Liquidity

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PART I

THE LIQUIDITY DOCTRINE OF LIBERALISM

Eighteenth century writers either took it for granted that commercial banks must be prepared to meet any demand for redemption of their notes by paying out monetary metal, or else they ignored it; but none of them discussed the economic implications of a short-term credit structure. Since Adam Smith and publication of *The Wealth of Nations* (1776), short-term credit structure has become an integral part of the system run by *economic man* in accordance with his rational self-interest and long-term point of view.

According to the theory, as developed by H. Thornton (1802) and J. Fullarton (1844), banks do not necessarily add to the volume of circulating media, but only "monetize" such credit instruments as have existed before into a more readily circulating form. By the very nature of their business, banks can only temporarily raise the volume of money; the backflow of their automatically self-liquidating, short-term credits limits both the size and the duration of the expansion. The banking mechanism is such as to adapt the credit volume to the flow of goods in an "elastic" fashion.

This theory, developed fully in the first half of the nineteenth century, soon absorbed three major modifications. The first had to do with central banking and was the outcome of the lengthy quarrel between the Banking School and the Currency School: it was asserted that things do not work quite so automatically, and therefore the central bank must apply the brakes to avert overspeculation and

to moderate panic. Secondly, it had to be recognized that the rules for liquidity of bank loans do not always, or at least not fully, apply to banks' (secondary) reserves, for which marketable securities, especially Treasury bills, may offer a more readily liquidated form of investment. Of course, this was not supposed to amount to more than a moderate portion of banking resources.

A third modification developed in Germany. Germany banks, from the beginning, violated the classical rules of liquidity. They combined commercial banking with investment banking, and financed industrial development on a rather nominally short-term basis. Accordingly, German experts argued that the basis of liquid credit had been broadened by including goods in the process of production, in addition to those in the process of commercial transactions. The German *Kontokorrent-Kredit* has been invested, by this theory, with the attributes of the English commercial bill of exchange; the liquidity concept has been stretched to include working capital provision as well. Yet the classical theory retained its predominant position, not only as a postulate of what banking ought to be, but also as an alleged description of what it is. This in spite of the fact that commercial banks (with the possible exception of a few leading institutions in France and Holland) have already been deeply involved in the securities business and long-term finance. The Germans approved or at least faced this development, while the British deplored or tried to overlook it.

PART II.

A REVOLUTION IN MONETARY THOUGHT

Not until World War I had shaken mankind's belief in "fundamentals" did a general attack on the liquidity ideal itself arise. In America, it came especially from the financial frontier in the Midwest where heterodoxy in such matters had long been popular, and where even the most vehement cyclical convulsions failed to shake the optimism of a community of speculative pioneers in history's greatest real estate development.

Teaching and banking traditions have accepted, in America as elsewhere, the British belief in liquidity; but banking practice has been far from accord with it. Consequently, it offered an easy target for the attack of the Institutional School. In 1918, in a series of articles in the *Chicago Journal of Political Economy,* H. G. Moulton carried out one of the most brilliant attacks of this school against the traditional doctrine. His point was that very few commercial loans could be relied upon for liquidation; and in time of crisis no liquidation is possible at all. The loans are based much more on a permanent "alliance" of the banks with other business units than on the financing of specific completed transactions, and are less "liquid" than marketable securities. Liquidity, indeed, in the sense of liquidation, has meaning only for the individual firm. The banking system as a whole, Moulton thought, does not know any liquidation other than the shifting of assets from one bank to another. *Shiftability* takes the place of liquidity; banking becomes a matter of choosing the properly marketable assets, and banking policy a matter of securing mechanisms to create or maintain shiftability.

This doctrine, conceived at a time of prosperity and credit expansion, seemed in perfect conformity with modern development. It gives a quasi-scientific basis to the old request that commercial banks furnish industry with at least its "permanent working capital," and give up the idea of purely short-term credit-leading even such cautious documents as the British MacMillan Report of 1931 to the proposal of "more closely coordinating" the financial organization of the City with British large scale industry. It

is also the basis upon which the propaganda for public works and subsidies to be financed by the sale of public securities to the banks, has been built up during this depression. Furthermore, it underlies the new monetary ideas so important for our period-ideas of monetary control based on some sort of quantity theory approach.

At the beginning of the twentieth century, the tradition of the quantity theory of money had been represented by only a few mathematically-minded economists and by money "cranks." The monetary and banking systems seemed so solidly based, and so little exposed to outside interference that the quantitative approach had only a purely academic interest. The breakdown of leading currencies during World War I taught a new experience, and showed that monetary control might be used for almost any purpose. It coincided, and not merely by chance, with the rediscovery (also by American students, Davenport and C. A. Phillips, 1916) of the fact that a major part of deposits had been actually created by the banks themselves. The Moulton School, however, provided the basis for use of the quantity- theory type approach for policy purposes. If credit lacks "quality" except of some artificial and readily creatable type, then, of course, the purely quantitative manipulation of the credit volume is the "real thing."

