definite recommendation on this point, except to recommend study and consideration. Our study and consideration does not support the view which, apparently, is held by the subcommittee that a change should be made.

APPENDIX. NOTE ON RELATIONS WITH TREASURY AD HOC SUBCOMMITTEE REPORT

(For meeting of the executive committee of the Federal Open Market Committee, January 27, 1953.)

Like some of the other recommendations in the report, the recommendation with respect to relations with the Treasury is really a recognition of a changed situation; a situation in which we have shed as much as possible of the role of price-fixing in the Government security market. So long as we were maintaining a pattern of rates, and so long as we were the established underwriters of all Treasury issues, there was a basis for our having some initiative with respect to the terms of the securities issued. The locus of primary responsibility had already been blurred. This was particularly so in view of the attitude of the Treasury toward monetary policy during this period.

Now that we are no longer pegging prices and are trying to shrink our underwriting function, the new approach to relations with the Treasury seems to me, in general, to be the appropriate one.

We do not want to become too doctrinaire about this matter of areas of responsibility, however. With a Federal debt which is so large a part of all debt, public and private, which permeates and dominates to some extent the whole securities market, and which has become a principal medium for adjusting portfolios of financial institutions, and the reserves of banks and others, we are not and won't be wholly free to administer credit policy without regard to the Government security market, and without regard to Treasury financing requirements. It won't be enough to say to the Treasury, Here is the credit policy we are going to follow: now you manage the debt. These are areas of overlapping secondary responsibilities and opportunities.

While the Secretary of the Treasury can and should consult with whomever he wants, inside and outside the System, therefore, I don't think we should demote the Open Market Committee to the status of the ABA or the IBA or any other groups or individuals when it comes to debt management. Nor do I think we should commit ourselves to never taking the initiative. We are a statutory public body with public responsibilties in a field closely related to debt management, and there should be a maximum of coordination consistent with the primary responsibiities of the Treasury and the Committee.

It seems to me that it would be consistent with the spirit of the subcommittee recommendation, to have the Chairman and Vice Chairman of the Open Market Committee inform the Secretary of the Treasury—

1. Of the desire of the Committee to work with him closely as possible.
2. Of the intention of the Committee to keep him informed of the credit policies of the System, and particularly of open market policy.
3. Of the willingness of the Committee to have its representatives consult with him concerning credit-policy or debt-management problems whenever he requests such consultation.
4. Of the intention of the Committee to have its representatives bring to his attention, if and when it seems desirable, matters which may be of mutual interest.

I think this can be done quite naturally, orally, with the new people at the Treasury, without in any way perpetuating the situation which the subcommittee seeks to correct.

(The following statement submitted by Dr. Clark Warburton, Federal Deposit Insurance Corporation, is in response to a request by Mr. Reuss. The exchange between Mr. Reuss and Dr. Warburton may be found on p. 1342 of vol. 2 of the hearings entitled "The Federal Reserve System After 50 Years.")

Prohibition of Interest on Demand Deposits

(By Clark Warburton)

The purpose of this paper is to review arguments for and against retention of the prohibition of payment of interest by banks on demand deposits. The arguments for retention of the prohibition, including criticism of those for its removal, are presented in more detail than those in favor of permitting interest on demand deposits. The latter have been elaborated, while the former have been almost entirely neglected, by writers on the subject in recent years.[1] Moreover, the arguments supporting retention of the prohibition of interest on demand accounts are more comprehensive than those which led to its prohibition in 1933.[2]

The basic point of view from which the arguments regarding prohibition of interest on demand deposits are reviewed is this: Will removal of the prohibition improve or worsen the usefulness of demand deposits as a medium of exchange? Or, to state this question diffierently, would such removal increase or decrease the efficiency of our payments mechanism; that is, will it tend to decrease or increase the costs of making payments? A secondary question is whether removal of the prohibition will improve or worsen the functioning of the Nation's lending institutions, particularly that of commercial banks as the most broad-scale and flexible of such institutions; that is, would it tend to raise or lower the cost of borrowing from banks and other lending institutions?

The process of money creation and the nature of demand deposits

It is essential, in appraising the validity of many of the arguments put forth in the controversy regarding payment of interest on demand deposits, to have a clear understanding of the basic nature of commercial banking and of the character of demand deposits and their function in the economy. Some of the arguments regarding the propriety of payment of interest on demand deposits rest on erroneous conceptions of the origin and nature of those bank obligations that we call demand deposits.

As a former member of the Board of Governors of the Federal Reserve System once said: "Taken as a whole, the commercial banking system is fundamentally a mechanism for creating money."[3] This concept of the basic characteristic of banking is the same as that of Alexander Hamilton, who stated: "* * * the simplest and most precise idea of a bank is, a deposit of coin, or other property, as a fund for circulating a credit upon it, which is to answer the purpose of money."[4]

In a primitive society the process of creating money consists of the selection, through the development of custom, of one or a few commodities for general use as a medium of exchange and store of value. In modern societies the circulat-

[1] This is, of course, the consequence of the fact that the prohibition is in effect. Prior to 1933, writing on the subject were generally devoted to arguments against payment of interest on demand deposits or on some classes of such deposits.

[2] In preparing this paper, I have made extensive use of papers that I submitted to the President's Committee on Financial Institutions in 1962, and am greatly indebted to Edison H. Cramer, Chief of the Division of Research and Statistics, Federal Deposit Insurance Corporation, and Prof. Leland Yeager, University of Virginia, for valuable suggestions and comments on those papers. I have also drawn upon other papers submitted to that Committee and discussions among the technical personnel attending meetings of the Committee, particularly with regard to arguments in favor of removal of the prohibition, without identifying the individuals elucidating these arguments.

[3] M. S. Szymczak, address at Federal Home Loan Bank of New York (1948).

[4] "Opinion on the Constitutionality of a Bill To Create a National Bank" (1891).

ing medium or money of a nation is provided by governmental establishments and by a banking system operating under conditions established by law. As Alexander Hamilton correctly perceived, the basic feature of the money-creation process is the placing of selected assets (metal, Government obligations, or business and personal obligations) in storage and the issuance by the storage concern of its own obligations in a form acceptable for customary use as a means of payment. The storage concern may be a privately owned bank of deposit, a central bank under Government control, or the Government Treasury. In the case of coins and of Government obligations serving directly as currency, the asset upon which the circulating medium is based is embodied or stored in the circulating medium itself instead of being placed in vaults. In the United States, as in other important countries, the portion of the circulating medium which consists of monetized assets passing directly from one user of money to another is small relative to the portion which consists of the obligations of companies (banks) which act as storage concerns for monetized assets.

A prominent economist, in supporting removal of the prohibition of interest on demand deposits, has commented that banks are in effect buying deposits from the public and has suggested that the Government, by the prohibition, is helping them to fix the price of their raw materials. This is a topsy-turvy, upside-down, totally wrong view of the demand deposit banking process. Demand deposits in checking accounts, or in some other readily negotiable form such as demand certificates, are bank obligations created for the purpose of service as money. They are the basic product, or output, of the commercial banking system, and are something that is acquired, or "bought" from banks by businessmen, individuals, governmental bodies, and other social organizations—either directly with their own promissory notes or other valuable assets, or indirectly from another owner (perhaps via a chain of owners) who acquired them in that manner. The raw materials of the banks, as money-creating institutions, are not their obligations serving as money, but the assets that they acquire and hold in storage.

The nature of interest

It is also essential, in considering the desirability or propriety of permitting banks to pay "interest" on demand deposits, to begin with a clear understanding of the difference between the possession of money and a loan of money. The unique function of money, in our society, is its service as a medium of exchange. When thus used, the recipient obtains it by parting permanently with other resources. When money is held as a store of value for short or long periods between usages as a medium of exchange it is the most generalized form of value storage, that of an instantly usable claim on any available goods and services in the economy (at current offering prices) ; and when money is loaned that claim is relinquished for a time by transfer to someone else.

Likewise it is essential to distinguish between interest on a loan of money, and "interest" on money as such. Interest on a loan of money, whether loaned directly or through a financial intermediary, serves an essential economic function, that of an inducement and reward for parting with resources or with the most generalized type of claim on resources, and of placing them or that claim, for a time, at the disposal of someone else. If "interest" is received on money that is being held, it is not a payment for relinquishing resources or a generalized claim on resources. Such a payment, including "interest" paid by a bank on its demand obligations serving as money, is different in nature and must be made for a different purpose than interest in the accepted normal meaning of that word.

Similarly, if interest is viewed through Keynesian, rather than traditional, concepts and language, the so-called "interest" on demand deposits does not come within the definition of "interest." Under the liquidity preference theory of interest, interest is a reward or payment for varying degrees of illiquidity; i.e., for parting with liquidity.[5] Interest on demand deposits is not and cannot be this kind of payment—for the owner has not parted with any liquidity.

Payment of "interest" on demand deposits has also been supported by an analogy with Federal funds, through the claim that the highest powered money, Federal funds, currently bears interest. According to this argument both Federal funds and demand deposits have value and therefore people are willing to pay for them. However, the analogy is improper and fallacious. A bank that receives interest on a loan of Federal funds relinquishes, during the period of

[5] John Maynard Keynes, "The General Theory of Employment, Interest, and Money" (1936), pp. 167, 213, and elsewhere.

the loan (whether for 1 day or a longer time), its right to use the portion of its balance at the Federal Reserve bank that it has loaned. An analogous situation with respect to demand deposits would be the loan by an owner of such deposits to another individual or business firm who pays him interest, with a promise to repay after a specific interval of time. In the meantime the depositor would not have the right to use the "loaned" portion of his deposit.

Money as a species of inventory

Money which is being held is, from the viewpoint of the holder, an inventory item; that is, something that is held because of its particular type of usefulness at some time in the future.[6] It is therefore reasonable to look at the cost of holding money in a manner similar to the cost of holding merchandise or commodity inventories. We do not assume that holders of such inventories should receive a cash interest on their investment in the inventories. From this viewpoint, relinquishment of an alternative income is the appropriate cost, or charge, for holding resources in the form of a generalized claim, ready for instant use at any time, on any kind of goods and services available in the economy.

This view of the appropriate cost, or charge, for holding demand deposits has been criticized on the ground that interest may be viewed as the rate of asset growth and that an expected appreciation of the value of inventories over time may therefore be regarded as a measure of their "cash interest"—with an appeal to Keynes' definition of the money-rate of interest as the percentage difference between forward and spot prices.[7] Again, the analogy is improper and fallacious. Inventories of goods may be held in anticipation of an appreciation in value over time and so may demand deposits (or any other form of money); but the increase in value, if it occurs, is a capital gain that may be realized when the goods or deposits are disposed of and in both cases it is absurd to consider the prospect of such gain a reason for introducing a practice of having the manufacturer or seller of the inventories pay the purchaser, while owning them, a monthly or annual "interest" for holding them. Likewise, Keynes' concept of the money-rate of interest as "the percentage excess of a sum of money contracted for forward delivery * * * over the 'spot' or cash price" has nothing to do with "interest" on demand deposits. The former relates to money to be delivered later; i.e., that the recipient does not hold during the period to which the interest pertains; the latter relates to money which the recipient holds throughout the period.

Deposits as a superior variety of money

The popularity of demand deposits as a form of money is indicated by the fact that they constitute four-fifths of the "money supply" as defined in currently available statistical series. This popularity results from the fact that they are a superior form of money; that is, they have attributes which made them for many purposes superior to other forms of money. One of these attributes is greater protection from some risks, such as the likelihood of loss by such contingencies as theft or fire. Another, probably the chief attribute of deposits which gives them their popularity, is the transfer mechanism that is attached to them.

It is the addition of a convenient transfer system that is the basic social justification for permitting the issue of money, which for centuries has been regarded as a Government prerogative, by profitmaking institutions such as commercial banks. The power to issue money in the form of circulating notes, which do not share the transfer mechanism attached to deposits, has been withdrawn from commercial banks throughout most of the world. In the United States, issue of circulating notes, which a century ago was considered an important function of chartered privately owned banks, is now concentrated in the Government (Federal Reserve notes are direct obligations of the U.S. Government issued by the Treasury to the Federal Reserve banks, and thence, through commercial banks to the public).

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[6] This aspect of the usefulness of money has been well described by Milton Friedman as a temporary abode of purchasing power between acts of sale and purchase. "Money is a term that has been used to refer not solely to a medium of exchange but also and, in our view more basically, to a temporary abode of purchasing power enabling the act of purchase to be separated from the act of sale" (Milton Friedman and Anna Jacobson Schwartz, "A Monetary History of the United States, 1867–1960," p. 650). This concept of money, it should be noted, does not include income-earning (interest-bearing) investments, even of short duration, since the acquisition and relinquishment of such assets, along with the acquisition and relinquishment of other types of goods, constitute acts of purchase and sale (abstracting from gifts and other nonpurchase or nonsale transactions).

[7] Keynes, op. cit., p. 222.

Cost of money creation and the need for monetary control

In modern society, money can be brought into existence at a very low cost. The cost of production of fiduciary currency (circulating notes), as Professor Friedman has commented, can be compressed, under favorable conditions, close to the cost of the paper on which it is printed.[8] The basic cost of creating demand deposits in the form of checking accounts is equally low—receipt of a customer's promissory note and an entry in his account in the bank's deposit ledger, or the writing of a cashier's check and using it to pay for a Government bond or some other security. However, this basic cost of issuing money, as will be mentioned later in this paper, is not a fair appraisal of the actual costs of commercial banks in creating deposits and keeping them endowed with their own money-transfer services.

The argument has been made, in support of a policy of permitting banks to pay "interest" on demand deposits, that if money is costless (meaning nearly costless) to create, it ought to be costless to hold, and hence there is no point in prohibiting interest, thereby inducing the public to exert efforts and use resources in order to economize cash holdings. A corollary of this proposition, it has been pointed out, is that since additional deposits cost nothing to produce there is no reason for not making them available. This appears to be, ipso facto, an argument that there ought to be no limit on the amount of money that is created, and that our apparatus for quantitative monetary control should be dismantled and destroyed.

Such an argument becomes untenable. It is the very fact of the near costlessness of money creation, together with other attributes of money, that makes governmental quantitative monetary control essential.[9] When this is recognized, the argument in favor of permitting interest on demand deposits, on the ground that money creation is nearly costless, reduces itself to three ideas: (*a*) that if banks were permitted to pay interest on demand deposits people would presumably hold larger quantities of "idle" demand deposits—i.e., the monetary authorities would have to permit the existence of a larger amount of such deposits to maintain any given level of prices and economic activity; (*b*) that holders of money would spend less effort, and therefore save "resources," in switching some of their funds from demand deposits into interest-bearing investments, or "near moneys," and back again; and (*c*) that the cost of production of money is so slight as to be unimportant with respect to such actions. The last of these may be accepted as valid; the significance of the others will be considered later in this paper.

Pricing principles for bank charges for creating and transferring money

If banks are permitted to create money in a nearly costless fashion and to receive an income from the resources which are received by them when they sell their created money, they should be expected to provide their superior form of money at the lowest reasonable cost to the general public. To state this in another way, since the banks are engaged in an almost costless activity that is regarded as a Government prerogative, to which services of their own are attached, they should be expected, like public utilities, to keep the charges for those services as low as possible.

Various techniques might be suggested for pricing bank services in such a way that banks will meet their costs in providing an efficient money transfer service without excessive earnings from the exercise of nearly costless money-creation powers. One method, which would represent a substantial departure from the present situation, would be for banks to charge their depositors the full amount of their costs (including overhead and a reasonable profit) in providing a convenient system of money transfer, combined with a payment to the Government, as a franchise tax for the privilege of creating money almost costlessly, nearly all of their earnings from their loans and investments. An alternative method, involving only a slight modification of past and present practices, is to expect the banks to pay as much as possible of the costs of handling checks out of such earnings and to levy as little as possible directly upon the users of money. It is sometimes argued that this can best be accomplished by removing the prohibition of interest on demand deposits, thereby reducing the net cost to those depositors who are presumably relatively overcharged, and depending on competition among banks to keep the aggregate charges to all bank depositors at a reasonable amount. This argument cannot be accepted as valid unless two collateral conditions are met: That bank charges for their transfer services are fairly and equitably distributed among their depositor customers; and that the

[8] Milton Friedman, "A Program for Monetary Stability" (Fordham University Press, 1959), p. 7.

[9] For an excellent presentation of these aspects of money, see Friedman, op. cit., pp. 6–7.

level of such charges, including interest allowed or paid, is in fact competitively formulated.[10]

Allocation among customers of charges for transferring money

Banks should be expected to distribute among their customers as fairly as possible whatever charges they make for transferring money. Serious questions may be raised about the equity of banking procedures in making such charges—apart from the question of allowing implicit interest or paying explicit interest on customers' balances—and these appear to have been ignored by proponents of removal of the prohibition of interest on demand deposits. Problems of equity, including discrimination among depositors, arise with respect to various elements in the pricing procedure in bank service charges. Similar problems are encountered in other segments of economic activity, particularly those of transportation and communication, and have given rise to many legislative and judicial decisions regarding ratemaking procedures. The legal principles established in such decisions, and the practices approved or disapproved by law or regulatory commissions in those fields may be helpful in looking at bank charges for money-transfer services, where little attention has been given to the same kind of problems.

Three aspects of the process of developing bank service charges are particularly important with respect to equitable and fair treatment of bank depositors. One is the fact that the money-transfer service is of value to both the sender and the recipient, and charges may be levied on one or the other, or both. Another is the relative degree to which charges are based on the value of the service and on the cost of rendering the service. A third is how a scale of charges, whether based on value or cost, and whether levied on sender or recipient, is prepared. Factors other than equitable treatment of depositors relative to each other must, of course, be taken into consideration in developing, and in appraising the reasonableness, of a scale of charges for bank services—as is true for transportation and communication services.

