there are no gold coins, it is very easy to do this. For example, if there should be a decrease of 1% in the value, or purchasing power of gold, then the weight of gold bullion which constitutes the virtual dollar would be declared 1% greater, becoming 26.058 grains instead of 25.8. If there should be an increase in the purchasing power of gold, the weight of the virtual dollar would be reduced accordingly. Whenever the gold miner took gold to the mint, he would receive a gold certificate not necessarily at the rate of one dollar for each 25.8 grains of standard gold, but for a larger or smaller amount as the case might be, the amount always being that amount which would possess the same purchasing power. Similarly the holder of gold certificates who wishes them redeemed in bullion for export or for the arts, would not always get exactly 25.8 grains for each dollar or certificate, but a larger or smaller sum as the case might be. Then the government would be receiving gold from the miner and giving it out to the jeweler just as at present, but in *varying* weights per dollar, instead of at the arbitrarily *fixed* weight of 25.8 grains. The weight of gold per dollar in which, at any particular time, gold certificates were redeemable would constitute the virtual and only gold dollar. Under these circumstances it is clear that it would be entirely feasible to change up and down the weight of the gold dollar (that is, the amount of gold bullion interconvertible with a dollar of gold certificates) and without any recoinage or other interference with the outward appearance of the currency in our pockets.

We should familiarize ourselves with another way of stating all this. Instead of saying that the government receives gold bullion at the mint and uses this for redeeming gold certificates, we may, if we prefer, say that the government buys and sells gold. It buys gold from the miner, paying for it in gold certificates; it sells gold to the jeweler, who redeems these certificates.

At present, the price at which gold is bought and sold by the government is $18.60 an ounce (for standard gold nine-tenths fine). This is easily figured out from the weight of the gold dollar; for 25.8 grains of gold being our present dollar, each ounce (or 480 grains) of gold bullion contains 480 ÷ 25.8 or 18.60 virtual dollars. To say, then, that we now have a fixed weight in our gold dollar, 25.8 grains, is the same thing as to say that we have a fixed government price for gold, $18.60 per ounce. To raise the weight of the gold dollar 1%, or from 25.8 grains to 26.058 grains, is the same thing as to lower the government price of gold from $18.60 to $18.42 per ounce.

Making Proper Adjustments

We come now to the second question: How would it be possible to know the proper adjustments to be made in the weight of the virtual dollar — the gold bullion interconvertible with each dollar of gold certificates — without putting a dangerous power of discretion in the hands of government officials? In other words, how can the adjustment in the weight of the virtual dollar be made automatic?

The answer is: By means of statistics called "index numbers of prices." Such statistics are today published by the London *Economist*, the United States Bureau of Labor, the Canadian Department of Labor, and several commercial agencies, such as Bradstreet. The index number of the Bureau of Labor is based on the wholesale prices of 257 commodities, and shows from year to year the extent to which prices on the whole advance or fall — the average movement of all the 257 prices.

There are various systems of index numbers, but they practically all agree remarkably well with each other. When once a system of index numbers is decided upon, their numerical calculation becomes a purely clerical matter. A statistical bureau (as for instance the present Bureau of Labor or an international statistical office) would compile and publish these statistics periodically and the actual prices on which they were based. If, at any time, the official index number showed that the price

bond had risen 1% above par, this would be the signal for an increase of 1% in the virtual dollar.

Summary

The plan, then is: First, to provide for the calculation of an official index number of prices; second, to adjust correspondingly the official weight of the virtual dollar at which the government shall issue gold certificates to mines or redeem them for jewelers, in other words, to adjust the official prices of gold at which the government stands ready to buy or sell at the option of the public.* It is a plan virtually to mark up or down the weight of the dollar (that is, to mark down or up the price of gold bullion) in exact proportion to the deviation above or below par of the index number of prices.

Why Not Standardize the Dollar?

