

# Austrian Definitions of the Supply of Money

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## *I. THE DEFINITION OF THE SUPPLY OF MONEY*

The concept of the, supply of money plays a vitally important role, in differing ways, in both the Austrian and the Chicago schools of economics. Yet, neither school has defined the concept in a full or satisfactory manner; as a result, we are never sure to which of the numerous alternative definitions of the money supply either school is referring.

The Chicago School definition is hopeless from the start. For, in a question-begging attempt to reach the conclusion that the money supply is the major determinant of national income, and to reach it by statistical rather than theoretical means, the Chicago School *defines* the money supply as that entity which correlates most closely with national income. This is one of the most flagrant examples of the Chicagoite desire to avoid essentialist concepts, and to "test" theory by statistical correlation; with the result that the supply of money is not really defined at all. Furthermore, the approach overlooks the fact that statistical correlation

cannot establish causal connections; this can only be done by a genuine theory that works with definable and defined concepts.<sup>1</sup>

In Austrian economics, Ludwig von Mises set forth the essentials of the concept of the money supply in his *Theory of Money and Credit*, but no Austrian has developed the concept since then, and unsettled questions remain (e.g., are savings deposits properly to be included in the money supply?).<sup>2</sup> And since the concept of the supply of money is vital both for the theory and for applied historical analysis of such consequences as inflation and business cycles, it becomes vitally important to try to settle these questions, and to demarcate the supply of money in the modern world. In *The Theory of Money and Credit*, Mises set down the correct guidelines: money is the general medium of exchange, the thing that all other goods and services are traded for, the final payment for such goods on the market.

In contemporary economics, definitions of the money supply range widely from cash + demand deposits ( $M_1$ ) up to the inclusion of virtually all liquid assets (a stratospherically high  $M$ ). No contemporary economist excludes demand deposits from his definition of money. But it is useful

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<sup>1</sup> In a critique of the Chicago approach, Leland Yeager writes: "But it would be awkward if the definition of money accordingly had to change from time to time and country to country. Furthermore, even if money defined to include certain near-moneys does correlate somewhat more closely with income than money narrowly defined, that fact does not necessarily impose the broad definition. Perhaps the amount of these near-moneys depends on the level of money-income and in turn on the amount of medium of exchange. ... More generally, it is not obvious why the magnitude with which some other magnitude correlates most closely deserves overriding attention.... The number of bathers at a beach may correlate more closely with the number of cars parked there than with either the temperature or the price of admission, yet the former correlation may be less interesting or useful than either of the latter" (Leland B. Yeager, "Essential Properties of the Medium of Exchange," *Kyklos* [1968], reprinted in *Monetary Theory*, ed. R. W. Glower [London: Penguin Books, 1969], p. 38). Also see, Murray N. Rothbard, "The Austrian Theory of Money," in E. Dolan, ed., *The Foundations of Modern Austrian Economics* (Kansas City, Kansas: Sheed & Ward, 1976), pp. 179–82.

<sup>2</sup> Ludwig von Mises, *The Theory of Money and Credit*, 3rd ed. (New Haven: Yale University Press, 1953).

to consider exactly why this should be so. When Mises wrote *The Theory of Money and Credit* in 1912, the inclusion of demand deposits in the money supply was not yet a settled question in economic thought. Indeed, a controversy over the precise role of demand deposits had raged throughout the nineteenth century. And when Irving Fisher wrote his *Purchasing Power of Money* in 1913, he still felt it necessary to distinguish between  $M$  (the supply of standard cash) and  $M^1$ , the total of demand deposits.<sup>3</sup> Why then did Mises, the developer of the Austrian theory of money, argue for including demand deposits as part of the money supply "in the broader sense"? Because, as he pointed out, bank demand deposits were not *other* goods and services, other assets exchangeable for cash; they were, instead, redeemable for cash at par on demand. Since they were so redeemable, they functioned, not as a good or service exchanging for cash, but rather as a warehouse receipt for cash, redeemable on demand at par as in the case of any other warehouse. Demand deposits were therefore "money-substitutes" and functioned as equivalent to money in the market. Instead of exchanging cash for a good, the owner of a demand deposit and the seller of the good would both treat the deposit *as if* it were cash, a surrogate for money. Hence, receipt of the demand deposit was accepted by the seller as final payment for his product. And *so long as* demand deposits *are* accepted as equivalent to standard money, they will function as part of the money supply.