Prior to establishment of the Federal Reserve System, commercial banks in the United States remunerated themselves for their money-transfer services in large part out of the income on their loans and investments, but in part by exchange charges some of which were payable by the recipient. This is still a common practice in international transfers of money, and domestic remittance exchange, for checks not presented at a bank's own counter, was an analogous procedure. However, frequent variations in domestic exchange rates and complications in the check clearing process resulting from this practice were regarded as defects in the money transfer and check clearing process.[11] The practice of charging remittance exchange has largely disappeared but still persists in some places, and is still regarded as an imperfection in the Nation's payment mechanism.[12]

In recent decades banks have introduced service charges on deposit accounts as a method of remunerating themselves for at least a portion of the cost incurred in performing their money-transfer function. Service charges on deposit

[10] Another method of pricing commercial bank services, involving a radical change in banking operations, has been suggested by Professor Friedman. This involves requiring banks that issue money—i.e., have demand deposit accounts—to hold cash and reserve balances with the Federal Reserve banks equal to the total amount of their deposits both demand and time (thus having no other assets except those in which their capital funds are invested), with the banks receiving interest on their reserve accounts to provide them with sufficient income to meet their costs of transferring money—i.e., handling accounts—and to permit them to pay such interest as they choose on either time or demand accounts, depending upon competition to keep the net charges to depositors (service charges less interest paid on deposits) at a reasonable level. This proposal also involves shifting the loan and investment side of commercial bank operations to other financial institutions operating with capital funds. (Milton Friedman, op. cit., pp. 65–75.) It is difficult to see how this would operate in the desired manner, since it would not touch the problem of a fair allocation of bank charges among their customers nor that of noncompetitive practices in establishing the scale of charges, and the interest paid on member bank reserve balances by the Federal Reserve banks would almost inevitably become a governmentally fixed figure—which is a type of price fixing to which Professor Friedman objects.

[11] "Despite the economies and short cuts devised by banks for collecting out-of-town checks, the system is wasteful in both time and money" (John Thom Holdsworth, "Money and Banking" (1914), p. 211). A list of 8 "defects of the former system of country collections" is given in Ray B. Westerfield, "Banking Principles and Practice" (1927), p. 494.

[12] "Report of the Commission on Money and Credit," p. 77. It may be of passing interest to note that the two regions where remittance exchange charges are still prevalent are those where the analogy with foreign exchange was formerly most apparent because a large part of the income of the region was derived from products (grain and cotton) shipped to foreign countries.

accounts have not aroused the hostility engendered by exchange charges, but their propriety and reasonableness may be questioned on the ground that they result in an inequitable distribution of the cost of money transfers. Methods of computing service charges generally involve the levying of charges on both senders and recipients, but in such a way as to fall more heavily, relative to the number of transfers, on individuals with the smaller accounts than on business firms with the larger accounts.

The value of a money transfer is also related to the amount transferred. This was recognized in the former system of collection and exchange charges under which, for example, under the rules of the New York clearinghouse, one-tenth of 1 percent was made for check collections east of the Mississippi River (except for cities near New York) and one-fourth of 1 percent west of it.[13] It is also recognized in the Federal Reserve Act, which authorized member banks to make reasonable collection or exchange charges (except against a Federal Reserve bank) not to exceed one-tenth of 1 percent.[14] The propriety of charging for money-transfer costs in accordance with the amount transferred is also embodied in current practice when such transfers are separated from deposit accounts, as in bank drafts and postal money orders.

This method of viewing service charges on deposit accounts suggests that such charges are highly discriminatory and not, as has been said, the only nondiscriminatory payments to owners of demand deposits. This view of service charges also illuminates the real character of the so-called interest on demand accounts (explicit if so permitted, otherwise implicit). Such interest is essentially a rebate to some of the bank's customers of part of the income received (whether in the form of return on invested assets or of service charges) for operation of a deposit-transfer system. This rebate is made feasible because of the custom of making charges for the transfer of money according to ledger entry and paper-handling costs without regard to the value of the service to the parties involved in the transfer.

Prior to the prohibition of interest on demand deposits the majority of the banks did not pay interest on any checking accounts, and most of those that did so paid interest only on accounts with relatively large balances. Recent studies of the cost of handling demand deposit accounts and of the earnings of commercial banks indicate that this would again occur if the prohibition were removed, since their profit margins would not permit interest on all accounts, at least at more than an infinitestimal rate (unless payment of interest led to higher service charges or loan rates or both).

The foregoing discussion of service charges and the value of money-transfer services suggests that one of the major reasons why it is profitable for banks to pay interest on the balances in their larger accounts but not on those in their smaller accounts, and why, under the prohibition of interest on demand accounts, they have developed the practice of performing many extraneous services commonly referred to as "implicit interest," is their adoption of an inequitable method of distributing the costs involved in providing a superior form of money; i.e., a form to which a transfer mechanism is attached. It follows also that a remedy for the problem of "implicit interest," which would be more appropriate than removal of the prohibition on explicit interest, would be to encourage or require the banks to institute a method of making service charges that would offer less temptation for provision of extraneous services to customers now favored by a discriminatory and inequitable method of charging for deposit transfers.

Another factor contributing to the practice of providing explicit interest (when permitted) or more services (implicit interest) on some accounts than on others is the comparative bargaining power of bank cutsomers. Banks, it has been said, pay interest to those with sufficient power to extract it, and some powerful depositors are therefore able to acquire bank-created circulating medium at lower prices than other depositors. It may be argued that this is in accord with the usual result of competitive pricing and thus might be viewed favorably. But the situation may also be viewed as an unfair pricing practice and as price discrimination of the sort that has long been illegal under common carrier transportation codes and judicial decisions. In fact, it may be viewed as having a close analogy to the arrangement made with leading railroads in 1872 by the Standard Oil Co. and associates under which they obtained rebates on all their own shipments and also "drawbacks" on all oil transported for other refiners.[15]

[13] Holdsworth, op. cit., p. 211.
[14] United States Code, title 12, sec. 342.
[15] Encyclopaedia Britannica, 14th ed. vol. 19, p. 365.

There are other aspects of the distribution of bank charges and their results that need consideration if it is regarded as good public policy to require commercial banks, in return for exercising a Government prerogative, to perform well their distinctive collateral money-transfer service. It may be good public policy to foster or enforce methods of remunerating banks for their money-transfer charges in ways that reflect average costs rather than those associated with specific items of service—similar to uniform first-class postal rates that disregard the additional cost of mail service to the more remote locations. Attention should also be given to the degree to which relatively high charges on the smaller bank accounts lead to nonuse of checking accounts by people to whom they would be a convenience and to the performance of money-transfer functions by other types of financial institutions. There appears to be evidence, for example, that in some places, notably New York City, many wage earners and other people with moderate incomes do not maintain a demand deposit account in a commercial bank because of the high cost of such an account; and this has induced mutual savings banks to perform for their customers such money-transfer functions as payment of utility bills and provision of cashier's checks and money orders.

Pursuit of such questions as these lead to the suggestion that we may need a reformation of deposit account service charges to improve their equity and the quality of money-transfer services, and that this may require some sort of control over service charges by bank supervisory authorities—which are, of course, the same species of governmental body as public utility commissions. At present, too little is known about the way costs and charges for money-transfer services are actually distributed to permit development of specific recommendations regarding such control, but a careful analysis of service charges with a view to formulation of public policy may be suggested. Surely, regulation or limitation of serve charges is as germane a task for legislative and bank supervisory action, for the purpose of fostering a banking system that serves the public well and efficiently, as limitation or prohibition of exchange charges or their absorption by correspondent banks or limitations on interest rates charged borrowers from banks.

Dual function banking and deposit masquerading

The business of most commercial banks, as conducted in the past and at present, includes not only the creation and transfer of circulating medium, or money, but also acting as a financial intermediary by the receipt and investment of savings and other funds. In theory the two types of activity are sharply different. In practice the line of demarcation between them has been badly blurred, partly because of the application of the word "deposits" to divergent types of bank liabilities: a form of circulating medium, on the one hand, and funds received for investment (in a pool with specified conditions and safeguards) on behalf of the owner, on the other. The resulting confusion as to the character of deposits has inevitably led to a situation that may be described as deposit masquerading.

Two sorts of masquerading have appeared. One occurs when funds that are held by their owner primarily for use at any time as money are deposited in a bank in the form of a savings deposit with a definite or well understood implicit understanding that they may be converted at any moment into a checking account. It might be assumed that this type of masquerading deposits is less prevalent than it was a few decades ago, because of the more rigid prescription by supervisory authorities of the conditions attached to deposits in the time and savings categories. However, the impact of such prescriptions has been largely offset by other developments, such as the introduction of negotiable time certificates of deposit and in some places computation of interest on savings accounts on a daily basis. The reverse type of masquerading is probably less prevalent than formerly. When explicit interest payments were permitted on demand accounts some funds held by their owners primarily as investments, with the interest return on them the chief consideration, could be placed in demand deposit accounts with the added advantage of instant usability as circulating medium. To some extent this kind of masquerading may still occur, if valuable considerations other than money transfer services are rendered by banks to holders of demand balances.

Deposit hybridization and monetary control problems

Designation of the foregoing types of deposits simply as masquerades is, of course, an inadequate description of their character. They are, in fact, a

hybrid—which may be described as circulating medium with a bonus of investment income, or as income-bearing investments which have the privilege of being used as circulating medium without further trouble (or no more than a mere notification to the bank to change the classification on its books). This hybridization might give us little concern if we were not interested in attempting to provide continuously that quantity of money in the economy which will permit and encourage maximum output and employment with a stable level of prices. The existence of these hybrid deposits, regardless of which mask is thrown over them, makes it impossible to obtain a good measure of changes in the quantity of the Nation's outstanding medium of exchange, or of changes in the rate at which it is being used in the economy, both of which are needed for use in the formation of monetary and other types of Government policy.

It is also this hybridization of deposits, and the constant attempts of commercial banks and their customers to perpetuate it regardless of how carefully demand, time, and savings deposits are defined, that is at the root of many of the most troublesome issues with which the Commission on Money and Credit and the President's Committee on Financial Institutions were concerned. Such issues include: the question of whether reserve requirements for time deposits, or at least some categories of time deposits in commercial banks, should be of the same character and related in amount to those for demand deposits in commercial banks, or similar in character and amount to reserves for liquidity purposes deemed desirable in the case of mutual savings banks and savings and loan institutions; the question of the extent to which regulation of interest rates on time and savings accounts in commercial banks, or at least on some kinds of such accounts in those banks, should be the same as for deposits in savings banks and savings and loan associations; the question of the extent to which portfolio retrictions for commercial banks and for other financial institutions should be similar in character; and the question of the appropriate limitations on insurance coverage.

These problems are largely the consequence of deposit masquerading and hybridization. They are the result of constant effort by commercial banks to escape the rigors of monetary control and to engage in the equivalent of counterfeiting by issuing more circulating medium than is permitted by Federal Reserve control over the aggregate quantity of reserves against demand deposits, together with the efforts of other financial institutions to engage also in the equivalent of counterfeiting by making their obligations approach as closely as possible to money, defined as means of payment and temporary abode of purchasing power between acts of sale and purchase.[16] Such problems are likely to be aggravated, rather than alleviated, by removal of the prohibition of interest on demand deposits.

It is also deposit hybridization and the effort of both commercial banks and other financial institutions to engage in the equivalent of counterfeiting that is primarily responsible for the confusion in recent years about the proper focal center—i.e., money or liquid assets—of monetary control operations. Because of the blurring of the line of demarcation between money and other assets readily convertible (for most individual holders most of the time) into money some economists and advisers on central banking operations have shifted their attention from the former to the latter as the variable to be controlled in the interest of economic stability and avoidance of inflation. However, the logic underneath this emphasis on liquid assets necessitates the inclusion of lines of credit to bank customers (both explicit arrangements and implicit understandings) which in practice are as close an approach to money (i.e., a commitment to provide money) as most of the fixed value assets held by the public. When this is done, the concept becomes so amorphous and the amounts involved so unmeasurable as to be unusable for monetary control problems. What most needs control—for avoidance of serious inflation on the one hand and deflation and deep depression on the other, and for moderation of the fluctuations we term "business cycles"—is not the amount of assets potentially convertible into money but the amount actually so converted.

Instead of undoing what has already been accomplished to reduce the extent of deposit hybridization, we should move as rapidly as possible in the direction of a complete separation of the savings and time account business of commer-

[16] The term "equivalent of counterfeiting," is used here to cover efforts to issue money by methods or in quantities not governmentally authorized, without any implication of intent to defraud. This, I assume, is included in Friedman's concept of "counterfeiting, broadly conceived" (Friedman, op. cit., p. 8).

cial banks from their circulating medium function.[17] To do this adequately requires a full separation of the assets, liabilities, and capital accounts involved in the two functions, but does necessarily mean a complete divorce of ownership. That is to say, it could be accomplished by permitting commercial banks to establish wholly owned subsidiaries to handle the time and savings side of their operations, accompanied by a reasonable set of rules regarding cost allocation of facilities and personnel used in both sets of operations, and full disclosure to their customers of the separateness of the two types of service.

Allocation of resources

Two arguments have been advanced that the prohibition of interest on demand deposits interferes with the optimum allocation of resources. One of these relates to efforts of individuals and enterprises to economize on their cash balances when they are not permitted to receive interest on demand deposits. The other relates to the question of which banks in the system can make the most efficient use, in loans and investments, of resources that might be shifted among the banks. It should be noted that the second argument relates to a different segment of demand deposits than other arguments discussed in this memorandum. It relates to interest on interbank deposits, which do not enter into our concept or measures of the stock of money, whereas other arguments pertain to interest on deposits of individuals and enterprises.

The argument that individuals and enterprises use resources in their efforts to economize cash balances that they would not so utilize (and therefore waste such resources) if interest were paid on demand deposits, seems to me to have very little merit. A recent writer refers to such efforts by large corporations and State and local governments through development of facilities to handle short-term investments.[18] That personnel engaged in these activities would be released, in any appreciable numbers, if banks paid interest on demand deposits, seems unlikely. Banks incur costs in acquiring assets, storing them, keeping records of depositors' balances, and maintaining arrangements for transforming them into cash or transferring them to someone else upon demand. Though such costs may be comparatively small if depositors are fully charged for all costs of handling transfers, they are sufficient to inhibit banks from paying as high rates of interest to depositors as the income obtained on the assets acquired, or as high as the depositors could obtain by acquiring other forms of liquid assets. Corporations and other depositors who watch their costs would still bear the bookkeeping and other costs involved in comparing the convenience, risk, and income from holding demand deposits with those attached to holding time deposits or other forms of liquid assets.[19] The increased effort of corporations in recent years to economize their money holdings is the same kind of activity as their increased efforts to economize on other sorts of inventories, and doubtless would have occurred in the absence of the prohibition of interest on demand accounts.

The second argument regarding optimum allocation of resources is that if banks were permitted to pay interest on demand interbank accounts the larger banks, particularly the money-market banks in New York City, would entice the country banks to keep larger correspondent balances with them, and that the accompanying increase in their loans and investments would be better chosen and represent a better use of resources than those made directly by the smaller country banks. It was this question of the optimum allocation of resources as represented by the loans and investments made by banks that was the chief and, in fact, almost the sole argument underlying the prohibition of interest on

[17] It may be noted that one of the studies made for the Commission on Money and Credit recommended a required "complete separation of commercial bank demand-deposit and time-deposit operations." See Clifton H. Kreps, Jr., and David T. Lapkin, "Public Regulations and Operating Conventions Affecting Sources of Funds of Commercial Banks and Trust Companies," the Journal of Finance, May 1962, pp. 292 and 294–295. (The writer of this memorandum has not seen the report prepared for the Commission by Messrs. Kreps and Lapkin.)

[18] Warren L. Smith, "The Instruments of General Monetary Control," the National Banking Review, September 1963, p. 67. The argument that such activities constitute a waste of resources has also been used by Milton Friedman, op. cit., pp. 72–73, and James Tobin, "Towards Improving the Efficiency of the Monetary System," Review of Economics and Statistics, August 1960, p. 278.

[19] Scattered information for various dates from 1910 to 1931 suggests that rates on deposits of banks and on other large demand balances (when paid) were typically from one-third to one-half the average interest rates charged on bank loans, and from one-third to two-thirds of yields available on such alternative assets as time deposits, 4 to 6 months' commercial paper, 3 to 6 months' Federal Government bills or certificates, or corporate bonds with less than 2 years to maturity.

demand deposits in 1933.[20] Senator Glass argued that the funds drawn from the country banks by payment of interest on interbank demand deposits were used in the money-market centers for speculative purposes, which he obviously regarded as a misuse, or at least as a less-than-optimum use, of resources.[21] The argument heard today that prohibition of interest on demand interbank deposits prevents the optimum use of resources rests on the view that the managers of the money-market banks will make better decisions, from the point of view of selecting loans and investments most useful in the economy, than those of the country banks. Senator Glass, and many others before him, thought otherwise. The writer takes the same view of the matter (though there may be less danger now of so large a concentration in loans for stock speculation) on the ground that decentralization of bankers' loan and investment decisions is likely in the long run to be better than a centralization of them in a few money-market banks.

Senator Glass' argument about the concentration of interbank deposits in New York and loans for stock speculation, it should be noted, was also linked with a view that bankers' loan rates elsewhere were extremely sticky and not responsive in a competitive manner to the ebbs and flows in the demand for loans.

Variation in monetary velocity

The argument has been made that, if interest on demand deposits were not prohibited, the velocity of such deposits would be steadier, particularly that such velocity would be less variable over the business cycle. Supporters of this view have given different reasons for adhering to this belief.

One writer claims that allowing banks to pay interest on demand deposits would reduce the propensity of velocity of deposits to increase when a restrictive policy is applied because banks would raise their interest rate on deposits.[22] This argument appears to rest on a misunderstanding of the typical response of velocity to monetary restriction: First, a temporary increase in velocity, as people fulfill existing spending commitments or continue their rate of making such commitments before they realize that their cash balances are shrinking, which would almost certainly be over before the banks increase their rate on deposits; and, second, a decrease in velocity as a sequel to monetary contraction, as people react to their shrinking cash balances by attempting to conserve them and to their altered expectations as business swings downward. Consequently, the argument appears to be invalid, or at least to be inapplicable to significant cyclical variaitons in velocity.