Practically all currency reformers, aiming at some sort of price, or income or employment stabilization by the control of monetary volume, have their common foundation in Moulton's criticism of the traditional liquidity principle. Consequently, the term "liquidity" does not even occur any more in most current books dealing with the theory of banking, or with the business cycle. Their interest centers on "measurable" quantitative problems, and the control to be exerted over the volume of money. "Qualitative" problems of bank policy are either ignored or ridiculed.

Contrary to the *communis opinio* of previous generations, most monetary reformers deny the relevance, or the very existence, of any fundamental distinction between short-term and long-term investment, between a bill and a bond, a note and a mortgage. They deny common sense opinion according to which the quality of bank assets is largely responsible for cyclical fluctuations. The banking apparatus is supposed to be able to generate or to destroy credit, to any extent and arbitrarily, depending solely on legal or traditional cash-reserve requirements.

On the other hand, most of the "old timers" still like to argue against the simple arithmetics of the quantity theory and to overemphasize the qualitative aspects of bank credit. They like to assume that banks do not exert any control at all over the volume of credit, and argue either for freedom of commercial banking, or for interference limited to mild rules of liquidity (eligibility). It is hard to say which of the two schools of thought is less realistic. They are both guilty of ignoring problems which they do not seem able to incorporate into their line of thought.

PART III.

THE MEANING OF LIQUIDITY

The prevailing confusion is largely due to thoughtlessness in the use of the term *"liquidity."* It is often confused with a concept of physical type: working, as opposed to permanent capital. But the concept is meaningless without reference to contractual obligations.

Liquidity, at first sight, is the capacity to fulfill financial obligations. This, in turn, is*not* identical with cash (prime) reserves. The cash ratio is a minor issue compared with the status of the bank's earning assets. If these are "liquid", the necessary cash, given a customary minimum, is easily found. The gradual decline in England of the ratio of cash to sight liabilities from 25 per cent to 30 per cent in the eighteenth century to about 6 per cent to 7 per cent in the 1920's (the latter consisting mainly of balances with the central bank) is by no means unsound in itself. It must be viewed with due regard to changes in the structure of liabilities (deposits instead of notes); to growth in the use of money substitutes (e.g., checks); and to changes in the composition of the banks' earning assets. Less natural since the end of World War I was the reduction in the reserve ratio in the American city banks from 25 per cent to 10 per cent to 13 per cent for checking deposits and to three percent for savings deposits; and the practice of German banks of keeping cash holdings down to some two to four percent. Most questionable, at any rate, were the practices in America to include interest- bearing balances of other banks among cash items, or the English routine to count those credits at call or on short notice as "till money."

In reality, the long-term trend of reduced cash holdings is not due to the improved liquidity of earning assets, but rather to market developments permitting the sale (shifting) of assets on a large scale.

Stock markets have developed to unforeseen extents; central banks and even governments have put their resources at the disposal of banks so as to make liquidations possible, etc. These trends point to the "relativity" of the liquidity concept. The standards of both, the cash ratio and the liquidity of earning assets, are determined by a bewildering number of factors. They will depend, for example, on such facts as the confidence of the public in the banks. Optimism or pessimism of cyclical character are even more important. Established standards of what is proper practice exert a great deal of "irrational" influence, too. Still more important is the general monetary organization of the country. Liquidity of banks is an entirely meaningless concept in a progressive currency inflation, the ideal of which is to escape the impending depreciation of liquid funds. (In 1923, the Germans called it *Substanzwerte,* meaning everything from undeveloped real estate to empty matchboxes.) A currency unit with widely fluctuating gold content allows the banks to compromise substantially the standards of credit discrimination; the very term "liquidity" is tied up with a currency system which limits the amount of available cash according to the "rules of the game."

Most of the confusion arises, however, from the fact that liquidity is generally thought of as the ability or readiness to "liquidate." The shiftability approach argues that there is no liquidity at all, since the whole system could not be liquidated, and overlooks the possibility or danger of some partial liquidation. The problem of one bank might be successfully eliminated if the others are willing and sufficiently liquid to take care of it; or if the current growth of savings covers the bank's deficit and if it flows in the desirable direction; or if the government steps in; or if foreign help is available. Perhaps some combination of all "shiftings" may do the trick and postpone the evil day. But there is no use trying to eliminate the problem by wishful thinking, which ignores the fact that the total of the banks' assets cannot p05sibly have a book value greater than the total of their liabilities. Consequently, bank deposits should at all times be capable of buying the assets. Whether the owners of those deposits are willing to buy the banks' assets raises the question of prices. The demand for such a large variety of goods as the assets of a national banking structure can hardly ever be altogether inelastic. It may cost terrific price cuts to sell out, but it is useless to argue that there is no problem of liquidation because assets could not be sold out wholesale. The argument ignores the possibility of liquidation

at *falling* prices. Even land might be liquidated *en masse,* as most of the real estate in Berlin changed hands during the 1923 inflation when prices, in gold, fell sufficiently.