It is important to recognize that demand deposits are not automatically part of the money supply by virtue of their very existence; they continue as equivalent to money only so long as the subjective estimates of the sellers of goods on the market *think* that they are so equivalent and accept them as such in exchange. Let us hark back, for example, to the good old days before federal deposit insurance, when banks were liable to bank runs at any time. Suppose that the Jonesville Bank has outstanding demand deposits of \$1 million; that million dollars is then its contribution to the aggregate money supply of the country. But suppose

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<sup>3</sup> Irving Fisher, *The Purchasing Power of Money* (New York: Macmillan, 1913).

that suddenly the soundness of the Jonesville Bank is severely called into question; and Jonesville demand deposits are accepted only at a discount, or even not at all. In that case, as a run on the bank develops, its demand deposits no longer function as part of the money supply, certainly not at par. So that a bank's demand deposit only functions as part of the money supply so long as it is treated as an equivalent substitute for cash.<sup>4</sup>

It might well be objected that since, in the era of fractional reserve banking, demand deposits are not *really* redeemable at par on demand, that then only standard cash (whether gold or fiat paper, depending upon the standard) can be considered part of the money supply. This contrasts with 100 percent reserve banking, when demand deposits *are genuinely* redeemable in cash, and function as genuine, rather than pseudo, warehouse receipts to money. Such an objection would be plausible, but would overlook the Austrian emphasis on the central importance in the market of *subjective* estimates of importance and value. Deposits are not *in fact* all redeemable in cash in a system of fractional reserve banking; but so long as individuals on the market *think* that they are so redeemable, they continue to function as part of the money supply. Indeed, it is precisely the expansion of bank demand deposits beyond their reserves that accounts for the phenomena of inflation and business cycles. As noted above, demand deposits must be included in the concept of the money supply so long as the market *treats* them as equivalent; that is, so long as individuals *think* that they are redeemable in cash. In the current era of federal deposit insurance, added to the existence of a central bank that prints standard money and functions as a lender of last resort, it is doubtful that this confidence in redeemability can ever be shaken.

All economists, of course, include standard money in their concept of the money supply. The justification for including demand deposits, as we

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<sup>4</sup> Even now, in the golden days of federal deposit insurance, a demand deposit is not always equivalent to cash, as anyone who is told that it will take 15 banking days to clear a check from California to New York can attest.

have seen, is that people believe that these deposits are redeemable in standard money on demand, and therefore treat them as equivalent, accepting the payment of demand deposits as a surrogate for the payment of cash. But if demand deposits are to be included in the money supply for this reason, then it follows that any other entities that follow the same rules must also be included in the supply of money.

Let us consider the case of savings deposits. There are several common arguments for *not* including savings deposits in the money supply: (1) they are not redeemable on demand, the bank being legally able to force the depositors to wait a certain amount of time (usually 30 days) before paying cash; (2) they cannot be used directly for payment. Checks can be drawn on demand deposits, but savings deposits must first be redeemed in cash upon presentation of a passbook; (3) demand deposits are pyramided upon a base of total reserves as a multiple of reserves, whereas savings deposits (at least in savings banks and savings and loan associations) can only pyramid on a one-to-one basis on top of demand deposits (since such deposits will rapidly "leak out" of savings and into demand deposits).

Objection (1), however, fails from focusing on the legalities rather than on the economic realities of the situation; in particular, the objection fails to focus on the *subjective* estimates of the situation on the part of the depositors. In reality, the power to enforce a thirty-day notice on savings depositors is never enforced; hence, the depositor invariably thinks of his savings account as redeemable in cash on demand. Indeed, when, in the 1929 depression, banks tried to enforce this forgotten provision in their savings deposits, bank runs promptly ensued.<sup>5</sup>

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<sup>5</sup> On the equivalence of demand and savings deposits during the Great Depression, and on the bank runs resulting from attempts to enforce the 30-day wait for redemption, see Murray N. Rothbard, *America's Great Depression*, 3rd ed. (Kansas City, Kansas: Sheed & Ward, 1975), pp. 84, 316. Also see Lin Lin, "Are Time Deposits Money?" *American Economic Review* (March 1937), pp. 76–86.