Another writer makes a similar argument regarding reduction of cyclical velocity movements, but ties the arguments to interest rate variations rather than to the degree of restrictiveness of monetary policy. "This yield [interest] on demand deposits and currency is zero; when interest rates fall the cost of holding money falls by the same absolute amount, the quantity of real balances demanded rises, and velocity declines. If interest were paid on demand deposits there would be some tendency for the yield to decline when other interest rates declined, and the cost of holding money, and velocity, would therefore fall by smaller amounts."[23] This argument is not identical with the preceding, because cyclical variations in interest rates may be associated in part with forces other than monetary restraint (or ease) impinging on or resulting from cyclical business fluctuations. The argument may have some validity, but its practical importance must be questioned. Any observed statistical correlation between cyclical changes in interest rates and those in monetary velocity may be due entirely, or almost entirely, to other factors, notably the fact that changing business conditions and expectations tend to influence velocity and interest rates simultaneously. Also, elimination or reduction of the incentive to economize on cash balances by making them closely akin, as income-earning investments, to other forms of liquid assets, might make them subject to erratic variations be-

[20] Perhaps it should be noted that the major argument for requiring bank supervisory authorities to limit rates on time and savings deposits; namely, that the practice of paying excessive interest on deposits had led to unsafe and unsound loan and investment practices and was not used as an argument for the prohibition of interest on demand deposits. That argument was also applicable to demand deposits, but it implied only that there should be an interest rate limitation as in the case of time and savings deposits.

[21] Congressional Record (vol. 77, pt. 4, pp. 3729 and 4165–4166).

[22] Warren L. Smith (op. cit., p. 67).

[23] Richard T. Selden, "Stable Monetary Growth," In Search of a Monetary Constitution, edited by Leland B. Yeager (Harvard University Press, 1962, pp. 345–46). My comments on this argument are largely taken from my article, "Monetary Policy Toward Nonbank Institutions," the Comercial and Financial Chronicle, Nov. 30, 1961.

cause of the complex and varied set of forces affecting the demand for and supply of various types of interest-bearing investments. If this should occur, resumption of payment of interest on demand deposits might tend to intensify, rather than lessen, variations in velocity associated with cyclical business fluctuations.

Available information suggests that the practical importance of the arguments regarding reduction of cyclical variation in monetary velocity, regardless of whether they have theoretical validity, is negligible. A comparison of cyclical variations in the ratio of the gross national product to the money supply (defined as adjusted demand deposits and currency outside banks) for years prior and subsequent to 1933 is given in the acomppnaying table. The data do not reveal generally larger cyclical variations in monetary velocity since prohibition of interest on demand deposits than in the preceding period for which figures are available.

Cyclical variation in the ratio of gross national product to the stock of money

Prior to prohibition of interest on demand deposits			Subsequent to prohibition of interest on demand deposits (omitting World War II period)		
Cyclical peak or trough (year and quarter) [1]	Ratio, GNP to stock of money [2]	Percentage change from preceding peak or trough	Cyclical peak or trough (year and quarter) [1]	Ratio, GNP to stock of money [2]	Percentage change from preceding peak or trough
Trough, 1921 (4th)	2.975		Peak, 1937 (3d)	3.184	
Peak, 1923 (3d)	3.909	31.4	Trough, 1938 (2d)	2.741	−13.9
Trough, 1924 (4th)	3.447	−11.8	Peak,[3] 1938 (4th)	2.919	6.5
Peak, 1926 (1st)	3.883	12.6	Trough,[3] 1940 (4th)	2.506	−14.1
Trough, 1928 (2d)	3.587	−7.6	Peak, 1948 (3d)	2.409	
Peak, 1929 (3d)	4.121	14.9	Trough, 1949 (4th)	2.348	−2.5
Trough, 1933 (1st)	2.573	−37.6	Peak, 1953 (2d)	2.942	25.3
			Trough, 1954 (1st)	2.827	−3.9
			Peak, 1957 (3d)	3.347	18.4
			Trough, 1958 (1st)	3.239	−3.2
			Peak, 1960 (2d)	3.683	13.7

[1] Peaks and troughs in monetary velocity at or near business-cycle peaks and troughs, as measured by the ratio of gross national product to the stock of money defined as demand deposits adjusted and currency outside banks.

[2] Computed from gross national product at seasonally adjusted annual rate (with quarterly figures prior to 1939 estimated from Department of Commerce annual figures and quarterly figures of consumers' outlay and gross private investment from Harold Barger, "Outlay and Income in the United States," 1921–38, and (Government purchases of goods and services derived from other sources) and average demand deposits adjusted and currency outside banks (with quarterly figures derived from data for midyear and yearend dates, revised to take account of the Federal Reserves revision of all bank statistics for midyear dates, by use of changes in deposits in weekly reporting member banks and daily averages of money in circulation).

[3] Subcycle in velocity not associated with business cycles delineated by the National Bureau of Economic Research business cycle reference dates.

Effectiveness of monetary policy

It has also been argued that revival of the practice of paying interest on demand deposits, combined with removal of the limitation on rates paid on time and savings deposits, introduction of the payment of interest by Federal Reserve banks on part or all of their member bank balances, and changes in the use of Federal Reserve discount rates, would result in improving the effectiveness of monetary policy.

Under one proposal of this type, it is assumed that interest at the Federal Reserve discount rate would be paid on member bank reserve balances in excess of requirements, and that the rate paid by banks on demand deposits, as well as on time and savings deposits, would be competitively determined and would vary with the discount rate. Under these conditions, it is claimed, the discount rate would be a more powerful tool than any now possessed by the Federal Reserve, and its prompt and drastic use in countercyclical monetary policy is recommended.[24]

There are four serious difficulties with this proposal as a means of improving the effectiveness of monetary policy. First, countercyclical policy is the wrong kind of monetary policy. Study of the results of countercyclical monetary policy indicate that it causes more business fluctuations than it cures. His-

[24] James Tobin, pp. 276–79.

torical studies of the relation of monetary developments and policy to business fluctuations lead to the conclusion that for achievement of continuous maximum employment and output monetary policy should be focused on maintenance of a stable quantity of money at a reasonable rate of growth. As stated elsewhere, the results of such studies suggest that the emphasis of Federal Reserve authorities on credit policy, and their practise of alternating restraint and ease, should be cast into the limbo of social experiments that failed to achieve their objective.[25]

The second difficulty with this proposal is that it reflects a lack of understanding of the effectiveness of open-market operations as a technique for inducing banks to provide a steady quantity of money in the economy with a reasonable rate of growth. It is based on an erroneous assumption that Federal Reserve powers always have been and are still inadequate. That assumption is the consequence of failure to observe and analyze the record of events carefully enough to distinguish between inadequate tools and inappropriate orientation and misuse of an adequate powered mechanism.

The third difficulty with the assumption that the foregoing proposed combination of measures will improve the effectiveness of monetary policy is that it ignores the long tradition of limited competitiveness among banks in setting their charges for loans and money-transfer services. Recognition of this tradition was an important factor in the decision of the Congress to prohibit payment of interest on demand deposits. As mentioned above, the argument of Senator Glass for prohibition of interest on demand deposits rested on an assumption of extreme stickiness, essentially a lack of competition, in the setting of interest rates on loans.

"Bankers all over the country in every State, I venture to say—I speak definitely of my own State—have what they call a standard rate of interest, which is the limit of the law in the respective States; and they never depart from it except in special cases and for large purposes. In other words, if the standard rate is 6 percent, as it is in Virginia, one never finds a bank in days of prosperity, and one never finds a member bank of the system that ever lends the merchant or and manufacturer or an industry of any kind or the farmer at a less than 6-percent discount rate. They give the foolish reason for that, that if they ever once depart from the standard rate they cannot get back. Well, they can get back, and they can get back for exactly the same reason which induced them to depart. If they have abundant funds and credits, they can lower the rate of interest in order to stimulate business and industry and farming activities.

"If the demand is great and money is tight, they can go back to their standard rate just for the same reason or a like reason that actuated them in departing from it. But they do not do that. Bankers are the only people on earth that utterly disregard the law of supply and demand. They have their standard rates and stick to them, and would rather send their surplus funds to New York to be used for stock-gambling purposes at a wonderful rate of 2 percent, reduced now, I think, to 1½ percent, than to loan to their merchants and businessmen at less than their standard rate." [26]

This argument indicates that one of the reasons for the prohibition of interest on demand deposits was an effort to induce bankers to be more competitive in their loan rates; and if they are now more competitive than they were 30 years ago, the prohibition of interest on demand deposits is probably one of the important reasons that this is so. But there is no reason to assume that banks have become sufficiently weaned from concerted or customary action to produce the desired results.

Fourth, the assumption that bank rates of interest, both those charged on loans and those paid on deposits, would be promptly altered in conformity with changes in the Federal Reserve discount rate appears to be derived from banking traditions and conventions in Great Britain that differ from those in the United States and are not likely to become prevalent here. In Great Britain it is not only the rate paid on deposits, but also the rate on advances that is tied by custom to bank rate. Further, the conventional spread between bank rate and that on advances is applied not only to new loans as they are being made but also to outstanding loans, and this maintains for the banks their own spread between their loan rates and the rate paid on their deposits. This customary spread between bank rate and the rate on advances is a major factor in making changes in bank rate a more potent and quick-acting tool of central bank policy than changes in Federal Re-

[25] Clark Warburton, "How To Make Monetary Policy More Effective," the Commercial and Financial Chronicle, Nov. 2, 1961.
[26] Congressional Record, vol. 77, pt. 4, p. 3729.

serve discount rates. Consequently, to bring about an environment in which changes in Federal Reserve discount rates would be an effective central bank tool operating in accord with traditional central banking theory as developed in England would require alterations in American banking practices so drastic that neither bankers nor their customers would have an inclination to participate in them.

Interest rate level

The opinion has been expressed that the chief effect of removing the prohibition of interest on demand deposits would be a higher interest rate level. There are good reasons for believing that this is likely to occur. In view of the prevailing degree of custom and convention in the practices of American banks, the former widespread practice of fixing rates on deposits by clearinghouse rules or accompanying price agreements and their survival in less visible forms, and the discriminatory character of the banks' prevailing money-transfer charges, it seems probable that if interest on demand deposits were permitted, the rate would become very "sticky." This would bolster a corresponding "stickiness" in the prime loan rate, with a large chance that the latter, which is already unduly inflexible to downward pressures on interest rates arising from supply and demand conditions in the money-loan markets, would change less frequently and remain at a higher level than under present conditions. If this should occur, it would have undesirable repercussions on the general level of interest rates.

The operations of commercial banks tend, in a very real sense, to set a general floor on interest rates throughout the economy. This is because the banks are large transactors in many segments of the loan and securities markets, and are able, when their reserve position permits, to expand their loans and investments without parting with any other interest-bearing assets—in fact, for the banks as a group, without parting with any kind of assets, by virtue of the fact that an expansion of their own liabilities constitutes payment for additional assets acquired. Any change in the banking structure, or in the customs or methods of operation of commercial banks, which tends to put pegs under their interest rate floor should not be fostered.

Comparative growth rate, an irrelevancy

Some of the arguments advanced in favor of removal of the prohibition of interest on demand deposits, particularly those associated with the strongest pressures for such removal, should be regarded as irrelevant to the formulation of public policy on this and related questions. One of these is the complaint by New York City banks about their slow rate of growth in comparison with banks throughout the rest of the country. While the feeling of New York bankers that they are "boxed in" is understandtable, their situation is essentially like that of enterprisers in other types of economic activity. Business enterprises in places that are already intensively developed cannot expect a future growth rate to match that in other parts of the Nation, and it would be folly for public policy to attempt to eliminate the difference in growth rates.

Similarly, the argument that commercial banks should be given more competitive advantages because their deposits have shown a slower rate of growth than the liabilities of nonbank financial intermediaries is irrelevant to any real issue with respect to the retention or abandonment of the prohibition of interest on demand deposits. We do not expect different industries to grow at the same rate, and we have no reason to presume that the main business of commercial banks, that of providing circulating medium in the convenient form of transferable deposits, should grow at the same rate as investments of the public in other types of assets. In fact, it is reasonable to assume that in an economic environment in which there is a strong tendency toward indirect rather than direct investment of savings the growth of financial intermediaries will be more rapid than the growth in the need and demand for money.

THE CURRENT BALANCE-OF-PAYMENTS DEFICIT OF THE UNITED STATES AND GOVERNMENT POLICY: A STUDY IN POLICY CONFLICT AND "TRADE OFF" [1]

(Prof. Dudley W. Johnson, University of Washington)

Recently, aside from the general overriding issue of the avoidance of a nuclear war, several topics appear in the forefront of public and academic discussion and concern. The perennial favorites, the economic consequences of the public debt and the causes of inflation (cost or demand), have been superseded by problems associated with economic growth and the U.S. continuous balance-of-payments deficit. Interestingly enough, 1963 saw the publication of two major studies on this problem; both studies are, as has been noted elsewhere, the first complete scientific investigations on the payments deficit.[2] [3]

I. Introduction

From 1951 to 1963, the U.S. balance of payments has been in deficit every year except one—1957. The balance on goods and services and trade accounts has been consistently favorable; the deficits have emerged because the excess of earnings from exports of goods and services over imports and other current account payments has not been sufficient to cover military aid and expenditures abroad and the outflow of private and U.S. Government capital. Regarding this deficit, much of the public discussion by economic authorities on how to solve it strikes the present writer as ludicrous. Insofar as the statements made by Government officials on this problem have any content, they indicate that national policy has been and will continue to be based on palliative and/or selective measures—a preference exists for ad hoc adjustments in external economic relations which, as shown subsequently, have serious consequences for domestic economic policies.

As it is well known, we have informal arrangements with foreign central bankers not to convert dollar balances into gold; currency "swap" arrangements have been made between governments so that foreign currencies may be acquired to meet temporary needs without causing gold losses; foreign currencies have been loaned to the U.S.

[1] I wish to thank Profs. Philip Bourque, John Floyd, Charles Henning, and Judith Thornton for their aid in developing this paper. Professor Floyd's ideas were especially helpful in writing the second part of the paper.

[2] Hal B. Lary, "Problems of the United States as World Trader and Banker" (Princeton: National Bureau of Economic Research, 1963), and Walter D. Salant, Emile Despres, Lawrence B. Krause, Alice M. Rivlin, William A. Salant, and Lorie Tarshis, "The U.S. Balance of Payments in 1968" (Washington: The Brookings Institution, 1963).

[3] Harry G. Johnson, "The International Competitive Position of the United States and the Balance-of-Payment Prospect for 1968" (a review of the volumes cited in footnote 2), "The Review of Economics and Statistics," XLVI, February 1964, p. 14.

Government in exchange for debt instruments payable in dollars, the proceeds from which can be used to stabilize the foreign exchange value of the dollar; legislation has been proposed to tax U.S. residents' purchases of long-term securities of foreign issuers; hopeful assumptions have been made that foreign price levels will rise more rapidly than price levels in the United States, thus restoring equilibrium in our balance of payments; suggestions have been made to restrict foreign travel by U.S. citizens abroad; and so on.

Reliance on the above measures means that national policy, by default, is based on the premise that the present price of gold in terms of dollars will continue to be the pivot for the exchange rate structure. The payments problem thus is not being faced squarely as a problem of disequilibrium price. The continuing international deficit and domestic unemployment situation has added significance for the future because domestic goals are subordinated to balance-of-payments restrictions; therefore, the fundamental causes of the payments deficit are not faced squarely. Not only is the inflation neurosis already present in the minds of the economic authorities strengthened; but, as discussed in a subsequent section, a fundamental change may be required in regard to economic policy matters: we may be forced to use monetary policy for external balance and fiscal policy for internal balance, but, unfortunately, the expansionary effects of fiscal policy measures may be offset because of the monetary policies followed to maintain external equilibrium. This process endangers employment goals and also our growth objectives; the ex post magnitudes of production and employment begin to appear as the maximums attainable.

Because of the serious consequences of the simultaneous occurrence on an international deficit and unemployment, it is worthwhile to analyze our current balance-of-payments problem in the light of the major, if not the only, relevant causative factor—guaranteeing of a disequilibrium market price, in this case the dollar price of foreign exchange. Such a view of the cause of our international deficit is not new; what is of interest is how infrequently it is made the cornerstone of the analysis of balance-of-payments deficit. In presenting an analysis of the cause of the payments' deficit built upon the concept of a disequilibrium price, one feels a kinship with those who have written on methodological issues and have been subjected to the following criticism, true but obvious. The point being that certain things might be true and obvious to some, but often they are a minority. If one judges by the amount of professional economic commentary on the payments' deficit, including even the aforementioned two scholarly volumes, which, incidentally, mention a wide array of causes other than an inappropriate exchange rate with the usual conclusion that in time certain processes will come into play so as to eliminate the deficit, one begins to feel that the herein offered explanatory hypothesis of our payments' deficit is not so obvious.

The present paper attempts to add to the writings of those who have made the overvaluation of the dollar the cornerstone of their analysis of the U.S. international payments position. A simple model drawn from partial equilibrium analysis is used for an explicit, systematic analysis of this problem and of the adverse consequences of

overvaluation for domestic economic policies.[4] Extensive analysis shows how de facto domestic economic policy is being conducted as if the United States were on a classical gold standard, in which gold flows dominate internal monetary policy. More specifically, the money supply is in effect a dependent variable, determined by external forces; it is being controlled as if a classical gold standard were in operation. In the process of subverting internal monetary policy to the needs of external considerations, discretionary fiscal policy, when and if undertaken, can be prevented from attaining its goals. To the extent that a tax cut is considered as a device to reduce unemployment and expand output, the manner in which the resulting budgetary deficit is financed is crucial. As shown later, if the budgetary deficit is financed from the real saving of the community in order to avoid worsening of the U.S. balance-of-payments situation—i.e., if there is no increase in the money supply—the Government expenditure multiplier may be zero or even negative.