However, observance of liquidity rules does not imply preparation for liquidation. On the contrary, *liquidity means preparation-for the avoidance of liquidation.* The periodic liquidation of each individual or short-term bank transaction should not be confused with the liquidation of any part of the total. *A liquid structure never liquidates; only the illiquid one comes under the pressure of liquidation.* 'Perfect liquidity" means that, for any length of time, all financial obligations are fulfilled without net liquidation of capital. A liquid society has adjusted its obligations to the flow of its income, both in amounts and in maturity dates, so that forced sales should not occur (disregarding war, or other extra-economic factors). An open illiquidity (as opposed to a concealed illiquidity) means either a refusal to pay (i.e., collective bankruptcies, moratoria and foreign exchange controls), or the necessity of forced sales of bank assets, or both. The former method eliminates the problem by uprooting the legal and credit structure; the latter restores liquidity, but at the expense of crises and depressions.

PART IV.

THE BURDEN OF ILLIQUIDITY

For an enterprise which "lives" on credit-making, the issue of liquidity virtually coincides with that of its earning power. The bank's earning power depends on the "credit" of the bank which is based on the assumption of its liquidity; and this assumption in turn vanishes if the bank ceases to be a going concern. Now earning power, in the first place, is a matter of costs. Their rise typically foreshadows growing illiquidity. For banks, more than any other line of business, long-term earning power is a matter of provision for losses. Bank liquidity, therefore, begins with an adequate capital ratio (i.e., the ratio of properly invested net worth to liabilities). The conspicuous decline of this ratio in the balance sheet of commercial banks during the past century is due to causes similar to those of the cash ratio: from 1:3 to about 1:8 in the United States, and to something like 1:13 in England and France, and to even less in Germany. It was about 1:25 in the *Danatbank,* the failure of which in 1931, losing more than its capital in a single credit transaction, precipitated the Berlin crash. But from the liquidity angle, both the net worth and the cash reserve are only minor considerations. Both represent the immediate or tactical point of view, rather than the far-sighted or strategic one, that of the liquidity of earning assets.

In this respect the first choice is between short-term loans and investments (bonds). The latter are allegedly far "safer." But, between 1902 and 1914, for instance, in a period of balanced budgets, one of the English "Big Five" banks had very severe losses on its unusually large holdings of British consols (perpetual bonds) which have been considered the most "solid" and "stable" investment of the world for almost a century, but then fell, as many times before, with the upward

trend of the cycle. Even "first class" long-term paper involves very substantial risks, due to fluctuating market quotations. To avoid losses, banks are compelled to sell out holdings of securities whenever their prices fall continuously; this is a typical case of a perfectly "good" investment which causes liquidation and therefore has not been "liquid." If over 50 percent of the assets of American banks are now invested in government bonds (most of it of a long-term type), the dangers are serious indeed. A much more pronounced condition obtains in Germany and Italy; a less serious one in England. It is

not as if the breakdown of public credit would be an imminent danger, but a minor fall in the prices of those securities wipes out the earnings and even the capital of the banks-to say nothing of the danger to the value of the non-marketable long-term claims of the banks. It goes without saying that only "shiftable" paper is advisable for either the secondary reserve or the investment portfolio of commercial banks. The practice of many American banks to invest major amounts in mortgages was exceedingly dangerous, especially when it was done on the basis of reckless overvaluation and almost criminal disregard for the elementary rules of prudence.

The difference in maturities means a great deal more than the heavy risk of fluctuating values. The longer the duration of the loan, the more knowledge about future conditions is needed for the proper assessment of credit. This raises the question of capital loans to industry. Interweaving credit-granting with commercial transactions permits an insight into their nature, and thereby into the risks involved, which has to be substituted otherwise by an intimate knowledge of the whole business and its prospects on a much wider range. True, in Central Europe, there is a type of versatile banker who is supposed to handle the problems involved in industrial finance as much as the old-time banker handled commercial bills. But the results are such that one is having doubts about the social value of the financial superman, to say nothing of the advisability (and possibility) of breeding him in larger numbers. Even adherents of the shiftability theory are increasingly inclined to recognize that it is in the sphere of security and mortgage investments, and long-term industrial credits, that by far most of the banks' mistakes and losses occur.

Furthermore, short-term credits imply automatic backflow which means very little if, for example, American industrial customers liquidate once a year and have their credit restored a fortnight later. The principle of reflux, if properly applied, helps to control credit in two directions: the total volume expanded, as well as its use for short and long-term purposes. It is a somewhat mechanistic but very useful device to supplement the bankers' judgment of the credit risk-or to check on it. This check is missing, *ex definitione,* in the case of long-term credits.

The greatest risk, however, in credits which provide working or fixed capital, is the threat of their permanent renewal and expansion. The underlying assumption of such capital provision is that the high profits of the debtor, and a flourishing capital market, will take care of the bank credit in due course. This forecast may be borne out in good times. But a banking structure which embarks on large-scale financing in advance of future security issues runs even more risks than the excessive danger of immobilization of bank funds. Good money may have to be thrown after bad, in order to forestall the total loss of the original investment. The interconnection of industry and finance due to this combination of commercial and investment banking means the control of banks by industry more often than it means the opposite.

According to most current standards, the bank has done its duty when it has used its surplus funds for "proper" collateral loans. This policy, so far as it goes, safeguards the banks from losses. In fact, the banks rarely sustain losses on stock exchange loans. During the last crisis, credits to speculators turned out, to all appearances, the "safest" way to entrust the depositors' money! And the experience of previous crises with many lombard loans on paper or on goods with plenty of "margin" has been similar. There was, however, the proverbial "fly in the ointment." The banks had to liquidate the same kinds of collateral which they themselves owned, and endangered the solvency of their commercial customers by forcing sales on the part of collateral debtors.