Objection (2) fails as well, when we consider that, even within the stock of standard money, some part of one's cash will be traded more actively or directly than others. Thus, suppose someone holds part of his supply of cash in his wallet, and another part buried under the floorboards. The cash in the wallet will be exchanged and turned over rapidly; the floorboard money might not be used for decades. But surely no one would deny that the person's floorboard hoard is just as much part of his money stock as the cash in his wallet. So that mere lack of activity of part of the money stock in no way negates its inclusion as part of his supply of money. Similarly, the fact that passbooks must be presented before a savings deposit can be used in exchange should not negate its inclusion *in* the money supply. As I have written elsewhere, suppose that for some cultural quirk—say widespread revulsion against the number "5"—no seller will accept a five-dollar bill in exchange, but only ones or tens. In order to use five-dollar bills, then, their owner would first have to go to a bank to exchange them for ones or tens, and *then* use those ones or tens in exchange. But surely, such a necessity would not mean that someone's stock of five-dollar bills was not part of his money supply.<sup>6</sup>

Neither is Objection (3) persuasive. For while it is true that demand deposits are a multiple pyramid on reserves, whereas savings bank deposits are only a one-to-one pyramid on demand deposits, this distinguishes the sources or volatility of different forms of money, but should not exclude savings deposits from the supply of money. For demand deposits, in turn, pyramid on top of cash, and yet, while each of these forms of money is generated quite differently, so long as they exist each forms part of the total supply of money in the country. The same should then be true of savings deposits, whether they be deposits in commercial or in savings banks.

A fourth objection, based on the third, holds that savings deposits should not be considered as part of the money supply because they are

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<sup>6</sup> Rothbard, "The Austrian Theory of Money," p. 181.

efficiently if indirectly controllable by the Federal Reserve through its control of commercial bank total reserves and reserve requirements for demand deposits. Such control is indeed a fact, but the argument proves far too much; for, after all, demand deposits are themselves and in turn indirectly but efficiently controllable by the Fed through its control of total reserves and reserve requirements. In fact, control of savings deposits is not nearly as efficient as of demand deposits; if, for example, savings depositors would keep their money and active payments in the savings banks, instead of invariably "leaking" back to checking accounts, savings banks *would* be able to pyramid new savings deposits on top of commercial bank demand deposits by a large multiple.<sup>7</sup>

Not only, then, should savings deposits be included as part of the money supply, but our argument leads to the conclusion that no valid distinction can be made between savings deposits in commercial banks (included in  $M_2$ ) and in savings banks or savings and loan associations (also included in  $M_3$ ).<sup>8</sup> Once savings deposits are conceded to be part of the money supply, there is no sound reason for balking at the inclusion of deposits of the latter banks.

On the other hand, a *genuine* time deposit—a bank deposit that would indeed only be redeemable at a certain point of time in the future, would merit very different treatment. Such a time deposit, not being redeemable on demand, would instead be a credit instrument rather than a form of warehouse receipt. It would be the result of a credit transaction rather than a warehouse claim on cash; it would therefore not function in the market as a surrogate for cash.

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<sup>7</sup> In the United States, the latter is beginning to be the case, as savings banks are increasingly being allowed to issue checks on their savings deposits. If that became the rule, moreover, Objection (2) would then fall on this ground alone.

<sup>8</sup> Regardless of the legal form, the "shares" of formal ownership in savings and loan associations are economically precisely equivalent to the new deposits in savings banks, an equivalence that is universally acknowledged by economists.

Ludwig von Mises distinguished carefully between a *credit* and a *claim* transaction: a credit transaction is an exchange of a present good (e.g., money which can be used in exchange at any present moment) for a future good (e.g., an IOU for money that will only be available in the future). In this sense, a demand deposit, while legally designated as credit, is actually a present good—a warehouse claim to a present good that is similar to a bailment transaction, in which the warehouse pledges to redeem the ticket at any time on demand.

Thus, Mises wrote:

It is usual to reckon the acceptance of a deposit which can be drawn upon at any time by means of notes or cheques as a type of credit transaction and juristically this view is, of course, justified; but economically, the case is not one of a credit transaction. If *credit* in the economic sense means the exchange of a present good or a present service against a future good or a future service, then it is hardly possible to include the transactions in question under the conception of credit. A depositor of a sum of money who acquires in exchange for it a claim convertible into money at any time which will perform exactly the same service for him as the sum it refers to has exchanged no present good for a future good. The claim that he has acquired by his deposit is also a present good for him. The depositing of the money in no way means that he has renounced immediate disposal over the utility it commands.<sup>9</sup>

It might be, and has been, objected that credit instruments, such as bills of exchange or Treasury bills, can often be sold easily on credit markets—either by the rediscounting of bills or in selling old bonds on the bond market; and that therefore they should be considered as money. But many assets are "liquid," i.e., can easily be sold for money. Blue-chip stocks, for example, can be easily sold for money, yet no one would include such stocks as part of "the money supply. The operative difference, then, is not whether an asset is liquid or not (since stocks are