A second purpose of this paper is a pedagogical one. In the light of the many irrelevant matters discussed in explaining balance-of-payments disequilibriums, merit exists in using a simple pedagogical device drawn from static partial equilibrium analysis to illustrate the essential properties of the payments problems.

II. The Nature and Causes of Disequilibrium in the Balance of Payments

Disequilibrium in a country's balance of payments is similar to disequilibrium in any market, except that a continued balance-of-payments disequilibrium may cause changes in the level of income and employment in the entire economy, whereas this is not likely to result from disequilibrium in the market for one commodity.

Consider first a market, say for widgets; a simple textbook price adjustment model of partial equilibrium analysis is used. The aggregate demand for widgets at any price is the sum of the quantities demanded at that price by the n individual consumers:

$$D=\sum_{i=1}^{n} Di(p)=D(p). \tag{1}$$

where D is the aggregate demand. As is traditional, the form of (1) is the result of the assumption that all other prices and the incomes (parameters) of all n consumers are constant. Since the demand functions of the individual consumers are monotonically decreasing, the aggregate demand function is also monotonically decreasing.

The aggregate supply function for widgets is obtained by summing

[4] Several of those economists who have made, in one form or another, overvaluation the cornerstone of their analysis in examining the payments deficit of the United States are George N. Halm, "Fixed or Flexible Exchange Rates"; H. S. Houthakker, "Exchange Rate Adjustment"; Jaroslav Vanek, "Overvaluation of the Dollar; Causes, Effects, and Remedies"; all of these papers are published in the compilation of studies by specialists prepared for the Joint Economic Committee of Factors Affecting the U.S. Balance of Payments (87th Cong., 2d sess.). Also, see Milton Friedman in his "Capitalism and Freedom" (Chicago, Ill.; University of Chicago Press, 1962), pp. 56–74; and H. G. Johnson, "An Overview of Price Levels, Employment, and the Balance of Payments," Journal of Business, vol. XXXVI, No. 3, July 1963.

the n individual supply functions of widget manufacturers. The aggregate supply is:

$$S=\sum_{i=1}^{n} Si(p)=S(p) \tag{2}$$

The quantity of widgets demanded must equal the quantity supplied at the equilibrium price:

$$D(p)-S(p)=0 \tag{3}$$

This equality is a necessary and sufficient condition for the (ex ante) desires of buyers and suppliers of widgets to be consistent.

Assume that the flow demand and supply curves are:

$$D(p)=a+bp \text{ and } S(p)=A+Bp.$$

The excess demand function is:

$$X(p)=D(p)-S(p)=(a-A)-(B-b)p,$$

and the rate of change of price with respect to time is:

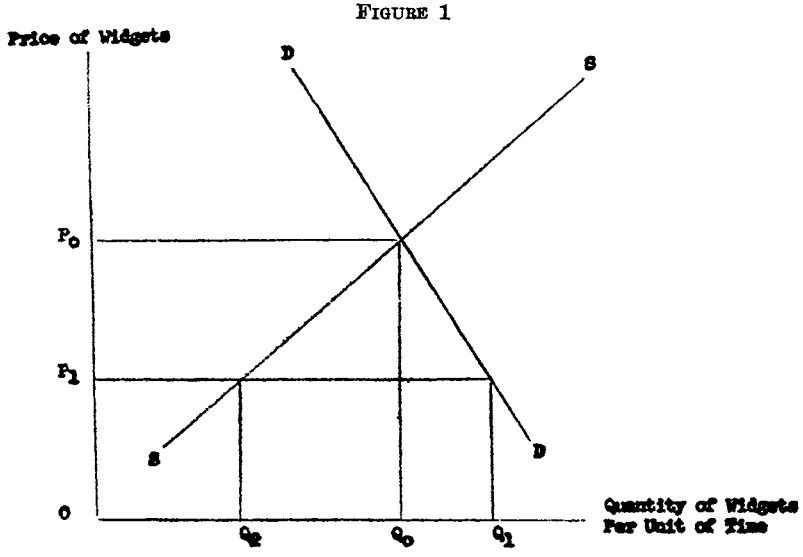
$$\frac{dp}{dt}=F[X(p)]; \text{ when } X(p)=0, \frac{dp}{dt}=0$$

an equilibrium price exists. Thus,

$$\frac{dp}{dt}=\lambda X(p)=\lambda(a-A)-\lambda(B-b)p.$$

Since the equilibrium price quantity combination satisfies both the demand and supply functions, the operation of finding the equilibrium price, by solving the equilibrium condition (3) for p, is equivalent to finding the coordinates of the intersection point of the demand and supply curves as illustrated in figure 1.

FIGURE 1



OP_0 is the equilibrium price; if this equality does not hold, demanders' and suppliers' desires are inconsistent; either demanders want to purchase more than sellers are supplying, or sellers are supplying more than buyers wish to purchase. For example, if OP_1 is the price, there exists excess demand—a disequilibrium price. In a free market, the price would rise to OP_0. If the government wants to maintain the price of widgets at OP_1, textbooks usually tell us that the government must do one of two things: (1) supply widgets on the market from its own stock so that the effective demand can be satisfied at the fixed price OP_1; or (2) limit the consumption of widgets either by giving out ration coupons or by allowing consumers to purchase the product on a first-come, first-served basis. In this case, the amount demanded will be limited to the effective supply OQ_2.

Another alternative exists for the Government in order to maintain the disequilibrium price of OP_1. It can undertake aggregate deflationary monetary-fiscal policies so that the market demand function for widgets, like any demand function, is forced sufficiently to the left to intersect with the supply function at OP_1. Even though the widget market would be in equilibrium, and ex ante demand and supply would be equal, economists would consider such a policy completely undesirable because the social costs are extremely great—the general unemployment of resources resulting from the Government's deflationary policy.

The usual moral drawn for students from such an exercise is that unless effective demand and effective supply are equal, which is not initially the case at OP_1, the widget market is not in equilibrium, even though in this market, as in all others, the amount bought always equals the amount sold—there is an ex post equality between quantities bought and sold. Blackboard economists, as well as "practitioners" of the subject, do not hesitate to specify unequivocally the consequences which result when an institution wants to maintain a disequilibrium price for any particular economic good. Elementary as the foregoing may be, it is worthwhile to note parenthetically that a very interesting phenomenon emerges when a comparison is made between the above simplified analysis and many of the current explanations of balance-of-payments disequilibriums, cost-induced versus demand-induced inflation, and so forth. The economic consequences of maintaining a disequilibrium price for a consumer good are stated without the aid of such esoteric devices as matrix algebra, second order conditions, and so on. Yet, somehow, inflationary effects of unions and/or the imposition of fixed exchange rates—interesting "explanations" appear which suggest that in the real world derived demand curves are not negatively sloping.

Applying the previous analysis to the U.S. international deficit, we divide international receipts and payments into two categories: (1) Autonomous payments and receipts which are made because the underlying transactions, such as the flow of goods and services and a certain fraction of short- and long-term capital movements arising from profit and interest yield differentials, are desired for reasons not related to the balance of payments; (2) induced receipts and payments arising because of a disequilibrium between autonomous receipts and payments. Changes in Government holdings of gold and foreign exchange are prime illustrations of induced flows. Autonomous receipts

in the U.S. balance of payments represent a supply of foreign exchange coming onto our markets and also a demand for dollars by foreigners. Autonomous payments represent a demand for foreign exchange and a supply of dollars.

Viewing the market for foreign exchange from the U.S. side, the aggregate demand and supply functions represent demand and supply arising from autonomous transactions. No reason exists to modify the model used in the widgets illustration. The aggregate demand curve for foreign currency arises from U.S. imports and capital outflows—at any price (exchange rate) it is the sum of the quantities of foreign exchange demanded by the n individual demanders at that price (exchange rate):

$$D=\sum_{i=1}^{n} Di(p)F.E.=D(p)=a+bp_{F.E.} \tag{4}$$

The supply curve results from U.S. exports and capital inflows—it is obtained by summing the n individual supply functions of suppliers of foreign exchange at any given price (exchange rate):

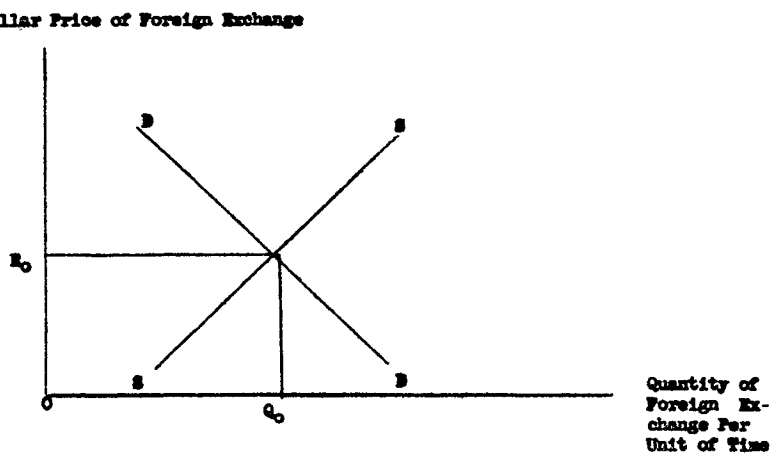
$$S=\sum_{i=1}^{n} Si(p)F.E.=S(p)F.E.=A+Bp_{F.E.} \tag{5}$$

The equilibrium condition is:

$$D(p)_{F.E.}-S(p)_{F.E.}=0; \tag{6}$$

such a condition is depicted graphically in figure 2.

FIGURE 2



Let one of the parameters implicit in our model change so that the equilibrium situation is upset—assume, for example, an increase in demand for foreign currency by U.S. residents. Many factors could cause this—price levels abroad increasing less rapidly or falling more rapidly than ours, greater relative increases in productivity abroad,

increases in foreign aid expenditures, and so on. The excess demand at the existing equilibrium price or exchange rate is:

$$X(p)_{F.E.}=D(p)_{F.E.}-S(p)_{F.E.}=(a-A)-(B-b)p_{F.E.} \tag{7}$$

and the rate of change of the exchange rate over time is:

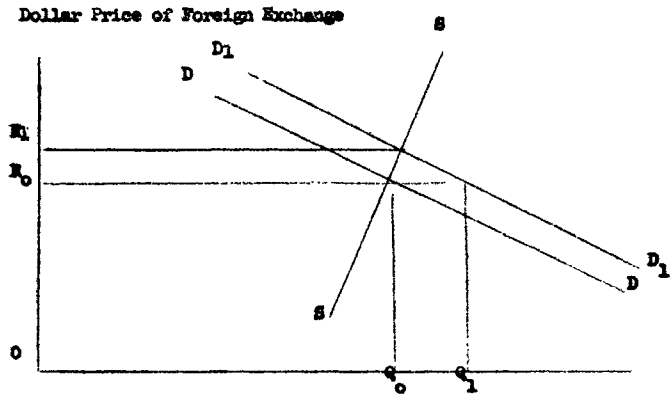
$$\frac{dp_{F.E.}}{dt}=F[X(p)]_{F.E.} \tag{8}$$

The new equilibrium exchange rate is reached when:

$$X(p)_{F.E.}=0 \quad \text{i.e,} \quad \frac{dp_{F.E.}}{dt}=0.$$

Graphically, this parametric change is represented by a shift to the right in the demand for foreign exchange. Figure 3 illustrates this.

FIGURE 3



At a rate of exchange equal to OR_0, the United States has an ex ante deficit in its balance of payments; that is, autonomous payments exceed autonomous receipts at OR_0. In a free market, the exchange rate would rise to OR_1, where $X(p)_{F.E.}=0$.

What is the cause of the present deficit in U.S. international accounts? Simply, it results from the overvaluation of the dollar in terms of foreign currencies; in terms of figure 3, the exchange rate OR_1 overvalues the U.S. dollar. Excess demand for foreign exchange exists at this price, $X(p)_{F.E.}>0$.

As a result of this overvaluation there has occurred a persistent balance-of-payment deficit. Admittedly, disagreement exists over the proper method to be used in measuring the payment deficit. Any discussion of whether the U.S. Department of Commerce's concept of the "total balance," determined by measuring the changes in the U.S. international liquidity position, or alternative possible concepts such as the "basic balance" on the "basic transactions," measured by the flow of goods and services, aid, and long-term capital, is tangential to the main purpose of this article. For our purposes it suffices to

point out that the deficit, measured by short-term liabilities to foreigners plus gold outflows, each year varied between $0.3 billion and $2.1 billion; during the 1951–62 period the deficit averaged over $1 billion annually. In the period 1950–57, the increase in short-term liquid liabilities to foreigners was $8.4 billion and the gold outflow was $1.7 billion. The deficits and gold outflows in 1958 and following years are shown in table 1.

TABLE 1.—*U.S. balance-of-payments deficits and gold outflows 1958–62*

[In billions of dollars]

Year	Overall deficit	Gold outflow
1958	3.5	2.3
1959	3.8	0.7
1960	3.9	1.7
1961	2.4	0.7
1962	2.2	2.0

Source: U.S. Treasury Department.

It is hard to understand why so many irrelevancies are offered by the economic authorities in explaining and/or suggesting methods to eliminate the present deficit. When unemployment and an international deficit appear simultaneously, it is prima facie self-evident that the currency of the deficit country is overvalued—solving one problem worsens the other. Even in the absence of unemployment, if a country has a continuous deficit in its balance of payments, the source of the trouble is its overvalued currency. The real question is whether the overvaluation is significant enough to warrant drastic measures; this raises another important question regarding the costs of the alternatives facing the economic authorities.

III. Alternatives and Costs of Solving the International Deficit Within Present International Monetary System

What can be done to eliminate the overvaluation of the dollar in order to eliminate the basic cause of the U.S. imbalance in its international accounts? Assume first, that drastic measures should not be undertaken; the present structure and functioning of the international monetary system is a parameter. This nonalteration in the basic structure of the international monetary system has been and apparently will continue to be the cornerstone on which national policy is based. Since this means, among other things, the maintenance of the present price of gold, only three general alternatives are available to the United States to eliminate its deficit. One alternative is to shift the burden of achieving international equilibrium to other countries; a second is to implement appropriate monetary-fiscal policies to force down prices and incomes in the United States to levels needed to achieve balance; and a third is to use a variety of ad hoc measures to increase receipts and reduce payments in the U.S. balance of payments.

SHIFTING THE BURDEN TO OTHER COUNTRIES

The United States can try to persuade other countries to adjust their domestic price levels or exchange rates to our gold price level. Overt persuasion is needed regarding exchange rate adjustments, but may not be needed for price level changes if one assumes the continuation of the present greater differential increase in the rate of change in foreign price levels as compared to ours. If this prevails, equilibrium may be restored in our balance of payments without other steps being taken. The U.S. demand for foreign currency will shift to the left, and the supply of foreign currency will shift to the right sufficiently to close the ex ante deficit at an exchange rate of OR_0 in figure 3.

Foreign countries can also be persuaded to undertake appropriate lending policies. Foreign governments can be induced to accumulate dollars by selling foreign currencies to American residents at official rates. Alternatively, the U.S. Government can borrow foreign currencies and make them available at official exchange rates. The latter has been extensively used since late 1961; for example, borrowings of foreign currencies were announced by the Treasury on May 22, 1963. Bonds totaling $53 million were sold to Belgium and Switzerland in exchange for foreign currencies to stabilize the dollar in foreign exchange markets. This borrowing by the Treasury brought the outstanding total of Treasury securities denominated in foreign currencies to nearly $630 million. More than $600 million of the outstanding debt is in securities whose maturities ranged from 15 to 24 months at the time of issue.

Along the same line is the use of currency "swap" arrangements. On May 30, the British Government announced that it had authorized a tenfold increase in an existing monetary arrangement with the United States which "guards the pound and the dollar against speculative attacks." The U.S. Government, at the same time, announced that it had authorized for the same purposes an increase from $50 to $500 million. The United States, prior to this announced arrangement, had such "swap" agreements totaling $1,100 million, with 11 countries.

In summary, then, if the United States wants to maintain the exchange rate at OR_0, it must sell either foreign exchange or gold on the foreign exchange market, which in practice means letting our stock of gold run down, since gold is convertible into foreign currencies, or borrow foreign currencies, or persuade foreign governments to accumulate dollars. Such a policy is "backed up" by hopeful modus operandi with other countries.

The above measures indicate a positive marginal product for the economic authorities' negotiating abilities. And if one has examined the aforementioned Brookings study, which predicts that the deficit will be corrected by 1968, or has read Hal Lary's concurring views on the Brookings projections, it is extremely easy to conclude that the external arrangements made by our economic authorities are all that is needed because in time, automatic processes of adjustment will eliminate the payments deficit.[5] But as Harry Johnson shows, the Brook-

[5] Hal B. Lary's testimony on the Brookings projections before the Joint Economic Committee, "The U.S. Balance of Payments," "Part II: Outlook for U.S. Balance of Payments," July 29 and 30, 1963 (Washington: U.S. Government Printing Office, 1963).

ings projections of the elimination of the deficit by 1968 depends critically on the extent of future inflation in Europe.[6] Western European countries may at any time in the future arrest their internal price level rises. Moreover, the probability that foreign economic authorities will be willing to adjust their exchange rates to aid our payments deficit is less than that of their agreeing to make appropriate price level changes, given the large number of moral judgments that enter into exchange rate discussions.