Credit on collateral is perhaps the most crucial problem of bank liquidity. Used as a technical term, it simply means additional safeguards for the loan, without any implication as to its purpose. In the economic sense, it is distinctly different from a commercial loan because it generally is divorced from any genuine transaction in the course of the "normal" sale of goods. The problem is especially relevant in view of the fact that collateral loans are likely to be the first line of defense in case of a drain on the bank's cash resources. They may readily be turned into cash and, therefore, "liquid" from the point of view of the individual bank. But, *for the banking system as a whole,* collateral loans in great amounts represent the most serious danger of illiquidity. They involve the necessity of liquidation which in a crisis may save the single institution, but only at the expense of wholesale liquidation with its deflationary consequences. The disastrous effects of the huge amount of lombard loans on the Paris stock exchange in 1857, or of brokers' loans in New York, especially in 1929, etc., are generally known. The latter were particularly disastrous, since the eight billion dollars in question represented largely the "liquid" reserves of the provincial banks.

The technique of deposit creation through bank-to-bank credits is another aspect of the same principle. The process is typical for almost every period of "prosperity." Finance bills were the instrument by which the most notorious speculative ventures had been countenanced, ending in disaster. Baring Brothers of London failed in 1892 with a ratio of 1:4 between capital and acceptances. A more unfavorable ratio was again characteristic for many London acceptance houses by 1929. The quantitative expansion of credit is especially important when it indicates a deterioration of quality. Before World War I, the balance sheets of German banks showed for a long time a more rapid growth of acceptances than of deposits, and the German experts became suspicious of this inflationary practice by which the competing banks diverted money market funds to their industrial customers. The jittery 1920's revived this age-old technique of prosperity-makers. It began with legitimate acceptances with shipping and insurance documents attached. Gradually, the documents were dropped and eventually every reference to the commercial transaction disappeared. Next, the "quasi-reimbursement" was replaced by simple bank-to-bank credits transferred on the wire in fantastic proportions. The creditor banks had helped to finance the boom by "confining" themselves to a most "liquid" asset, to credits granted to other (foreign) first class banks. What could look more liquid than a balance with an A-1 bank? But what guarantee did the creditor have that the debtor bank would keep liquid in its turn?

PART V.

BANK ASSETS AND THE MONEY SUPPLY

Let us assume that the banking system is granting credits *solely* of the short-term commercial and clearly seasonal character, and is being managed so as to avoid major mistakes. At given prices, goods would be sold and debts to banks repaid seasonally not by shifting them to other banks, but by using the deposits of the purchasers. As seasons do not coincide in all trades, some firms take fresh credits at the same time as others retire old ones. Seasonal fluctuations not ironed out automatically could be taken care of by an active Reserve Board. At falling prices, substantial credit margins having been assumed, the banks cannot suffer losses. There is no reason why such a system should get into liquidation on "endogenous" grounds. Nothing in its own structure could cause liquidation and runs are not likely to occur since mistrust in a system which is not "frozen into any major loss-generating venture is hardly possible. Provided that the banks are properly managed, their funds have been used exclusively for such ventures in which the danger of unsalability of goods (within

reasonable time) is practically excluded; "speculation," by assumption, has not been financed with these funds.

Now let us make the assumption more realistic. Suppose the country enjoys a balanced public budget, and the government has a seasonal demand for short-term funds which would be properly satisfied by commercial banks. Similarly, the banks can, with proper caution, engage in short-term operations in foreign money markets. Of course, a reasonable cash reserve, and an amount of "secondary" reserve in the form of first class marketable securities may be taken for granted, too, the latter corresponding on the whole to the genuinely long-term funds at the bank's disposal.

Obviously, the previous conclusions still hold true under these more relaxed assumptions. The decisive point is that *the volume of normal commercial transactions,*disregarding seasonal fluctuations, *is hardly ever subjected to violent changes.*Speculative activities and the flow of savings into investments may dry up, but the basic commercial life which provides the consumers' current needs cannot stop. Nor are banks ever reluctant to finance it. The English MacMillan Report of 1931, as well as the Hardy-Viner Report to the American Treasury (1934), both keenly desirous of reform, reaffirmed the old experience that strictly commercial credits are always available in a modern banking community, and at a reasonable rate of interest. Nor under the conditions described, need changes in technology or consumption have major liquidating effect on the banks' total credit. They would cause only permanent shifts in the distribution of credit among debtors, just as seasonal fluctuations change it temporarily.

Of course, "extraneous" factors, such as international conflicts and revolutionary changes in the legal basis of social economy, may still upset the stability of this order. It does not imply a panacea against minor fluctuations, either. Assuming that a breakdown might still occur, the very fact of bank's liquidity would have the effect of reducing the impact of a depression. The banks would not get into trouble - by definition. They would not incur losses, and would not suffer from panicky fear of the public. Nor could they be forced into major liquidation. So long as the credit they granted has been of genuinely short-term character, their "automatic" repayment would not be in danger. If, with decreasing trade, the volume of fresh credits should be reduced, this deflationary process would be very mild compared with the usual one in a crisis, because it does not involve the necessity of forced sales on any scale similar to that experienced under conditions of illiquidity. As a matter of fact, the intensity and length of the crisis depend largely on the resistance which the banking structure is or is not able to offer. An illiquid structure leads to a crash which a liquid one not only avoids for itself, but may actually soften for the rest of the community, by being able to "come to the rescue."