We have standardized every other unit in commerce except the most important and universal unit of all, the unit of purchasing power. What business man would consent for a moment to make a contract in terms of yards of cloth or tons of coal, and leave the size of the yard or the ton to chance? Once the yard was the girth of a man. In order to make it constant, we have standardized it. We have standardized even our new units of electricity, the ohm, the kilowatt, the ampere, and the volt. But the dollar is still left to the chances of gold mining and banking systems. At first we could not standardize units of electricity because we had no adequate instruments for measuring those elusive magnitudes. But as soon as such measuring devices were invented, these units were standardized. We have hitherto had a similar excuse for not standardizing the dollar as a unit of purchasing power, and so a standard for deferred payments; we have had no instrument for measuring

*Various details essential to the working of the plan and numerous supposed objections to the plan and of the exact way in which it would work, merit consideration at this place did space permit. The reader, consequently, will be cited to the author's work on "Stabilizing the Dollar," for treatment of these points, as well as a more detailed explanation of the plan itself.

it or device for putting the results in practice. With the development of index numbers, however, and the device of adjusting the seigniorage according to those index numbers, we now have at hand all the materials for scientifically standardizing the dollar and for realizing the long-coveted ideal of a "multiple standard" of value. In this way it is within the power of society, when it chooses, to create a standard monetary yardstick, a stable dollar.

TEST QUESTIONS

"MONEY AND CREDIT"

The Test Questions which are unstarred can be answered directly from the Text discussion. You will find them helpful for purposes of review.

The questions which are starred call for original thought, the ability to apply the knowledge gained from the Text to the solution of new problems.

ANSWERS TO THESE STARRED QUESTIONS ARE ENCLOSED

1. What is credit?
2. What is the relation between money and wealth?
3. What effect upon prices does a material increase in the amount of money have? Why?

*4. What has been the effect of the emission of quantities of paper money in Europe? Does the abandonment of the gold standard, per se, affect the actual wealth situation of these countries, considered purely from an internal point of view?

*5. Why should the credit of the United States be high, while that of France is low?

6. Does the item of loans on a bank balance sheet go on the asset or liability column? Why?
7. What is the relation of actual gold (or gold equivalents such as gold notes) in deposit in the treasury of a bank to the amount of business the bank does?
8. Which is more important to consider — gross or net income?

*9. Why have we recently been through a period of high interest rates?

10. What is capital-balance? What is its function?

ANSWERS TO STARRED QUESTIONS

"MONEY AND CREDIT"

*4. Money is a medium of exchange; therefore, an increase in the amount of this medium in circulation necessarily means that the exchange relation must be readjusted. If you have two men, one with a bushel of wheat and the other with one dollar on a desert island — where the situation could be tested out purely — the price of the wheat would be one dollar. But if the purchaser had two dollars, and the seller still had one bushel only, assuming, of course, that the purchaser wanted the wheat and the seller wanted to sell, the price would be two dollars.

This is what has gone on throughout the world, but particularly in Europe. The difficulty in Europe is that the quantity of paper money is so great. In our civilization, gold has come to be accepted as a standard of value. Its abandonment at present in Europe does not in itself mean much, but the fact that the paper which has been put out is so great in quantity as to pile up obligations and so to lessen its value as credit instruments is what is serious.

*5. This has been answered to some extent by Question 4. The debt, interest requirements and circulation outstanding, as shown in the chapter on Government Bonds in "Investment Securities," is low as compared with the wealth of the United States. Just the reverse is true in France.

*9. Money is, first of all, a commodity, and interest rates represent the price paid for the use of this commodity. Therefore, a period of high prices generally means high interest rates.

In addition, also, because of the shortage in goods, due to the war, we have been in a period where uncertain future developments play a relatively more important part than present developments. This also means higher money rates.

Prof Sumner
History of American Currency

For clients who desire to go into this subject at greater detail, we give below other books by the author devoted to a discussion of the principles treated in this text book.

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