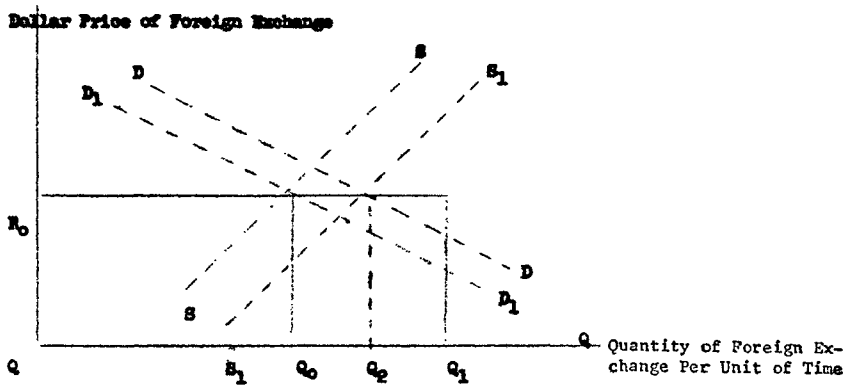
The value of arrangements for informal cooperation between central banks is reduced by the fact that it implies that the economic authorities believe that the problem is only a transitional one; they are thus distracted from its intrinsic seriousness. That is to say, to the extent that external economic policy is to be made within the constraint of the maintenance of the present dollar price of gold, two fundamental policy problems emerge: (1) the short-run problem of what to do during the interval before the deficit is corrected and (2) "* * * the long-run problem of what to do about the international monetary system when it is deprived of the sustaining flow of additional resources in the form of dollars provided by the deficit."[7] Since it is not the purpose of this paper to analyze the international liquidity mechanism, it suffices to say that even if one is willing to accept the validity of the forecast that the deficit will be corrected by 1968, the commitment by the United States to convert dollars into gold at the present price for foreign central banks causes, of necessity, U.S. policy to be influenced by the views of European central bankers and, more importantly, U.S. domestic economic goals must be sacrificed to balance-of-payments considerations. An extreme case of the latter situation is discussed below; in a following section we discuss how in fact recent monetary policy has been dominated by balance-of-payments considerations.

DEFLATIONARY MONETARY-FISCAL POLICIES

The second alternative for the United States, within the constraint of maintaining the present structure of exchange rates, is to implement appropriate monetary-fiscal policies to force down internal prices and incomes to the levels needed to achieve international balance. Two things would operate simultaneously to restore equilibrium in the balance of payments. The deflationary policies would reduce the demand for imports, thereby shifting to the left the demand for foreign exchange. At the same time, an induced flow of short-term foreign capital would come into the United States as a result of the rise in domestic interest rates, and an expansion of our exports would occur if our prices fell relative to those abroad. The combination of these forces shift to the right the supply curve of foreign exchange. This process would continue until the ex ante deficit at an exchange rate of OR_0 was eliminated. Figure 4 below depicts this. D_1D_1 *and* S_1 S_1 are the new demand supply curves for foreign exchange after the adjustment process has worked itself out.

[6] Harry G. Johnson, op. cit., p. 20.
[7] Ibid., p. 29.

FIGURE 4



This alternative policy could be adopted, but it involves a very expensive price (cost) to pay for achieving international equilibrium. The output lost by such a policy of solving an international deficit by domestic depression can never be regained. The adjustment process is similar to the one under the pure gold standard, even though it is not "automatic"; the economic authorities do not rely solely on adhering to a prescribed set of rules so that automatic and free gold flow brings about international equilibrium, as it would under a pure gold standard. But the basic concept of curing international deficits by domestic depressions is the same, since this was one of the major mechanisms of adjustment under the classical gold standard. The situation is analogous to "solving" an ex ante deficit in the widget market when the price is pegged below the market equilibrium by a general deflationary policy to cause domestic depression; if this policy seems absurd relative to the simpler one of allowing the price for widgets to vary in order to equilibrate this market, the same logic dictates the absurdity of solving an international disequilibrium situation by domestic depression rather than through exchange rate adjustment.

The above policy of forcing a domestic depression to solve our international deficit has not, per se, been undertaken by the United States, although recent monetary policy makes one less optimistic about the future. But what, in fact, has happened is that overvaluation has hindered the adoption of fiscal and monetary policies needed to achieve a fully employed economy. This cost is substantial as unemployment in 1959 was 5.5 percent of the civilian labor force; in 1960, 5.6 percent; in 1961, 6.7 percent; 5.6 percent in 1962; and in 1963, approximately 6 percent.

ACTUAL MONETARY POLICY AND THE GOLD LOSS

An interesting paradox emerges regarding internal monetary policy. Even though gold today serves no function in our domestic monetary system, de facto internal monetary policy is being conducted as if we were on a gold standard, i.e., domestic monetary policy is being dominated by gold flows. It may be recalled that under a gold standard

with fixed exchange rates, the money supply is ultimately a dependent variable determined by external forces. The direction of causation, according to the quantity theory, goes essentially from the fixed exchange rates with other currencies via the balance of payments to the money supply, to output and velocity and thereby to the level of prices and employment compatible with those exchange rates. Of course, one would not expect the absence of any changes in the money supply except those dictated by external considerations as domestic monetary policy will produce shortrun changes in the money supply unrelated to external dictates. But the fact remains that fundamentally, under the classical gold standard—

* * * domestic policies affect the stock of money through their indirect effects on the level of prices consistent with the fixed exchange rates—as, for example, by tariffs that affect the flow of trade or by measures that affect capital movements—or on the stock of money consistent with that level of prices—as for example, by measures that affect output or the incentive to hold cash balances—rather than through any direct effect on the stock of money itself, so long, that is, as the gold standard is maintained.[8]

The extent to which monetary policy today is influenced by external factors such as gold outflows is an empirical question. To form an empirical judgment on the importance of gold flows in the monetary authorities' "utility function" is difficult under the most ideal conditions but is compounded by their inflation neurosis as evidenced by the many public statements made by them on the inflationary pressures in the economy. The anti-inflationary bias of monetary policy from January 1953 to January 1961, which was during the Eisenhower administration, is evidenced by the fact that during this complete interval there occurred only a net $2 billion increase in Federal Reserve credit. Table III also shows this by detailing the behavior of the holdings of Government securities by the Federal Reserve in the 1961–63 period. This worry over internal inflation makes it hard to ascertain where it diminishes relatively and the concern over the balance-of-payments begins; of course, the important point is that both concerns have influenced monetary policy in the same direction; i.e., monetary policy has been less expansionary than it otherwise would have been. Nevertheless, evidence exists from which one can infer that the gold loss "problem" is becoming increasingly pervasive. First, the public statements by Chairman Martin of the Federal Reserve and the policy directives from the Federal Reserve Open Market Committee have increasingly mentioned the payments deficit as circumscribing the use of vigorous monetary policy to aid in reducing the level of unemployment. The hampering of expansionary monetary policy is described by Mr. Martin in the following terms:

> In the circumstances prevailing today, the Federal Reserve has found it necessary to balance domestic and international factors in arriving at policy decisions. The System's responsibility for the value of the dollar extends beyond domestic price stability to the value of the dollar in terms of gold and of other convertible

[8] Milton Friedman and Anna Jacobson Schwartz, "The U.S. Money Stock, 1867–1960," (New York, N.Y.: National Bureau of Economic Research, 1961), ch. 3.

currencies. This is partly a matter of restoring basic equilibrium in the balance of payments, and partly a matter of preserving stability in exchange rates in international markets.

The problems I have been discussing have weighed heavily with those of us in the Federal Reserve in our endeavor over the last year to keep credit conditions attuned to national needs.

On the domestic side, to help bring about recovery, expansion, and sustained growth in production and employment, the Federal Reserve has been operating to bolster the banking system's ability to *meet all reasonable* borrowing needs. [Italic added.]

On the international side, to help hold down the outflow of capital and gold prompted by the continuing balance-of-payments deficit, the Federal Reserve has been operating to minimize drains stemming from international differentials in interest rates.[9]

Added to this is the reported findings of a recent study by the Federal Reserve Bank of New York that a rise in short-term interest rates could easily reduce the balance-of-payments deficit by $500 million. Such a belief may have been a factor causing the Federal Reserve to raise, on July 16, 1963, the discount rate from 3 to 3½ percent. Under Secretary of the Treasury Robert Roosa cited this then possible forthcoming event before the OEEC meeting on July 10, 1963, as a favorable policy change; he also gave his approval to this monetary policy in testimony before the Joint Economic Committee's hearings on the U.S. balance-of-payments problems. This is interesting, since Mr. Roosa is in the executive branch of the Government; the Treasury and the Federal Reserve System have apparently found agreement on the solution to a problem.

Secondly, the actual behavior of recent monetary policy clearly shows that the interaction of the inflation neurosis and gold flows has inhibited expansionary monetary policy. This observation holds true regardless of whether one views the efficacy of monetary policy in terms of its impact on the power given to the banking system to carry assets or the effect of Federal Reserve action on the money supply. If the latter criterion, which is the fundamental one, is used, the lack of monetary aid given to offset the present underemployment situation becomes obvious. As of December 1961, the money supply was $145.7 billion (seasonally adjusted); on December 1962, it was $147.9 billion, a 1.5-percent increase. Table II details the monthly behavior in the money supply up to December 1963.

Thus, from December 1960 to December 1963 the money supply increased at an annual average rate of 2.9 percent. This rate of increase is considerably below the historical longrun rate for the economy. This low rate of increase in the money stock is primarily a result of the monetary authorities' concern over the balance-of-payments problem, along with their worry over the presumed presence of internal inflation. As table II indicates, since August 1963 the money

[9] Statement of William McChesney Martin, Jr., Chairman, Board of Governors of the Federal Reserve System before the hearings on the "January 1962 Economic Report of the President," Joint Economic Committee of the United States, 87th Cong., 2d sess., pp. 174–175.

supply has been increasing at a much faster rate. This move to a more expansionary policy results from the freedom given by the rise in short rates in mid-1963, as well as agreements by European countries to help support the dollar through more years of deficit. Also, another contributing factor is the acquiescence by European countries in the new policies of domestic expansion undertaken by the U.S. Government.

TABLE II.—*The money supply, 1962–63*

[In billions of dollars and seasonally and yearly]

1962—May	145.7	1963—January	148.7
June	145.6	February	148.6
August	145.7	March	148.9
September	145.1	April	149.4
October	146.1	May	149.4
November	146.9	June	149.8
December	147.9	July	150.7
		August	150.5
		September	150.9
		October	152.1
		November	153.4
		December	153.5

Source: Federal Reserve Bulletin. June 1963, p. 806.

No need here to open Pandora's box and attempt to evaluate the role of the quantity of money in determining the economic course of events; the existence of an effective transmission from the money stock to other monetary variables presupposes a systematic connection between it and incomes and prices and, as is well known, the absence or presence of such a transmission particularly in a deflationary environment, is subject to considerable disagreement among students of economic affairs. But whether one believes that changes in the stock of money matter relatively little in determining economic variables, or that such changes produce substantial alterations in the flow of income, prices, and other variables, and that, hence, money is a significant factor in understanding and controlling economic activity, it is agreed that monetary policy aims to affect output, employment, and prices through changes in the money supply.

From the point of view of Federal Reserve action, what matters, in the first instance, is the amount of Federal Reserve credit (high-powered money) created: this is determined by the size of open market operations. Given the negligible increase in the money supply during the 1961–62 and 1963 periods covered, it is apparent that open market operations actually conducted were insufficient. Table III shows changes in the portfolio of Government securities of the Federal Reserve System for the December 1960–December 1963 period.

TABLE III.—*Changes in the holdings of Government securities by the Federal Reserve, 1961–December 1963* [1]

[In millions of dollars]

Period (average of daily figures):	*Amount*
December 1960–December 1961	+1,891
December 1961–April 1962	−46
April 1962–May 1962	+442
May 1962–June 1962	+53
June 1962–July 1962	+30
July 1962–August 1962	+534
August 1962–September 1962	−209
September 1962–October 1962	+313
October 1962–November 1962	−114
November 1962–December 1962	+410
December 1962–January 1963	−326
January 1963–February 1963	+207
February 1963–March 1963	+152
March 1963–April 1963	+326
April 1963–May 1963	+208
May 1963–June 1963	+5
June 1963–July 1963	+568
July 1963–August 1963	+57
August 1963–September 1963	+72
September 1963–October 1963	+221
October 1963–November 1963	+472
November 1963–December 1963	+690

[1] The purchase excluded those bought under repurchase agreements.

Source: Computed from the Federal Reserve Bulletin, May 1963 and February 1964, pp. 650 and 178, respectively.

In the light of the level of unemployment prevailing since 1961, the actual changes in the portfolio of Government securities by the Federal Reserve System seem exceptionally modest. In the absence of a central bank endowed with the powers of a Santa Claus so that needed increases in the money stock can be injected into the system via "chimneys," in the money rain must be implemented primarily through open market operations. Since high-powered money can be created at zero real social costs, the Federal Reserve System apparently conducted its open market operations within a constraint imposed by the balance-of-payments situation, or by its fear of inflation, or by both.

Furthermore, it is beside the point to argue that, since excess reserves and/or "free reserves" were "plentiful" during this period as shown in tables IV and V, the bottleneck lies with the commercial banks, not the Federal Reserve. The usual argument offered is that the money supply failed to increase because of the unwillingness of commercial banks to monetize debt rather than the Federal Reserve System's inadequate increases in high-powered money. Focusing attention on the statistic "free reserves," defined as the difference between "excess reserves" of member banks and member bank "borrowings," it is found that they have been positive since 1960. It is difficult to interpret, however, what this means. As Friedman has pointed out, mathematically—

* * * a given level or pattern of movement of free reserves is consistent with almost any level or pattern of movement of the total money stock. For ex-

ample, free reserves can remain constant at any specified number, positive or negative, and the money stock increase at a rapid rate or decrease at a rapid rate. It is only necessary that total reserve balances minus member bank borrowing change at the same rate as required reserves.[10]

Aside from this, and more importantly, assume that there exists an aggregate demand function for free reserves by banks—at any moment of time the banking system demands a certain level of free reserves. In equilibrium the banks will no longer liquidate assets and/or acquire assets. Assume such an equilibrium level in juxtaposition with free reserves and unemployment. If the Federal Reserve wants to increase the money supply from such an assumed equilibrium level of "free reserves," it can supply a higher level of "free reserves" than demanded by the banks. An excess supply of "free reserves" exists. Banks will use this excess to increase their loans and investments, thereby increasing the money supply and required reserves; through this mechanism the actual level of "free reserves" is reduced to that desired. If needed, a perpetual disequilibrium situation can be fostered between the desired level of "free reserves" and the actual level. In this process of supplying more high-powered money to the system, the money supply expends; thus, the relevant concept is not the absolute size of free reserves, per se, but this relative to the desired level. The same reasoning applies to the concept of "excess reserves."

TABLE IV.—*Excess reserves for all member banks, 1960–63*

[In millions of dollars]

1960—December	756
1961—December	568
1962—May	503
June	491
July	529
August	566
September	455
October	484
November	592
December	572
1963—January	483
February	472
March	426
April	434
May	457
June	377
July	480
August	467
September	413
October	408
November	415
December	525

Source: Federal Reserve Bulletin, June 1963, p. 798, and February 1964, p. 180.

[10] Milton Friedman and Anna Schwartz, op. cit., ch. 11, p. 60.

TABLE V.—*Behavior of "free reserves," 1960–63*

[In millions of dollars]

1960—December	669
1961—December	419
1962—May	440
June	391
July	440
August	439
September	375
October	419
November	473
December	268
1963—January	384
February	300
March	271
April	313
May	250
June	141
July	158
August	137
September	92
October	95
November	39
December	198

Source: Federal Reserve Bulletin, May 1963, p. 652, and February 1964, p. 180.

The foregoing arguments are based on the proposition that the Federal Reserve can effectively control the money supply. Objections are often raised to this view: it is wrong, according to some, to say, except in some irrelevant long-run sense, that the Federal Reserve System controls the money supply or its rate of change—the monetary authorities lack an instrument with a dial pointer marked "M" or "$\triangle M$." According to this view, the Federal Reserve can only buy and sell securities in the open market, set reserve requirements, and the discount rate. Less directly, the monetary authorities control the effective primary reserves of the commercial banks, or at least that fraction which does not arise through the discounting process. Consequently, failure of the money supply to expand sufficiently to counteract unemployment is not even direct evidence showing the possible hampering effects of the international deficit on internal monetary policy. From this viewpoint a measure of effective monetary policy in a deflationary environment is the power given to the banking system to carry assets.

By passing any examination of the validity of this view, and using "free reserves" as an indicator of the liquidity (cash) supplied by the monetary authorities to the banks to carry assets, some interesting evidence is found. (The use of the statistic "free reserves" is justified, given the apparent importance attached to it by the system in determining its open-market purchases and sales.) As shown in table V the level of "free reserves" since 1960, with only few exceptions, has been declining. And, in November 1963, the daily average fell to $39 million. It seems obvious that the behavior of monetary policy, either measured in terms of increases in the money supply or by the liquidity supplied to the banks, cannot be considered adequate, given the present unemployment situation.

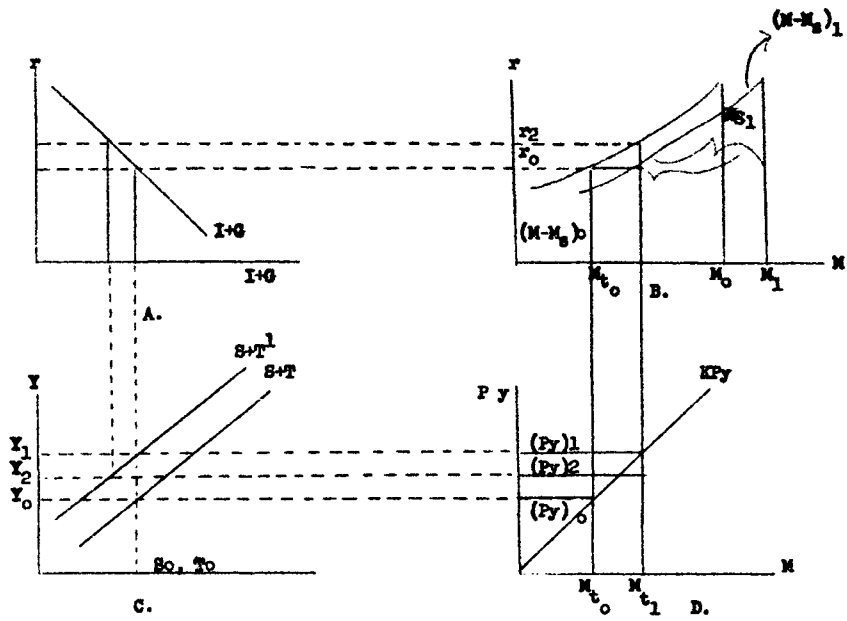
MONETARY POLICY AND THE TAX CUT

In this context of subverting internal economic policy to the needs of external considerations, it should be emphasized that discretionary fiscal policy can be frustrated from attaining its goals. Chairman Martin of the Federal Reserve has stated on several occasions that budgetary deficits resulting from a tax cut should be financed from the real saving of the community in order to avoid worsening the U.S. balance-of-payments situation—i.e., the money supply should not be increased. Presumably, the Federal Reserve will pursue appropriate policies so that the deficit is financed from the real saving of the community. To the extent that one is interested in a tax cut as a device to reduce unemployment and expand output, such a monetary policy can be disastrous.