The main point, however, is that if bank credit is provided largely on short-term commercial lines, its total volume cannot exceed the demand for circulating capital proper, i.e., a sum commensurate with the amount of goods flowing to the market at prices at which they can be sold. As a matter of fact, bank credit should lag far behind this amount, because not all such transactions need to be financed by banks, not all who may need financing are sufficiently good risks, and all commercial goods should be financed only with a substantial margin. At any rate, *the total volume of circulating media is effectively limited by the observance of liquidity rules.* It is limited, as D. H. Robertson has pointed out, to a level far below the amount of dollars which represent the value of the circulating capital of the country. *Tile discriminatory choice of bank assets amounts to a restriction of the volume of deposits,* within narrow limits. Of course, during the short period between borrowing and repayment, the borrower draws on his balance to make payments which in turn may swell the deposits of others.

But this credit expansion is, so long as the banks adhere to the rules of liquidity, under a two-fold quantitative control: its volume is *comparatively* stable, since violent fluctuations and forced liquidations are not likely to occur; and the total amount is limited by the short-term commercial credit demand and cannot be extended far beyond it. There is, under the assumed conditions, no "automatic" expansion to the limits permitted by the cash reserves.

It is misleading, however, to assume that the bank's liquidity is identical *eo ipso* with a stable and entirely undisturbed money supply or price level. But the disturbances in question are, by the nature of the system, greatly reduced in comparison with an illiquid structure. The liquid structure limits the possibility of fluctuations by not allowing the banking machine to supply more currency than is compatible with the volume of goods forthcoming, within a short time, at given prices. And liquid banking makes it possible to exert influence by discount policy on the demand for bank loans which proves "inelastic" under other conditions. *A money market which serves largely long-term investment purposes is hardly capable of adapting its credit volume to changes in the rate of interest.* The classical theory of money-market control by discount-rate changes and by open market operations was based on the assumption of a liquid banking structure. A liquid banking structure allows the central bank or the Federal Reserve system a substantial power over market fluctuations. The actual failure or unsatisfactory working of discount and open market policy in major booms and depressions reflects the fact that the banking system has been illiquid in each case.

And this is not the whole story. Theoretically, a quantitative policy can be devised to "manage" the money supply according to preconceived standards. But monetary management *per se* must turn out to be a failure if the banks have already committed themselves along illiquid lines. Interference then leads to breakdown, which it was supposed to avoid. Liquid banking, on the other hand, actually achieves "stabilization" by inhibiting the major boom and eliminating its 'consequence, the major depression. In addition, pure monetary control is limited by the difficulty to control money's velocity of circulation. Velocity is known as an independent variable of the Equation of Exchange. It does not necessarily vary directly with changes in the money supply; it may vary inversely with it. Consequently, control over the money supply in itself is not sufficient to control price or income level fluctuations, since changes in velocity are usually beyond control. *Liquidity policy,* on the other hand, *has the advantage of indirect control over velocity,* too. The shorter the period between the lending of funds and the repayment date, the less the likelihood of repeated use of the deposits. The number of times a deposit can be use for payment is naturally limited by its lifetime, which depends on the duration of credit for which the deposit was created. Furthermore, liquidity means qualitative credit control checking the speculative activities of the boom which tend to increase the velocity of circulation. It also counteracts hoarding tendencies during depression, thanks to the stable volume of commercial credit, the avoidance of forced liquidation on the part of banks and the elimination of runs on them.

PART VI.

CAPITAL ALLOCATION AND CREDIT POLICY

The banking system not only creates means of payment, but also allocates them. The purely quantitative approach does not bother about the second function, which is, however, not of minor social importance. Everybody knows that banks use their lending power in a discriminating fashion.

But it is not common knowledge that the character of this discrimination regulates the effective volume of currency. Nor are the allocating effects of the process generally appreciated.

The choice of banks' assets is a directing factor in the allocation of capital between long-and short-term uses. A liquid structure tends to give preference to "labor intensive" industry, as against the one with larger fixed capital requirements per unit of labor, and *ceteris paribus,* to a commercial enterprise rather than to an industrial one. The preference for providing circulating capital also tends to strengthen the medium-sized business as against the mammoth concern which in turn is favored by an illiquid system. Of course, banks are only a minor force in determining the industrial structure, but they can contribute to it in a significant way. The shifting of bank funds into long-term industrial finance attracts, in that direction, other funds as well. The industrial development of countries has been deeply influenced by such practices which aided the growth of large-scale units far beyond the point of optimum size. This does not mean, however, that liquid banking protects the small unit against technological progress, or the "established way of doing things in the face of the competition of newer ways", as C.O. Hardy said. The industrial and commercial unit of the horse-and-buggy age has practically no access to the lending counters of well-managed banks, while illiquid bank credit has helped many inefficient units to survive longer than socially desirable.