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<sup>9</sup> Mises, *Theory of Money and Credit*, p. 268.



no more part of the money supply than, say, real estate) but whether the asset is redeemable at a fixed rate, at par, in money. Credit instruments, similarly to the case of shares of stock, are sold for money on the market at fluctuating rates. The current tendency of some economists to include assets as money purely because of their liquidity must be rejected; after all, in some cases, inventories of retail goods might be as liquid as stocks or bonds, and yet surely no one would list these inventories as part of the money supply. They are *other* goods sold for money on the market.<sup>10</sup>

One of the most noninflationary developments in recent American banking has been the emergence of *certificates of deposit* (CDs), which are genuine time and credit transactions. The purchaser of the CD, or at least the large-denomination (sic) CD, knows that he has loaned money to the bank which the bank is only bound to repay at a specific date in the future; hence, large-scale CDs are properly not included in the  $M_2$  and  $M_3$  definitions of the supply of money. The same might be said to be true of various programs of time deposits which savings banks and commercial banks have been developing in recent years: in which the depositor agrees to retain his money in the bank for a specified period of years in exchange for a higher interest return.

There are worrisome problems, however, that are attached to the latter programs, as well as to *small-denomination CDs*; for in these cases, the deposits *are* redeemable before the date of redemption at fixed rates, but at penalty discounts rather than at par. Let us assume a hypothetical time deposit, due in five years' time at \$10,000, but redeemable at present at a penalty discount of \$9,000. We have seen that such a time deposit should certainly not be included in the money supply in the amount of \$10,000. But should it be included at the fixed though penalty rate of \$9,000, or *not* be included at all? Unfortunately, there is no guidance on this problem in the Austrian literature. Our inclination is to include these instruments in the money supply at the penalty level (e.g., \$9,000), since

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<sup>10</sup> For Mises' critique of the view that endorsed bills of exchange in early nineteenth-century Europe were really part of the money supply, see *ibid.*, pp. 284–86.

the operative distinction, in our view, is not so much the par redemption as the ever-ready possibility of redemption at some fixed rate. If this is true, then we must also include in the concept of the money supply federal savings bonds, which are redeemable at fixed, though penalty rates, until the date of official maturation.

Another entity which should be included in the total money supply on our definition is *cash surrender values* of life insurance policies; these values represent the investment rather than the insurance part of life insurance and are redeemable in cash (or rather in bank demand deposits) at any time on demand. (There are, of course, no possibilities of cash surrender in other forms of insurance, such as term life, fire, accident, or medical.) Statistically, cash surrender values may be gauged by the total of policy reserves less policy loans outstanding, since policies on which money has been borrowed from the insurance company by the policyholder are not subject to immediate withdrawal. Again, the objection that policyholders are reluctant to cash in their Austrian Definitions of the surrender values does not negate their inclusion in the supply of money; such reluctance simply means that this part of an individual's money stock is relatively inactive.<sup>11</sup>

One caveat on the inclusion of noncommercial bank deposits and other fixed liabilities into the money supply: just as the cash and other reserves of the commercial banks are not included in the money supply, since that would be double counting once demand deposits are included; in the same way, the demand deposits owned by these noncommercial bank creators of the money supply (savings banks, savings and loan companies, life insurance companies, etc.) should be deducted from the total demand deposits that are included in the supply of money. In short, if a commercial bank has demand deposit liabilities of \$1 million, of

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<sup>11</sup> For hints on the possible inclusion of life insurance cash surrender values in the supply of money, see Gordon W. McKinley, "Effects of Federal Reserve Policy on Nonmonetary Financial Institutions," in Herbert V. Prochnow, ed., *The Federal Reserve System* (New York: Harper & Bros., 1960), p. 217n; and Arthur F. Burns, *Prosperity without Inflation* (Buffalo: Economica Books, 1958), p. 50.

which \$100,000 are owned by a savings bank as a reserve for its outstanding savings deposits of \$2 million, then the total money supply to be attributed to these two banks would be \$2.9 million, deducting the savings bank reserve that is the base for its own liabilities.

One anomaly in American monetary statistics should also be cleared up: for a reason that remains obscure, demand deposits in commercial banks or in the Federal Reserve Banks owned by the Treasury are excluded from the total money supply. If, for example, the Treasury taxes citizens by \$1 billion, and their demand deposits are shifted from public accounts to the Treasury account, the total supply of money is considered to have fallen by \$1 billion, when what has really happened is that \$1 billion worth of money has (temporarily) shifted from private to governmental hands. Clearly, Treasury deposits should be included in the national total of the money supply.