This may be demonstrated by the following: Assume that the amount of unemployment depends on the level of aggregate demand, therefore, amenable to monetary-fiscal policies. Assume, also, a simple Keynesian world in which the determinant of total consumer spending is absolute current disposable income, not relative or permanent income; that investment depends on "the" rate of interest, not on current income; Government expenditures are a constant and taxes are a simple linear function of national income. The model, which is in real terms, is drawn in figure 5.

All the elments in this figure are traditional; part A is the Keynesian investment-demand function which includes a constant amount of Government expenditure; part B is the Keynesian demand for money function where the speculative demand for money is substracted from the total supply money giving the curve $(M-M_s)$, the supply of transactions balances; part D is the quantity theory. Part C is the Keynesian saving-investment diagram with

FIGURE 5



the axes reversed and the income scale compressed so that an equal distance on it represents more dollars than the same distance on the horizontal axis; the tax function is incorporated with the savings function. The zero subscripts depict an initial equilibrium situation.

Let there be an identical percentage reduction in the tax rate for all levels of personal income recipients—i.e., a downward shift in the tax function so that the consumption function shifts upward or, in our model, a reduction in the savings function. The new saving function is $(S+T)$[1] Income goes from Y_0 to Y_1, via the multiplier. This means an enlarged transaction demand from M_{t0} to M_{t1}. If the money supply is increased to M_1, this chain of events can happen as "the" interest rate stays at r_0 so that investment spending does not fall. But assume the money supply remains unchanged at M_0. Such an income expansion (presumably employment, too) could not occur. Higher interest rates retard the increase in spending resulting from the tax cut. The new equilibrium level lies between Y_1 and Y_2; it is less than would be predicted from the multiplier effect alone.

The order of magnitude is, of course, an empirical question. Some indirect evidence on this question is available from Friedman and Meiselman's study.[11] In this study they found that when the money supply is held constant, the partial correlation between autonomous expenditures and consumption, the former defined as net private domestic investment, plus the Government deficit on income and product account, plus the foreign balance, is small for the period under study, 1897–1958. In many comparisons, the relationship was negative.[12] The point is that in any discussion of the expansionary effects of reduced taxes in creating budgetary deficits, it is crucial to specify how the deficits will be financed—whether through the banking system so that the money supply is increased, or through borrowing from the nonbank sector so that the money supply is unchanged. Monetary policy becomes significant in influencing the degree of success of discretionary fiscal policy. To the extent that the monetary authorities in fact do what they say they are going to do, i.e., force the Government to finance its deficit from the real savings of the community because of the U.S. external imbalance, the efficacy of alterations in Government expenditures and/or tax receipts in expanding aggregate demand is reduced, if not completely offset.

The third policy available to the United States to solve its international deficit, still assuming fixed exchange rates, encompasses a host of devices to interfere with the free flow of trade and payments—exchange control, tariffs, export subsidies, and/or methods to separate domestic economic policy from international policy. No need here to examine the effects of such measures; the literature contains sufficient illustrations of the effects of protecting a disequilibrium exchange rate via trade interfering measures.

SUMMARY AND ADDED IMPLICATIONS

In summary, then, it is perfectly clear that the United States can solve its international deficit within the present international monetary system and without any exchange rate adjustment. The requirements for this solution are that we have a sufficient supply of gold, that for-

[11] Milton Friedman and David Meiselman, "The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States, 1897–1958." A staff paper for the Report of the Commission on Money and Credit.
[12] Ibid., p. 46.

eigners continue to accumulate dollar balances, that there continue to be high levels of economic activity abroad, and a tendency for foreign price levels to increase more (fall less) than ours. In order to make this solution workable, the United States must continue its policy of maintaining high levels of unemployment. Several implications of the above need emphasis, implications, it might be added, which are different than those analyzed already or those pointed out and discussed by Johnson—i.e., the shortrun problem of what to do about the deficit until it is corrected and the longrun problem of what to do about the international monetary system when it no longer is supplied with dollar reserves from the deficit.[13]

First, it has become quite common to assert that all the United States has to do in adjusting its domestic prices to meet the requirements of international balance is to maintain price stability. The problem, however, is much too complicated to be solved by such a simple prescription of price stability. If the United States wants to combine full employment with equilibrium in its international accounts, it must be prepared to expect sharp upward or downward changes in its price level, depending on the level of incomes and prices existing externally. Stated otherwise, the price level policy required to simultaneously attain balance-of-payments equilibrium for a fully employed and growing economy is a complicated matter as it depends on the nature and growth rate of this country and others, as well as on price level changes in other countries. To state the solution as simply requiring only price level stability borders on being ludicrous as it assumes that payments problems will be solved by some other method.

Second, the continuous use of palliative and/or selective measures to eliminate our deficit may result in the same adverse consequences which are presumed to be associated with a devaluation of the dollar in terms of gold. The argument is that if there exists any indication that dollars (or any other reserve currency) may not serve satisfactorily as a liquidity reserve because of possible devaluation, a shift to other sources of liquidity would occur, causing a breakdown of the international monetary mechanism as foreign governments and central banks find it advantageous to convert an increasing proportion of their already high levels of dollar holdings into gold. What is not recognized is that this might occur without the positive benefits of devaluation. If the foreign owners of dollar balances in the United States interpret the ad hoc measures presently undertaken as only forerunners of more stringent measures if needed—moves toward inconvertibility, for example—then the same set of expectations might be generated regarding the disutility of holding dollar balances as is said to prevail when the dollar is expected to be devalued.

Third, given the present exchange rate mechanism, U.S. domestic economic policies must, of necessity, be adjusted: fiscal policy can no longer be considered a "poor cousin" of monetary policy—i.e., monetary policy must be concerned primarily with external matters and fiscal policy with internal ones. Lary makes this point in his study. He says—

*** * * the commitment to a stable rate of exchange presupposes that the United States stands ready to apply measures to keep from being drained of its reserves by excessive outflows of liquid capital * * * it seems clear that the United States will be less able to rely on monetary ease as the preferred means for combating**

[13] H. G. Johnson, op. cit., pp. 29–31.

recession, and that the only broad alternative or complement to monetary policy is fiscal policy.[14]

The consequences of this are much more serious for discretionary economic policies than Lary apparently recognizes. He states that the—

* * * view is sometimes expressed that an expansionary fiscal policy to stimulate the domestic economy would be nullified in its effects if it were also necessary to raise interest rates in order to curb the outflow of capital. This argument appears to be based on the assumption that an increase in interest rates sufficient to reduce the outflow of capital could be achieved only by tightening credit to the point where the effects of fiscal expansion would be fully offset. It is difficult to see why this should be so.[15]

As pointed out earlier, whether or not an income expansion initiated by fiscal policy will continue or be brought to a halt is influenced considerably by the method employed to finance the deficit. What is crucial is to recognize that if expansionary fiscal policy cannot be supported by an increase in the money supply because of external constraints, the greater must be the reliance on fiscal policy. This in itself will cause a drastic change in approach to domestic economic policy, a change that appears to be unappreciated by many professional economists as well as policymakers.

IV. Alternatives for the United States When the Exchange Rate Is a Variable

An alternative policy for the United States is to let the dollar depreciate or to devalue the dollar.[16] Two ways exist to achieve a devaluation of the dollar. First, establish the fixed dollar price of foreign currency at a higher rate; this can be accomplished by increasing the dollar price of gold. Secondly, the United States can allow the dollar price of foreign currency to be freely determined in the market. Mentioning such measures as possible policy alternatives, especially the latter one, brings forth reactions of such severity as if one were supporting sin and un-Americanism. Academicians qua academicians are less intemperate in their reactions to devaluation, yet a wide range of views on the efficacy of such a policy is prevalent amongst professional economists. And, as is well known, only a minority of the members of the economics profession advocate adopting a system of flexible exchange rates, although it is hard to understand why the generally held view is that exchange rates ought to be fixed when the logic of a pricing system dictates just the opposite—i.e., market prices ought to be free to adjust to changing demand and supply pressures.

In discussions of exchange rate policies in recent years, a point has been made, among others, that even if the United States were successful in achieving devaluation, the other countries would offset this by an equal proportionate devaluation of their currencies in terms of gold and the dollar. Moreover, such a change in the price of gold or the abandonment of a fixed gold price for the dollar would involve a serious disruption of the present international monetary system—a unilateral devaluation would impose capital losses on foreign-held dollar

[14] Hal B. Lary, op. cit., pp. 118–119.

[15] Ibid., p. 120.

[16] Considerations regarding two other major and much-discussed international reform plans are ignored. They are (1) extending the gold exchange standard from the present two reserve currencies to several additional reserve currencies, and (2) the centralization of monetary reserves either with or without the powers to create additional reserves. Such proposals are ignored because, in the writer's opinion, they do not come to grips with the basic problem confronting the United States. Plan (1) does not touch the fundamental cause of our external disequilibrium—i.e., the overvalued dollar; plan (2) does not solve this problem either, as it only provides more time in order to solve it, if desired.

balances and in general cause loss in the confidence of the dollar. Regarding a system of freely fluctuating exchange rates, to many the basic problem is that such a system generates even more adverse consequences than a unilateral devaluation. Under such a system speculation can generally be expected to have a cumulative destabilizing influence which intensifies any movements in the exchange rate, thereby readily causing the breakdown of such an exchange system.

There is no need here, in the light of the voluminous literature on the subject, to reexamine rigorously the case for or against fluctuating exchange rates. In theory a floating exchange rate would generate the basic adjustments needed for the longrun protection of the dollar and eliminate the problem of international liquidity. A floating exchange rate will be stable if the sum of the demand elasticities of imports and exports exceeds unity. It is an empirical question whether a freely fluctuating exchange rate system has, as a general rule, led to cumulative depreciation through self-aggravating speculative capital movements and/or caused severe internal economic instability. No doubt exists that freely fluctuating exchange rates have frequently been associated with both continuous depreciation and severe internal economic instability. The recent inflations in many South American countries, or the inflations that occurred in several of the European countries after World War I when they allowed their exchange rates to fluctuate, are cases in point. But such evidence has to be interpreted with care. A recent empirical study shows that when speculative activities caused severe exchange instability in many of the European countries that returned to a freely determined exchange rate after World War I, the underlying cause of the instability was that the money supply and credit was excessively elastic with respect to the interest rate.[17] Stated otherwise, the instability of the exchange rate was a result of internal monetary-fiscal mismanagement.

By the very same token, several countries which had freely fluctuating exchange rates had neither severe internal economic instability nor violent exchange instability. The United States from the end of the Civil War to the return to the gold standard had a freely floating exchange rate with other currencies and the Government abstained from entering significantly into the gold or foreign exchange markets. During this period, the United States experienced no inflation. Also the United Kingdom from the middle of 1920 to the return to gold in 1925 experienced internal price-level stability under a system of floating exchange rates; and after the European postwar recession of 1920–21, Norway, like France, experienced internal inflation, but in contrast to France, no foreign exchange crisis occurred even though the Government did not undertake to stabilize the exchange market. What all of this suggests is that if countries pursue sound monetary-fiscal policies, a freely fluctuating exchange rate need not be subjected to excessive fluctuation.

Since the U.S. payments problem results from a disequilibrium exchange rate, this can be removed entirely by allowing the rate to adjust to its equilibrium value which occurs automatically under a system of freely determined exchange rates. The cause of our external imbalance is no different than that for the Western European countries who suffered from a so-called dollar shortage, viz, a disequilibrium exchange rate which allowed them continuously to experience

[17] S. C. Tsiang, "Fluctuating Exchange Rates in Countries With Relatively Stable Economics: Some European Experiences After World War I," International Monetary Fund (staff papers), vol. VII, October 1959, p. 245.

ex ante deficits in their balances of payments. In both cases, the effective solution to achieve balance of payments equilibrium is to let the exchange rate move up and down in response to market forces.

The above remarks are not meant to suggest that the case for reforming the international monetary system on a basis of freely fluctuating exchange rates is now settled or could be if it could be shown that such a system is not liable to violent instability under the pressures of speculative influences. One cannot impose one's own preferences on the economic authorities—the utility function of the economist may differ from that of the economic authorities, especially in assessing the other elements of economic policy relevant in considering international monetary reform. But, if this solution is rejected, it does not follow that the only alternative is perpetual administrative freezing of exchange rates at the present levels. An increase in the price of gold—devaluation of the dollar—should be considered.

It has been argued that it is not obvious that the United States could devalue successfully since other countries could offset this by an appropriate devaluation of their currencies in terms of gold and the dollar. Both the Lary and the Brookings groups' studies make this point, especially regarding the EEC countries. No doubt exists that these countries could devalue along with the dollar; therefore, the U.S. competitive position would be unchanged. And, as a matter of fact, the possibility exists that a gold panic and an unwillingness to hold dollar balances could result from a dollar devaluation. However, to argue thusly strikes the present writer as strange for two reasons: (1) the IMF system, presumably, was created—

*** * * to allow for agreed changes in cases of fundamental disequilibrium. While this concept has never been officially defined, it would seem an appropriate description of the conditions of the dollar, given the persistence of a substantial deficit for over 5 years, coexistent with an otherwise undesirably high level of unemployment and persistent in spite of the battery of interventionist policies adopted to cope with it, and given also the variety of evidence that the competitive position of the United States has deteriorated.[18]**

And, (2), this view that a devaluation of the dollar is solely a unilateral act.

*** * * to which other countries could respond as they chose, is partly an anachronistic carryover from the history of the early 1930's, before it was recognized that exchange rate changes among major currencies had to be agreed on by both parties, and before this recognition was embodied in the tripartite agreement and subsequently in the IMF charter. Partly it is an overgeneralization from the British devaluation of 1949, which occurred at an early state of the fund's history before present techniques of central bank cooperation had begun to evolve.[19]**

Therefore, let us assume that a U.S. devaluation would not be countered by equal devaluations by other countries; two questions immediately emerge: (1) should the United States devalue and (2), if done, is it an appropriate remedy for the U.S. payments problem. The first question, the normative one, is not a simple one to answer in a vacuum. If the probability of moving toward a system of flexibile exchange rates is approximately zero, and if the past reluctance to undertake expansionary monetary fiscal measures continues in the future because of the fear of added pressure on our gold stock, then devaluation, according to the writer's values, should be undertaken. Ideally in this context, it would be preferable to let the gold flow out—foreigners have a useless commodity and the United States has real goods and

[18] Harry G. Johnson, op. cit., p. 27.
[19] Ibid., p. 28.

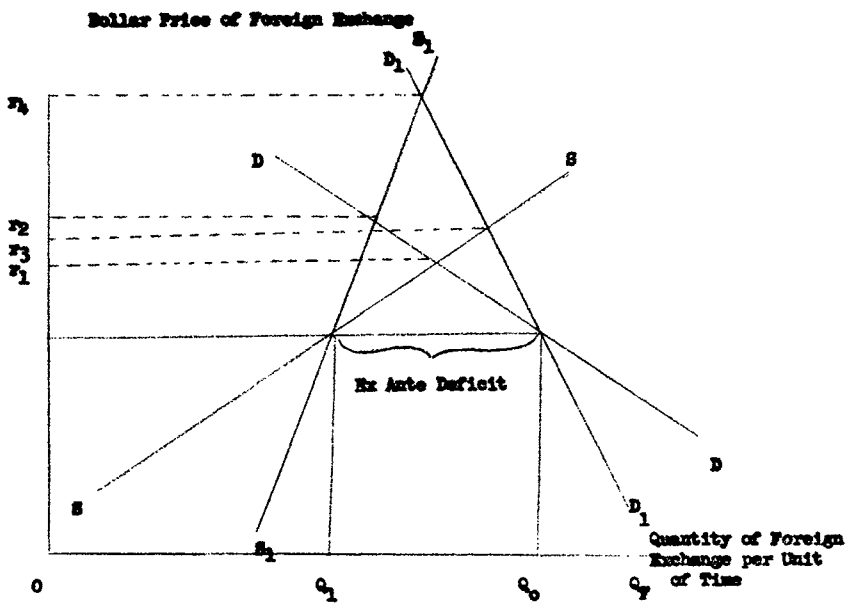
services—and solve our own domestic economic problems independent of the gold outflow. But given the gold myth which has grown from a calf to a full-grown sacred cow thereby frustrating domestic full-employment goals, partial slaughter via devaluation should be undertaken even if it does add to the present subsidy given to the gold-producing industries throughout the world.

Would devaluation be successful? Two problems are involved here. First, the problem of determining how much to devalue to correct our deficit. Empirically, two ways exist in estimating the devaluation required to close the deficit. A theoretical model can be constructed which shows the effects of devaluation on the balance of payments; then one can obtain empirical estimates of the parameter in the model. An alternative method is to assume that overvaluation is equal to the ratio of domestic to foreign price levels expressed in a single currency. Even after the first problem is analyzed, the second exists; the problem resulting from the adverse effects of speculative capital flow.