It is no mere accident that countries in which banks are continuously engaged in long-term industrial finance (as in Italy and Germany), or in the financing of industrial securities (as in the United States), have witnessed a most spectacular growth of large-scale units and monopolies. In England, on the other hand, and especially in Holland and France, where liquidity rules were abandoned at a less rapid rate, the development of large-scale units and monopolies was much slower and the independent units, both in manufacturing and in wholesale trade, had a much better chance for survival. This difference had nothing to do, apparently, with branch banking; bank concentration in England and even in France has progressed virtually as far as anywhere else.

It is difficult, however, to estimate the exact extent to which banking policy influences such long-run developments. The cyclical influence is more easily appreciated. Two points must be emphasized in this connection. First, the fact that a banking system's choice of illiquid assets works itself out in a cumulative way. Suppose, for instance, it buys mortgages on a large scale. At first, the marketability and value of mortgages will tend to rise and, consequently, new borrowers would have even better opportunities to obtain more credits on similar assets. The credit policy of the banks influences the allocation of capital far beyond the volume of bank resources deployed. Secondly, the intensity of "speculative" activity is largely a matter of distribution of loans (advances) and investments by the banks. The flow of bank funds into specific channels may start or accelerate the rhythm of speculation along those lines, by generating psychological forces so characteristic of aggressive business optimism. Liquid banking, on the other hand, implies control over the use made of borrowed funds and the probability that they will be applied to "productive" purposes. The opposite policy opens the door for indiscriminate financing of all sorts of ventures which so often turn out as "bubbles" or other malallocations of capital.

Wasteful speculative orgies and malallocation of resources with ensuing losses cannot, of course, be entirely eliminated, and may come about without any banking support. But it is most important that they should not be magnified into catastrophic dimensions. This depends mainly on the banks' policy in choosing their assets. Indirectly, by sustaining a credit inflation, and directly, by financing maldirection of capital, the banks carry the responsibility for disaster. The growth of the economic

system may be such as to offset, by fresh "real" savings, the capital losses due to "unproductive" investments. However fictitious the assumption of such growth may be, it typically underlies the philosophy of periods of prosperity.

Although the phenomena of the business cycle is commonly formulated in terms of a disequilibrium between the effective money supply and the flow of goods, or between the flow of savings and the volume of investments, etc., such quantitative formulas tend to overlook the fundamental chain of causation. It is the wholesale financing of abortive ventures with the aid of bank credit expansion which generates the boom. And it is the breakdown of these ventures and the sudden drying-up of the flow of bank credit which necessarily brings the boom to a halt. The purely quantitative approach neglects this allocative effect of the banking process. It does so by throwing overboard the principles of liquidity. But what other reasonably practical standards for limiting the volume of currency can be substituted? No two monetary reformers agree on what measure of the money supply should be stabilized; nor on the technique by which to achieve it. And no "stabilization" can overcome the difficulty that, whatever purely quantitative levels one chooses, they will either inhibit legitimate growth, or else permit illegitimate over-expansion.

Ultimately, the choice is among three possible lines of policy: the old-time ideal of*laissez-faire,* which leaves banks free to follow the vagaries of business psychology; the new religion of "controlling the money supply," handing all power over the credit structure to political forces; and a policy of cooperation between a liquid banking structure and an active Federal Reserve. The first is hardly worth discussing, in view of the violent fluctuations of trade which it implies. The second promises stabilization, but has no way of eliminating the danger of illiquidity. There is no escape from the problem of liquidity; it is identical with that of right or wrong investment. The very meaning of banking as a social function is to supervise the channels into which the flow of capital is directed. It exerts this function by using the "liquid" funds of society in a way which, so far as humanly possible, avoids losses and forced liquidations. Monetary control believers either ignore this aspect or else assume arbitrarily that mere manipulation of credit volume will somehow solve the issue.

A credit policy that neglects liquidity standards has the great advantage of permitting-in theory-"eternal" low interest rates and the development of "new eras" of apparently limitless expansion. So long as depression prevails the dangers involved are not likely to impress limited imaginations. With the change in the cyclical outlook, however, the problem will reappear soon enough-unless dynamic factors, such as population growth, technological progress, and speculative enterprising, should be virtually eliminated. As soon as major speculative activities develop, even the most intelligent monetary management (and who dares to assume that it will always be intelligent?) cannot do much by relying solely on quantitative standards. The wildest sort of speculation was characteristic of the 1920's without any major rise in the general price level. In America, while the gambling orgy was most intense in 1928 and 1929, the volume of demand deposits subject to check hardly grew at all. It was the deterioration in the quality of investments,.as measured by the illiquidity of bank assets, which engineered the liquidation as soon as losses became visible. The policy of "stabilization" of the Roosevelt Administration can, of course, be carried further by credit inflation and devaluations. The depression may be avoided (or more precisely, its impact may be reduced) at the expense of the currency and its stability. But only very strong countries can afford such a drastic cure more than once; and it is very doubtful indeed whether the decline of international trade, the tariff warfare, and other worldwide economic and political repercussions are not too high a price to pay for the temporary enjoyment of a boom.