Regarding the first problem, the amount of adjustment in the exchange rate needed to eliminate a deficit will be smaller the greater are the elasticities of domestic demand and supply for our import type goods and the greater the foreign elasticities of demand and supply for our export type goods—i.e., the greater the elasticities of demand and supply for our export type goods and imports. The supply elasticities for our exports are relevant here in a complicated manner depending on whether the elasticities of demand for imports are greater or less than unity. These considerations are compressed and shown in figure 6.

The required devaluation also depends on the size of the deficit, given the values of the elasticities of demand and supply for our imports and exports. Thus, to determine how much to devalue, the United States must be able to make some sort of estimate about the magnitudes of the supply and demand elasticities of its imports and

FIGURE 6



exports, how net capital inflows or outflows might change with the devaluation, and the size of the ex ante deficit. This latter consideration is difficult since some proportion of the existing deficit on international accounts is due to speculative capital outflows. If speculators anticipate that the dollar is about to be devalued, they will shift from dollars to foreign currency which will intensify the deficit as it shifts the demand curve for foreign currency to the right. If the dollar is not devalued sufficiently and if speculators realize this, they will continue speculating against the dollar. And, of course, there is the added problem that those foreign owned dollar balances convertible into gold suffer capital losses.

But even after reorganizing all this, one must work with the world as it is or do nothing; therefore, Houthakker used the purchasing power parity approach and concluded that the dollar is overvalued relative to the major European currencies by 20 percent.[20] Prof. John Floyd, in an unpublished manuscript, has estimated that an overvaluation of more than 10 percent is highly implausible. He developed a theoretical model of the effects of devaluation on the balance of payments and measured the parameters of the model.

Thus, devaluation has a price because of some of the practical difficulties involved. Of course, devaluation is avoidable, but only at a price. A choice has to be made between maintaining the present fixed exchange rates and reviving the economy. Surely the price of the practical difficulties is less than the price of doing nothing. If need be, the unfavorable consequence of dollar devaluation can be dealt with by ad hoc measures, such as writing up foreign-held dollar balances. Not only would devaluation give an enormous stimulus to our domestic income and employment directly via the income effect and indirectly by enabling the undertaking of more vigorous expansionary monetary and fiscal policies, but since a dollar devaluation is also an appreciation of other currencies with respect to the dollar, dollar devaluation would have some beneficial effects on other countries. In the past 3 or 4 years with the dollar overvalued, we have experienced underemployment in our resources while other industrial countries have had to deal with inflationary pressures. Given a devaluation in the dollar, those countries presently having a surplus on their balance of payments are likely to realize a reduction in their inflationary pressures with little, if any, adverse effects on their levels of income and employment.

It should be emphasized that the costs associated with the alternative of solving the U.S. deficit by internal deflation are not borne solely by this country with its overvalued currency. Unemployment may spread to the countries with surpluses. Assume that foreigners believe that the present rise in short-term interest rates in the United States occurs and it is believed that further deflationary forces will follow. Such a set of expectations might cause a rise in the hoarding of gold by foreign investors as the anticipated worsening of the domestic situation precipitates a crisis of confidence in the future international value of the dollar, consummating in a breakdown in the international monetary system. If such a flight into gold assumed large enough proportions, significant reductions in the aggregate demand for real goods and services in foreign countries might develop, causing reductions in their levels of output and employment. Foreign central banks, to counteract such a demand for gold, would have to sell gold on the markets and combine this with appropriate expansionary monetary-fiscal policies to offset

[20] H. S. Houthakker, op. cit., p. 287.

the deflationary impact of the gold sales. All of this, however, might be too late.

The probability of a mass flight into gold is always suggested in discussions of possible exchange rate adjustments by the United States, but seldom stressed as a possibility resulting from the reliance on domestic depression to solve a payments deficit. The probability of this happening is not so far fetched as it might appear. As pointed out by Houthakker, in the second quarter of 1962, $300 million of new gold was produced of which less than 1 percent (the normal fraction is about 50 percent) flowed into monetary stocks, the remainder into hoards. Houthakker attributed this phenomenon to foreign private investors' concern over the slump on Wall Street at that time.[21]

V. Conclusion

The preceding shows the fundamental conflict between domestic price and income stability and balance-of-payments equilibrium under a system of fixed exchange rates. If the rates are continued indefinitely, any fundamental crisis in the balance of payments must be eliminated by movements in domestic price levels. This results in periods of substantial unemployment for the deficit countries. And the required adjustments in prices and consequent unemployment will be greater for the deficit countries if the surplus countries refuse to allow their internal price levels to inflate. Thus, through a combination of refusing to meet squarely the mutual incompatibility between external equilibrium and the internal target variables of economic policy because the dollar is overvalued, a preference for ad hoc manipulations in our foreign trade relations, and the continuous circumscribing of internal monetary and/or fiscal expansionary measures because of the pressures of external disequilibrium, the United States trades off the attainment of full employment output and a more rapid rate of the prevention of a possible worsening of our balance of payments.

Resolution by Independent Bankers Association, Pleasanton, Calif.

Whereas the House Banking and Currency Committee is now conducting extensive hearings on a number of legislative proposals having to do with the Federal Reserve System, and many suggestions have been made for improving the functioning of this system, some minor and others basic, many of which have not come under discussion except possibly in limited academic circles; and

Whereas it is the conviction of this association that some of these proposals may have far-reaching effects and any hastily conceived action can do irreparable harm to our system of centralized bank reserves and possibly to our entire economy: Now, therefore, be it

Resolved, That this association through its executive council at its regularly scheduled meeting held in San Francisco, Calif., March 8, 1964, urges the House Banking and Currency Committee to defer any action on the various bills affecting the Federal Reserve Board and the Federal Reserve System as well as on any proposals advanced during the testimony on these bills until the hearings have been printed and made available to interested banks and others, so that through study and discussion the intent and effects of these proposals may be understood, and further that the committee be urged to obtain the views of the country's bankers in the same manner that other information has been sought through questionnaires by the House Banking and Currency Committee, to the end that the committee in its final decisions may take such action that will strengthen the Federal Reserve System and broaden its activities so as to be of the utmost service to our economy; and be it further

Resolved, That copies of this resolution be furnished to the members of the House Banking and Currency Committee and also to the Members of the House of Representatives from the States comprising the 12th Federal Reserve District.

[21] H. S. Houthakker, op. cit., p. 295.

STATEMENT FOR FEDERAL RESERVE HEARINGS, 88TH CONGRESS, 2D SESSION, BY COOPERATIVES FOR CONSTITUTIONAL MONEY

MARCH 1, 1964.

To the Honorable Wright Patman, Chairman, and Members, House Banking and Currency Committee.

GENTLEMEN: In analyzing the Federal Reserve System you squarely confront history's greatest issue: shall mankind be ruled by an unelected few, or govern itself, with full access to the fruits of labor and invention?

The first policy was expressed by William Patterson, the pirate who founded the Bank of England, who said "The bank shall have benefit of interest on all the moneys it shall create out of nothing." It has been followed by Hamilton and all advocates of debt-money central banking to this day. The second was embodied in article 1, section 8, clause 5 of the Constitution, by Jefferson, who thus uniquely sought to guarantee liberty with justice, knowing that money power reigns over all others.

This is the stark and basic public issue. On Jefferson's side stands responsibility for equal rights vested directly in the people's Congress. On Hamilton's, exploitation of this supreme power to profit by an unelected few.

The colonists secured freedom first by issuing their own currency backed by land and goods. They fought the Revolution because this right was abolished through influence of English financiers, who were beggaring the population there and filling debtors' prisons.

Americans won it back under Jackson, who said "It is wrong to lend the financial power and resources of the country to any chartered monopoly whatsoever, on any terms imaginable * * *. Controlling our currency, receiving our public moneys and holding thousands of our citizens in dependence, it would be more formidable and dangerous than the naval and military power of the enemy * * *. If the bank be established with a charter unalterable without its consent, Congress will have parted with its power for a term of years, during which the Constitution is a dead letter." [1]

Finally, Lincoln recovered debt-free money, but the same financiers who charged up to 28 percent for funds with which to fight the Civil War again took command with the National Bank Act of 1863, demonetization of silver, 1873, and Resumption Act of 1875.

Quoting Senator Beck, Congressional Record, January 10, 1878, "It should be remembered that the money power back of the demonetization of silver had previously succeeded in stopping the Government from issuing its full legal tender money and had then established (private) national banks of issue in the United States—therefore, the destruction of the legal tender silver money of the Government left the national banks completely in control of the currency, based upon the fraudulent foundation of gold which these international bankers could manipulate and control." [2]

Though this surrendered power of issue to the banks and made debt instead of production the basis, it was ameliorated to some extent by responsiveness to local needs, and by basing credit mainly on reliable one-name paper of domestic origin.

By 1913, European methods of using two-name acceptances (trade contracts) across national boundaries for unlimited amounts of interest-bearing book credit had been perfected, while transfers of gold were employed to cause depressions in one country after another. The Federal Reserve Act, copying this model, was adopted by the few legislators who had not gone home for Christmas, December 23, 1913.

"The private ownership of Federal Reserve stock should * * * be heavily emphasized. 'The stock in the 12 Federal Reserve banks is owned by the member banks and such State banks as were eligible and wished to join. The law requires the member banks to subscribe to the capital of the Federal Reserve banks of their respective districts 6 percent of their own capital and surplus.

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[1] O. C. Dwinell, "Story of Our Money," pp. 100, 101, 104, 105.
[2] O. C. Dwinell, "Story of Our Money," p. 127.

Of this amount, 3 percent has been paid in, and the remainder is subject to call. There are no other stockholders in the Federal Reserve banks.' This is authoritative, for it comes from E. A. Goldenweiser, Director of Research and Statistics of the Federal Reserve System."

"Representative Voorhis in 'Out of Debt, Out of Danger' says, 'The main fact is that the business of the Federal Reserve banks today consists practically entirely of the creation of money or Federal Reserve credit and the purchase with it of either gold certificates or interest-bearing bonds of the U.S. Government.'

"The stigmata of a totalitarian society are extreme centralization and gigantism, dictatorship and planning from the top, grinding taxation and abstemious consumption." (Gorham Munson "Aladdin's Lamp" Creative Age Press, 1945.)

RECORD OF THE FEDERAL RESERVE SYSTEM

Assets: Increased from original capital of $147 million to over $50 billion.

Taxation: Federal and State, increased nearly 3,000 percent.

National debt: Grew from $2 billion to $315 billion.

Inflation: The biggest factor in inflation is taxation. (Without taxes, gasoline could sell for 2 cents a gallon. The second is interest. As Representative Patman said, "I cannot understand why anyone should insist that the credit of this Nation should be farmed out absolutely free to the private banking corporations and require the taxpayers to pay $2 to obtain $1."

Deficit financing: "(It) can only result in inflation." (Donald Fleming, recent Finance Minister of Canada.)

Pyramiding interest: Federal debt interest of $10 billion is more than the whole Federal budget up to 1940 except war years 1918–19.

Cost of government: With added cost of welfare programs undertaken because people lack power to buy enough themselves, it now takes 35 percent of the public's income.

The money gap: In 1961 the deficiency of purchasing power was $184 billion, according to Department of Commerce. (Statistical Abstract, 1962, pp. 312, 443–444.)

Automation: In 1960, we produced $2.03 of goods per hour. Power came 1 percent from animals, 3 percent from men, 96 percent from machines. Federal Reserve has no means to get these "wages of the machine" into the pockets of consumers.

RECOMMENDATIONS

To correct malfunctions, restore individual and governmental responsibility and distribute abundance equitably, this committee is urged to prepare and seek passage of legislation to:

1. Establish, under Congress, a National Monetary Authority which shall have sole right to issue money and credit-money, with annual audit required.
2. Place commercial banks on a 100 percent reserve basis.
3. Instruct National Monetary Authority to increase total amount of money in step with production increases.
4. Pay this new money partly as purchase discounts to keep prices steady, partly as equal dividends to all citizens.

(The following statement submitted by Charles J. Scanlon, President of the Federal Reserve Bank of Chicago, is in response to a request by Mr. Reuss. The exchange between Mr. Reuss and Mr. Scanlon may be found on pages 814–815 of volume 1 of the hearings entitled "The Federal Reserve System After 50 Years.")

The Supply and Demand for Coin at the Federal Reserve Bank of Chicago

SUMMARY

The shortage of coin has been developing over a long period of time. Until about 1960, the inadequacy of our coin supplies reached serious proportions only at the fairly regular periods each year when coin circulation was seasonally high. Since 1960, the coin shortage has become progressively more chronic.

The needs for coin for transactions purposes have risen substantially. Since we have been unable to supply all the coin needed, we have had to resort to rationing, initially for brief periods but recently over extended periods of time. Rationing in turn has been accompanied by a tendency on the part of the general public and the business community to intercept the normal return flow of coin wherever possible in an effort to assure adequate supplies for their own needs. Undoubtedly there has been some outright hoarding of coin, for the same reason, and some arrangements have been instituted to purchase coin from private suppliers, i.e., to pay in one way or another for what the Government has always provided gratis.

We know of no solution to the problem of the coin shortage other than to maintain inventories at sufficiently high levels to provide a continuous flow of coin in response to the demand, including the seasonal peak periods of need.

SEASONAL FLUCTUATIONS IN THE DEMAND FOR COIN

The use of coin is subject to wide fluctuations within the year. Demand typically becomes heavy just before the summer vacation season, at the time of return of students to school, before Easter and legal holidays, and especially before the Christmas season. Under normal conditions, immediately following these periods of heavy usage there is a flowback of coins—first to the commercial banks and then to the Reserve banks. The period before Christmas has always been that of the greatest need and of the longest duration and the period immediately following the Christmas holiday has been that of the greatest flowback.

Because of the unevenness of the demand for coin, there are, even in normal times, periods when our inventories are reduced to less than a desirable working level. Within the past few years, however, our inventories have become increasingly inadequate, and periods of reduced supply have become more and more prolonged.

GROWTH IN DEMAND FOR COIN AND RATIONING

In recent years, demand for additional coin to meet the needs of the growing population and rising volume of overall spending, the widespread use of vending machines, tollways, and parking meters has required an increased supply of coin. The large increase in the number of coin collectors, and the extent to which coins go out of circulation to meet the needs of this group, also may be a significant factor.

The mint has greatly accelerated production of coin but demand has grown so rapidly that greater production has not kept up with the need. Therefore, we have been unable to maintain sufficiently large inventories of coin to permit the filling of all orders for extended periods of time. Consequently, we have had to resort to rationing, which in turn has aggravated the coin shortage. Rationing causes the general public and the business community in particular to undertake arrangements to assure themselves adequate supplies of coin and this tends to divert coin from the normal stream of circulation. This situation is likely

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to persist as long as rationing continues. Only after orders for coin have been filled without restrictions as to amount for a sufficiently long period of time to restore confidence in the adequacy of supply is the normal flow to and from the public, business establishments, and commercial banks likely to be resumed.

The attached schedules, exhibit A, prepared from copies of monthly reports submitted to the Director of the Mint, reflect in part our worsening inventory situation with respect to most denominations of coin. The shortage of cents has been of long duration. These schedules show our opening and closing inventory balances, receipts from the mint and other Federal Reserve banks and branches, and the net outflow for each denomination of coin other than silver dollars for all months for fiscal years 1961–63 and fiscal 1964 through January. In connection with these statistics, it is important to recognize that the net outflow figures do not reflect fully the demand for coin, but represent only that amount which was available for payment as provided by flowback supplies and receipts from the mint.

The drawing down of our coin inventories over an extended period has culminated in our more or less continuous rationing of coin since early in 1963. We began rationing nickels on March 11, half dollars on March 18, dimes on March 25, quarters on April 8, and cents on May 27. Rationing of all denominations continued throughout most of the remainder of the year. This condition has continued in 1964, although we have been able to increase the percentages of amounts of coin requested because of an increase in flowback during January. With the approach of Easter, however, and without increased receipts from the mint over those now anticipated, we probably will be obliged to resume more intensive rationing.

At best, rationing is a distasteful activity, and inevitably an arbitrary one. It is certain to bring forth charges of discrimination. A commercial bank's needs for coin vary as the needs of its customers fluctuate. Therefore, an analysis of the bank's past orders for coin does not provide an infallible indicator of its present minimum needs. Since rationing has been necessary, however, we have been allocating available supplies to member banks on the basis of their orders in a past period in which we were not rationing. This appears to be the most equitable basis on which to allocate the limited supply. Essentially the method of distribution has been to use as a base the averages of payments in September and October of 1962—when we were not rationing—as a "normal pattern." We then disburse to each member bank on an equal percentage basis that portion of the normal pattern of payments as is available from our inventories. During 1963, these percentages of pattern varied from week to week depending on mint receipts and the flowback ranging from greater-than-pattern shipments for some denominations in some weeks to no shipments in other weeks when supplies had become completely exhausted. As indicated in the attached schedule, exhibit B, in most weeks the percentages were considerably less than 100 percent. In all but 6 of the 42 weeks, the percentages for nickels were below 50 percent.

Some further light can be shed on how our shipments of coin in 1963 fell short of actual demand by contrasting the volume of shipments to amount requested for these banks placing their orders by mail or wire. (Orders received by telephone typically were cut down to the amount we could supply before the order was entered in our records and, therefore, do not reflect banks' actual needs.) For 11 days selected at random throughout the period from April through December, banks which placed orders by means other than telephone received less than 50 percent of their requests on 6 days. Exhibit C. On none of the 11 days did the percentages exceed 60 percent. Moreover, the amounts of coin shipped to all banks were substantially below the amounts shipped on the corresponding days of 1962 on all but 2 of the 11 days.

THE SIZE OF ADEQUATE INVENTORY

Demands for coin at the Federal Reserve Bank of Chicago cannot be measured precisely because conditions vary from period to period, depending upon our inventories and other factors. When shipments are received from the mint, rationing percentages are increased, temporarily at least. If the higher payment pattern does not continue, however, the return flow of coin does not rise proportionately and the rationing cycle begins again.