Liquidity policy, on the other hand, does not rely solely on the qualitative control of bank assets. Its standards also imply, as has been pointed out, the control of the volume of circulating media. Moreover, it implies such control *in advance,* before the unsound development has taken place; not as the quantitative control does, *postfactum,* when it is too late. But to be effective, it must be supported by active Federal Reserve policy. As an efficient institution, driving to stabilize the foreign exchanges and to straighten out major internal fluctuations, the central bank is the correlate to a liquid commercial banking structure. They mutually reinforce one another. The central bank's function is to set and enforce liquidity standards. Its "moral" and other powers, supported by legal requirements if necessary, go a long way. The belief in "free banking" implies more grave errors than one. It assumes far-sighted wisdom on the part of all bankers. It assumes that enlightened self-interest is a simple rule. It overlooks the fact that the banks are mostly, by their very nature, under the influence of external forces, especially of monetary policy (or lack of it), and of business psychology. The choice is not between "free" and "regulated" banking, but between right and wrong leadership.

Liquidity of banks is a "limiting" case, or an ideal. For practical purposes, what matters is the degree of actual approximation. The strongest argument against this ideal is derived from experience, which apparently shows that liquidity standards are invariably waived in periods of over-confidence. But closer scrutiny of such experience would undoubtedly show the responsibility, for a large part, of governmental and central banking policies. They are responsible, at least in a negative way, by having neglected to use their powers in due time to enforce liquidity standards.

Fortunately, tradition and self-interest of the financial community tend in the direction prescribed by the ideal. Its enforcement is therefore more a matter of maintaining traditional standards than of using "force." This points to other fundamental differences between liquidity policy and a purely quantitative regulation. The first means active cooperation between central bank and bankers. It leaves the latter to carry their full share of responsibility, but it helps them to understand and to maintain the proper standards. It also presupposes public financial policies (balanced budgets) which do not compel the banks to buy government paper. The other, quantitative regulation, throws the entire responsibility for success or failure on the central bank or the treasury. It leaves the banks free, or actually encourages them to finance whatever abortive ventures capture their fancy and it permits the government to embark on deficit financing. The one strengthens the natural interest of bankers, businessmen and authorities in sound financial standards and tends to eliminate such leadership which is not able to live up to them. The other tends to "institutionalize" unsound financing by eliminating its strongest institutional and psychological hindrance: liquidity. In last resort, the one policy is part of the liberal ideal which thinks of economic restraint of the individual as a social necessity and of failure as a "just" punishment for violating the rules of the game. The other is in conformity with the unsound idea which knows no difference between "legitimate" capitalist business activity and sheer speculative gambling, which tends to concentrate all economic power in the hands of centralized autocratic bodies, and which tends to substitute for the idea of competitive fairness, the ideal of safeguarding vested interests, at whatever social costs.

The essence of liquidity is maintaining the currency in a readily moving" condition, so as to avoid its freezing, and the ensuing "stickiness" of prices. It is, therefore, a prerequisite for the maintenance of the gold standard which implies liquid banking as part of its rules. And liquidity standards are fundamental to any policy attempting to keep the economic system in a state which enables it to cope with a changing world without being uprooted.

APPENDIX

ILLIQUID CENTRAL BANK: GRAVEYARD OF THE CURRENCY

Liquidity of the banks' earning assets is as important for the solvency of the individual institution as it is for the stability of the economic system. The social objective of banking is to furnish the liquid funds necessary to keep the economy in operation and expansion-without inflating or mal-allocating them to the extent of bringing about boom-and-bust cycles and monetary crises. Asset liquidity *prevents* their occurrence. By contrast, "managed money" attempts to *cure* them after the event.

The classical pattern of asset liquidity, formulated by Adam Smith (1776) is known today as the "real bill" concept of asset liquidity. Accordingly, short-term commercial paper, or its equivalent, representing the actual sale of commodities, constitutes the proper realm of commercial bank credit. No "over-issue" of currency or deposits can occur as long as the banks finance strictly self-liquidating short- term transactions. The credit operation is consummated *pari passu* with the merchandise "change of hands"; no imbalance between the supply of money in circulation (aggregate demand) and the supply of marketable goods has been created. If banks confine the use of their liabilities subject to quick withdrawal to such self-liquidating assets, the purchasing power they generate would be limited to the value of goods in process of marketing or production, at current prices. By the same token, any addition to the amount of circulating media arising out of the direct and indirect financing of long-term or not self-liquidating ventures risks unbalancing the overall demand-supply situation and "immobilizing" the credit institutions.

The theory is borne out by more than four centuries of experience with business cycles. Witness the history of modern crises, reaching back to the recurrent waves of Venetian bank failures in the early sixteenth century. In every instance, the wholesale liquidation of debts was the focal point, brought about by a credit expansion along non-commercial lines, financing long-term loans, speculative ventures, and governmental expenditures on a substantial scale.

The chief departures from the classical principle of bank liquidity are three.