We estimate that in order to maintain a proper working balance of coin at our head office we should always have an inventory of at least $75,000 in cents, $300,000 in nickels, $1 million in dimes, $1,500,000 in quarters, and $500,000 in halves. As the economy requires more coin to meet expanding needs, shipments received from the mint should be adequate to maintain these working

balances. It has been our practice to wire to the Bureau of the Mint at the close of business each Friday figures giving our inventory of each denomination of coin on hand at that time.

The attached schedule of domestic coinage, exhibit D, based on mint reports, illustrates that domestic coinage has been increased substantially in recent years. To accomplish this, mint facilities and personnel were utilized intensively and overtime operations generally prevailed. Nevertheless, production has been inadequate. The attached excerpts from letters, telegrams, etc., exhibit E, indicate the degree of awareness to the problem on the part of the Federal Reserve System and the Treasury Department. In view of the continued shortage of coin, we urge that every reasonable effort be made to achieve maximum utilization of existing mint capacity and that work on the proposed new mint be expedited. Because there are high costs to banks and business firms of trying to assure their own sources of supply, which in turn causes a disruption of normal distribution processes, we urge also that serious consideration be given to contracting with facilities outside the mint of some phases of production, especially for those denominations of coin in shortest supply. A major effort should be made to boost supplies so that Reserve bank inventories reach levels where rationing will no longer be necessary.

The Government correctly reserves unto itself the right to coin money. In the eyes of the public the responsibility for any shortages of coin, therefore, rests clearly upon the Government. It is difficult for people to understand why any shortage of coin should occur and impossible for them to understand why shortages should become chronic, particularly when the operation does not represent a net cost to the Government but, instead, produced seigniorage of $57,543,650 for fiscal 1962.

EXCERPTS FROM LETTERS, TELEGRAMS, ETC., REGARDING THE COIN SHORTAGE

July 12, 1960: Letter from Chairman of the Board of Governors to Secretary of the Treasury stated conference of Presidents of the Federal Reserve banks during a recent meeting with the Board urged consideration of the need for a long-range program to avoid recurrences of the present coin shortage. Following are excerpts from that letter:

"In recent years new construction and additions have increased the vault facilities of the Federal Reserve banks and branches to the point where most offices are now in a position to hold almost any amount of coin that the mint might be able to place with them.

"Fluctuations in the demand for coin seem to follow no set pattern and it is therefore difficult, even under the best of conditions, for the Federal Reserve banks to predict their requirements. The recent growth in the number of coin collectors and in the activities of coin dealers, and the effect of other new factors—such as the growth in suburban shopping centers and in the use of vending machines and sales taxes, and the frequency of changes in the amounts of such taxes—now make it practically impossible to estimate coin needs accurately.

"Coin shortages magnify themselves because there is a natural tendency to hoard whatever is scarce. There is some feeling that appeals to turn in surplus coin have, from the broad point of view, more adverse than beneficial effect, since such actions tend to create a fear that coin released will be difficult to replace."

July 22, 1960: Reply from Assistant Secretary of the Treasury to Board's letter of July 12 stated in part:

"During fiscal 1959, the mint produced 1,571 million coins under an appropriation of $4,300,000 for administrative expenses. For fiscal 1960, the mint was given an appropriation of $4,300,000. When it appeared that an unusual demand was continuing, the mint requested and received a supplemental appropriation of $300,000. For fiscal 1961, the appropriation originally approved was $4,900,000. Since then a supplemental of $600,000 was requested and only $500,000 was approved by the Congress. In fiscal 1960, the mint produced 2,567 million coins, which, as you will note, was a very great increase over any other recent years. In fiscal year 1961, it is expected that approximately 2,700 million coins will be minted. In fiscal year 1962, we plan to mint 3,300 million coins.

"The 1961 appropriation, including the supplemental, has made it possible to increase production very substantially since July 1. We believe the acute pressure has already been relieved in all of your offices and we intend to continue production at the present rate until inventories are sufficient, subject, of course, to the availability of appropriated funds.

"We agree with you as to the desirability of maintaining inventories adequate to meet unexpected demands, and we are glad to know that the Federal banks and branches have additional storage space which can be used for such inventories."

October 12, 1960: Letter from Director of the Mint to Federal Reserve Bank of Chicago regarding current shortage of cents contained the following:

"* * * in February 1959 when we were up on the Hill for our fiscal 1960 appropriation, the coin inventories were so high and the demand so low that we had difficulty in avoiding serious cuts in our request for operating funds. Four months later, in June 1959, we foresaw trouble due to the unprecedented demand in the first half of calendar year 1959. This meant that we lost about 3 months of peak production, during which we could have produced an additional 280 million pieces of coin, or more."

* * * * * * *

"If normal circulation without fear of shortage can be maintained, there will be no coin problem."

December 8, 1960: Federal Reserve Bank of Chicago wire reply to inquiry from Federal Reserve System subcommittee regarding rationing of coin during 1960. Summary of replies from all Reserve banks and branches indicated collectively that all denominations of coin except halves were rationed at some time during the year.

April 14, 1961: Letter from Acting Director of the Mint to this bank advising estimate of allocation of new coin from April to December 1961. Following is excerpt:

"Having recently received a supplemental appropriation, the second this year, both Mints have been placed on overtime operations and plan to produce approximately 700 million coins from April through June.

"Although our appropriation request for the fiscal year 1962 provided for the production of 3,350 million coins, the House Appropriations Committee applied a reduction of $350,000 in our estimate. We have 'protested' the cut and have requested the Senate to restore that amount. If our appropriation is approved in the full amount, it is expected that approximately 1,800 million coins will be produced during the period July through December 1961. The total production from April through December would then amount to a total of 2,500 million coins."

* * * * * * *

"The final outcome of the fiscal appropriation for 1962, in large measure, will be the determining factor as to whether or not we will be able to fully meet your coin needs for the balance of this calendar year."

August 7, 1961: Letter from Chairman of Board of Governors to Under Secretary Roosa referred to coin shortage:

"Briefly, it appears that there are two aspects to the situation: (1) the anticipated shortage of coin during the remainder of the calendar year, and (2) a proposal which may alleviate the recurring coin shortages and work to the advantage of the Treasury Department as well as to that of the System. With regard to the contemplated shortages of coin, appendix 4 sets forth the Mint's estimates of available coin and appendix 5 shows the estimates of additional coin that will be required for the remainder of the calendar year. It is significant to note that 20 of the 36 offices believe that the Mint's estimates are inadequate to meet their needs for the remainder of the current year.

"It continues to be the System's hope that some arrangement can be worked out for a coin production schedule that will permit the stocking of a supply of coin that would be sufficient to meet demands such as those presently contemplated for this year."

January 16, 1962: Federal Reserve Bank of Chicago wire reply to inquiry from Federal Reserve System Subcommittee regarding experience April through December 1961. Summary of replies from all Reserve banks and branches indicated that while more coin than was estimated was received there were periods of short supply collectively in all denominations, largely attributed to timing of shipments.

November 16, 1962: Letter from Chairman of Board of Governors to Secretary of the Treasury reported current coin shortage problem and referred to "at least one large user in Metropolitan Chicago, a chronic shortage area, (which) has under consideration plans to have fractional scrip printed and token coins minted to deal with an anticipated inability to obtain a sufficient supply of Government coin."

December 8, 1962: Reply from Secretary of the Treasury to Board's letter of November 16, stated in part:

"The Philadelphia and Denver Mints have been working overtime most of this fiscal year and they will continue to do so through the middle of December to provide additional coins for the active Christmas trade.

"The mint will present a supplemental appropriation request to the new Congress in January for additional funds for increased production throughout the remainder of this fiscal year. The Denver Mint is presently working three 8-hour shifts but the Philadelphia Mint is working only two shifts. It is planned to form a full third shift at the Philadelphia Mint, and to work overtime at both mints as required to meet the increased demands.

"The coin demand is expected to reach a new peak in fiscal year 1964 and funds will be needed to continue operations on a three-shift basis at each mint, with overtime operations as necessary.

"I look forward hopefully to the millennium when the inventories of coin in the mints and the Federal Reserve banks will be adequate to weather peak demands."

March 6, 1963: Letter from Chairman of Board of Governors to Senator Robertson responding to latter's request for the Board's comments on bill S. 874, to authorize the construction and equipping of buildings required in connection with the operations of the Bureau of the Mint, indicating that the Board strongly urged favorable consideration of the proposed legislation. Other comments included the following:

"When the mints are unable to furnish the amounts of coin requested by the Reserve banks and branches, the resulting shortages feed on themselves. This is because whenever it is apparent that coins are becoming scarce, commercial banks and other large users of coin tend to hold what they have, rather than deposit such accumulations in the Federal Reserve banks for recirculation. As a consequence, a shortage in one denomination soon spreads to other denominations.

"There is no indication that the factors that are causing the shortages will abate themselves, and it is believed that the problem can be overcome only by a large increase in productive capacity. The Board therefore strongly urges favorable consideration of the proposed legislation."

May 2, 1963: Letter from Chairman of Board of Governors to Congressman Bromwell in response to the latter's inquiry regarding inability of a bank to obtain adequate amounts of coin from the Federal Reserve Bank of Chicago included this paragraph:

"The shortage has been more acute and continuous in the Chicago district than elsewhere. This situation has been recognized and all possible steps have been and are being taken to correct it. For example, it is understood that in the last year the mint sent nearly 10 percent of its total production to the Federal Reserve Bank of Chicago, and that these regular shipments were augmented by large transfers of coin from other Reserve banks. While it received $13.2 million in coin from the mint during 1962 and $2.6 million in transfers from other Reserve banks, the bank in Chicago estimates that additional receipts of approximately $3.5 million would have been required to avoid rationing coin payments to member banks. The Reserve bank also indicated that requirements for 1963 will far exceed those of last year."

July 25, 1963: Letters from Chairman of Board of Governors to Senator Proxmire and Congressman Zablocki in response to inquiry regarding the shortage of coin included the paragraph quoted in the Chairman's May 2 letter detailed above.

November 4, 1963: Letter from Director of the Mint replying to Federal Reserve Bank of Chicago letter of October 22 reviewing the current coin shortage problem despite considerably greater shipments of coin from the Mint in 1963 to date than the corresponding period in 1962; more than total calendar year receipts for each of the preceding 6 years. The Director's letter indicated hope that tentative shipments then being assigned would do much to lessen the pressure.

January 14, 1964: Letter from Chairman of Board of Governors to Secretary of the Treasury advising that the subject of coin had been discussed at the December meeting of the Presidents of the Federal Reserve banks and the Board of Governors and comments made by the Presidents indicated that the

situation with respect to the coin supply had worsened as compared with last year. The Chairman's letter concluded with the following:

"Under the circumstances, and with mint production at capacity, several of the Reserve banks have suggested that the mint use outside production facilities in order to mitigate the continuing and increasing coin shortages. In our view, the coin shortage is now harmful to the conduct of the Nation's business and is getting worse. Drastic measures to deal with the situation are warranted. During the next several weeks the need for coin will seasonally abate and in that period we urge you to take steps to augment mint output so that when seasonal needs next rise we will be able to operate with ample supplies."

January 31, 1964: Reply from Secretary of the Treasury to Board's letter of January 14 included these paragraphs:

"As you know, the Congress has authorized the construction and equipping of new mint facilities, and positive steps have been taken to expedite construction of the new mint in Philadelphia. However, our pending request for the initial appropriation required for planning has not yet been approved. The total estimated cost of the new mint at Philadelphia is $16.5 million of which $16 million, to cover land acquisition, building and equipment costs, is included in the Treasury appropriation request for fiscal year 1965; presently pending, in addition, is our request for appropriation of $500,000 in 1964 to cover architectural and engineering plans. We have been urging upon Congress the importance of favorable and prompt action on these appropriation requests so that we can move expeditiously toward completion of the new mint facilities. The architectural and engineering plans alone require at least 10 months to complete. Delay means substantial waste and unnecessary expense. It is estimated that each month of delay for completion of the new mint costs $190,000, or $2.3 million annually.

"In the meantime, to meet the immediate coin shortage problem pending completion of the new facilities, coinage output can be substantially increased if we place mint production on a full three-shift basis.

"On January 21, 1964, President Johnson requested a supplemental appropriation of $500,000 to pay for overtime operations at the mint for the balance of this fiscal year. If this is approved, we will immediately resume full overtime operations. We are hopeful that the Congress will give favorable and prompt action on our requests to meet the pressing needs of the economy for additional coinage.

"Treasury strongly opposes the proposal that coin be struck outside the mint. You are aware, I know, that the Treasury has no authority under present coinage laws to have coins made by private contractors. Such an innovation would require authorizing legislation."

(The following statement submitted by Edward A. Wayne, President of the Federal Reserve Bank of Richmond, is in response to a question of Mr. Vanik. The exchange between Mr. Vanik and Mr. Wayne may be found beginning on page 385 of volume 1 of the hearings entitled "The Federal Reserve System After 50 Years.")

Information on service charge schedules was requested from Fifth District banks in three large cities with population of from approximately 220,000 to 939,000 and two small cities with a population of between 13,000 and 16,000. Similar data was obtained from one small town with a population of around 6,000 and three rural communities with population ranging from 1,500 to 2,000.

There is significant variation among the banks surveyed as to rates charged for various services and even where these rates are similar there is considerable divergence in the basis on which they are assessed. Consequently, it is difficult to make an intelligent comparison between banks in various localities or even between those in the same city or town. However, the attached tabulation might be helpful in considering the more important types of charges in use. As you know, we do not have figures for service charges of all banks in the district and while those surveyed may not necessarily be typical I believe they constitute a representative sampling which will serve to illustrate the absence of any discernible pattern in the charges levied for various customer services rendered by these banks.

For instance, while monthly maintenance charges on regular checking accounts at banks in the three major cities vary from 50 cents to $1.50 depending on the type of account (personal or commercial) one of the smaller banks in a rural area has a flat $1 monthly maintenance charge regardless of type of account and another small bank makes no monthly maintenance charge; the $1 charge mentioned above levied by a small institution in a one-bank town is higher than the minimum charge in some of the larger city banks. In some of these banks there is no maintenance charge except on accounts with balances of less than $300.

Charges for checks paid on regular checking accounts vary from 4 cents to 10 cents in the larger city banks and they also go as high as 10 cents in at least one of the small town banks while in one rural community the charge is from 2 cents to 3 cents and in still another small city it is from 3 cents to 5 cents.

Some banks make a charge for checks deposited which are drawn on other banks but many do not. In two of the large cities this charge runs from 2 cents to 3 cents while in the third it is from 2½ cents to 5 cents; in one of the smaller towns it ranges from 1½ cents to 3 cents and in another from 4 cents to 5 cents. In a few instances the banks included in the survey levy a charge for each deposit ticket rather than a charge on the items deposited while others have neither of these types of charges.

Certain institutions make a charge for checks drawn against insufficient funds and it was observed that of the banks which do make this charge the figure for those in the smaller communities is approximately as high as in the larger cities although there is one bank in a small two-bank town where the charge for this item ranges from 25 cents to $1. The maximum charge is $3 but in many banks there is no such fee.

On special checking accounts (sometimes known as pay-as-you-go accounts and on which no minimum balance is required) some banks levy a monthly maintenance charge in addition to the amount charged the customer for each check; these checks are usually sold in books of 15 or 20 at a cost of 10 cents per check although the charge on one of the banks surveyed is as low as 6⅔ cents.

Charges for bank money orders issued range from 15 to 45 cents in the larger cities, the fee depending upon the amount involved. Banks in one large city and one small town do not issue money orders. In other areas the charge ranges from 10 to 30 cents and in still others there is a flat charge of 20 or 25 cents regardless of amount. In one city the cost of a bank money order is 15 cents per $100 or 15 cents per $150.

Costs of cashier's or official checks vary considerably with some large city banks charging a fee of one-tenth of 1 percent with a minimum of 25 cents while in another large city this percentage is the same but the minimum is 50 cents. In one of the smaller towns the one-tenth of 1 percent is also used but the minimum is only 15 cents; in still another charges range from 10 to 30 cents and in others the fee is 15 cents per $100 or $150. It is interesting to note that fees for cashier's or official checks in the largest city in the district is a flat 25 cents which is the same as that charged by one of the rural towns with only one bank and this is the smallest institution of those covered in this survey. Charges for New York drafts or drafts on correspondent banks in all of the institutions included in the survey are approximately the same as the fees levied for cashier's or official checks.

Service charges on regular checking accounts (as opposed to special checking accounts) are usually offset by earnings credits figured in various ways and if a customer has sufficient balance in his account he does not have to pay any service charges for the month. As indicated above, bases on which these charges are assessed vary widely among the banks and among the various types of accounts. For instance, on individual regular checking accounts with balances of less than $300, a bank might levy a single monthly charge of $1.50 and permit the depositor to draw as many as 15 checks without additional cost. Sometimes the figure used may be $500 rather than $300. Each check in excess of the number allowed costs the depositor a certain amount, say for example 5 cents. In the same bank if an average balance of over $300 or $500 is maintained the depositor is entitled to an earning allowance of 10 cents per $100 on such balance. Against this earning allowance costs for each item of activity are calculated at the rate of 5 cents or at whatever figure the bank may have adopted. The excess of these activity costs over the earning allowance, if any, represents the net amount levied as a service charge. When such charge amounts to less than 50 cents it may be waived. On the more substantial accounts, especially those of commercial customers, the bank may allow a certain credit on the average daily available balance of the account, say, for example, 3 percent. "Available means" means ledger balance less uncollected items deposited and 20-percent cash reserve. This 3-percent credit is used to reduce or eliminate the service charge for a particular month.

In the larger metropolitan banks small checking accounts are generally subject to flat scale of service charges while the larger accounts, particularly those of businesses, are subject to analysis. Method of determining float, earnings, credits, and applicable reserves on these accounts may vary. In some instances where the balance is below a certain figure service charges are assessed on basis of the minimum balance during the month while those above that figure are assessed on the basis of the average balance. The latter figure may be a true average or it may be nothing more than an average of the high and low balances for the period. The kind of balance used and the method under which it is figured can, of course, have a significant effect on the actual amount of service charge paid by a customer.