Since the turn of the century, Germany experts claimed that banks could provide business with working capital rather than with circulating capital - a subtle distinction. They rationalized the widespread practice of Continental institutions which used to finance unsold and often unsalable inventories, despite the fact that time and again the credits turned out to be "frozen." Substituting money market funds for those of the capital market is typical of new industrial countries in rapid growth and short of capital. It results in a constant reliance of the commercial banks on the central bank, in recurrent bank failures, and in severe cyclical repercussions.

Another-purely academic-school of thought negates the concept altogether, arguing that the banking system *as a whole* could not hold its assets in a form fit for liquidation. Therefore, supposedly, it is futile to attempt to maintain a liquid status beyond the cash reserves needed as a matter of routine. Runs on banks prove, allegedly, that nothing short of 100% cash liquidity could stop them. In reality, runs prove the exact opposite. They do not even occur, barring extraordinary circumstances such as a major war, unless the banks are known or believed to be in an illiquid condition.

Briefly, *the rationale of maintaining asset liquidity is to avoid* the occurrence of conditions which may bring about the *wholesale liquidation of debts.* Though "perfect" liquidity cannot be attained (no more so than "perfect" competition), its approximation is a first essential for all banking responsible for carrying the cash reserves of their customers, of the nation.

Still another school contends that, as a matter of fact, the banker is interested in shiftability rather than in liquidity. Shiftability means the ready marketability of assets without loss, and puts the emphasis on the collateral behind the loan rather than on the nature of the underlying transaction. This presupposes, in effect, security markets at stable quotations. But then, what guarantee is offered for the continued availability of such outlets? The shiftability concept, as interpreted in the 1920's, assumed that a buoyant stock market, capable of absorbing new security *issues ad libitum,* would enable the corporations to liquidate their bank debts. The Great Depression thoroughly deflated this theory-and opened the door to a new version of it, legalized in the Banking Act of 1935 that made "sound assets" eligible for rediscount at the Federal Reserve Banks.

Since World War II, the problem of shiftability has been "solved" along the lines followed by the German and other Continental banks after World War I. Liquidity of earning assets became virtually synonymous with their "rediscountability" (in the vocabulary of Federal Reserve Governor Marriner Eccies). Regress on the money-creating potential of the central institution provides the "market." AsA *Plan for Member Bank Reserve Requirements* of the Economic Policy Commission of the American Bankers Association stated in 1957:

It is now universally recognized that *for the banking system as a whole,* liquidity depends, ultimately, on the ability and willingness of the Federal Reserve to supply additional funds to the banking system in periods of stress.

It is not clear what is meant by the system as a whole-as different from the individual banks that constitute it-unless it refers to a money market generally under "strains and stresses." In any case, the idea that the central bank is to serve not only as the "lender of last resort," but also as the guarantor of the credit structure's liquidity, is by no means universally recognized. However, it is being almost universally practiced. The Federal Reserve system fulfills this function by using its resources to provide a market for certain types of debt certificates issued by the federal government.

Government debt certificates-overwhelmingly short-term obligations-are virtually the sole components of the Federal Reserve System's non-gold holdings. Consequently, those debt certificates have become for all practical purposes equivalent to cash; as such, they constitute the "quick assets" of the commercial and savings banks. They are liquid because they can be readily monetized at the central bank. But their volume is totally divorced from the economic process. It depends on whether or not the Treasury runs a cash deficit, on its debt management policies, on its propensity to take recourse to the facilities of the banking system, and on the latter's readiness to "oblige."

Nominally, the Federal Reserve System, at its discretion, may monetize or may retrace its steps, expand and contract. Thereby, the automatism of the commercial credit setup under a self-regulating gold standard is replaced by central bank authority in charge of managed money. This tremendous power implies responsibility-to whom? Needless to say, the ultimate power belongs to those who had delegated it, be it the Congress or the Administration. As a matter of fact, the Federal Reserve may be in actual control of the money supply while things go smoothly - as long as the government finds

no difficulty in "rolling over" its maturing debts or financing its deficit, and unemployment does not reach major proportions. In either case, the Federal Reserve has no choice but to administer to political dictate.

When the national credit and the national currency are "tapped" in order to maintain "full employment," full employment might be maintained. The money market can be kept liquid indefinitely if the Treasury prints certificates and the Federal Reserve monetizes them. But what happens to the liquidity of the monetizer? The assets in the portfolio of the Federal Reserve System amount *de facto* to permanent investments. It makes little difference whether they consist of short- term certificates or of long-term bonds. In effect, they are as good as non-marketable consols. (The same holds for assets of the Federal Deposit Insurance Corporation, another fountain of pseudo-liquidity.) Disposing of as much as ten percent of the portfolio would "wreck" the credit markets. An over-indebted Treasury, one in deficit at that, cannot redeem the one kind or the other, but is bound to resort recurrently to more monetization.

By slow attrition, the result is likely to be the same as in the case of outright money-printing by the government itself. The old-fashioned technique of paper money inflation "worked" faster than its modern, seemingly less reprehensible counterpart that camouflages the production of fiat money by channelling it through the money market and the central bank. The latter's liquidity consists exclusively of its gold reserve that tends to decline in proportion to its liabilities. The attrition of the gold reserve accelerates when the gathering of inflationary expectations induces non-resident owners of dollar balances to withdraw them (with residents joining, too). There can be little doubt of the final outcome, unless the process is brought to a halt.