Thus, we propose that the money supply should be defined as all entities which are redeemable on demand in standard cash at a fixed rate, and that, in the United States at the present time, this criterion translates into:  $M_a$  ( $a$  = Austrian) = total supply of cash-cash held in the banks + total demand deposits + total savings deposits in commercial and savings banks + total shares in savings and loan associations + time deposits and small CDs at current redemption rates + total policy reserves of life insurance companies—policy loans outstanding—demand deposits owned by savings banks, saving and loan associations, and life insurance companies + savings bonds, at current rates of redemption.  $M_a$  hews to the Austrian theory of money, and, in so doing, broadens the definition of the money supply far beyond the narrow  $M_1$ , and yet avoids the path of those who would broaden the definition to the virtual inclusion of all liquid assets, and who thus would obliterate the uniqueness of the money phenomenon as the final means of payment for all other goods and services.

## ***II. THE MONEY SUPPLY AND CREDIT EXPANSION TO BUSINESS***

In contrast to the Chicago School, the Austrian economist cannot rest content with arriving at the proper concept of the supply of money. For while the supply of money ( $M_a$ ) is the vitally important supply side of the "money relation" (the supply of and demand for money) that determines the array of prices, and is therefore the relevant concept for analyzing price inflation, different parts of the money supply play very different roles in affecting the business cycle. For the Austrian theory of the trade cycle reveals that *only* the inflationary bank credit expansion that enters the market through new business loans (or through purchase of business bonds) generates the over-investment in higher-order capital goods that leads to the boom-bust cycle. Inflationary bank credit that enters the market through financing government deficits does *not* generate the business cycle; for, instead of causing overinvestment in higher-order capital goods, it simply reallocates resources from the private to the public sector, and also tends to drive up prices. Thus, Mises distinguished between "simple inflation," in which the banks create more deposits through purchase of government bonds, and genuine "credit expansion," which enters the business loan market and generates the business cycle. As Mises writes:

In dealing with the [business cycle] we assumed that the total amount of additional fiduciary media enters the market system via the loan market as advances to business....

There are, however, instances in which the legal and technical methods of credit expansion are used for a procedure catallactically utterly different from genuine credit expansion. Political and institutional convenience sometimes makes it expedient for a government to take advantage of the facilities of banking as a substitute for issuing government fiat money. The treasury borrows from the bank, and the bank provides the funds needed by issuing additional banknotes or crediting the government on a deposit account. Legally the bank becomes the treasury's creditor. In fact the whole transaction amounts to fiat money inflation. The additional fiduciary media enter the market by way of the treasury as payment for various items of government

expenditure.... They affect the loan market and the gross market rate of interest, apart from the emergence of a positive price premium, only if a part of them reaches the loan market at a time at which their effects upon commodity prices and wage rates have not yet been consummated.<sup>12</sup>

Mises did not deal with the relatively new post-World War II phenomenon of large-scale bank loans to consumers, but these too cannot be said to generate a business cycle. Inflationary bank loans to consumers will artificially deflect social resources to consumption rather than investment, as compared to the unhampered desires and preferences of the consumers. But they will *not* generate a boom-bust cycle, because they will not result in "over" investment, which must be liquidated in a recession. Not enough investments will be made, but at least there will be no flood of investments which will later have to be liquidated. Hence, the effects of diverting consumption investment proportions away from consumer time preferences will be asymmetrical, with the overinvestment-business cycle effects only resulting from inflationary bank loans to business. Indeed, the reason why bank financing of government deficits may be called simple rather than cyclical inflation is because government demands are "consumption" uses as decided by the preferences of the ruling government officials.

In addition to  $M_a$ , then, Austrian economists should be interested in *how much* of a new supply of bank money enters the market through new loans to business. We might call the portion of new  $M_a$  that is created in the course of business lending,  $M_b$  (standing- for either business loans or business cycle). If, for example, a bank creates \$1 million of deposits in a given time period, and \$400,000 goes into consumer loans and government bonds, while, \$600,000 goes into business loans and investments, then  $M_b$  will have increased by \$600,000 in that period. In examining  $M_b$  on the American financial scene, we can ignore savings banks and savings and loan associations, whose assets are almost

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<sup>12</sup> Ludwig von Mises, *Human Action*, 3rd rev. ed. (Chicago: Henry Regnery, 1966), p. 570.

exclusively invested in residential mortgages. Savings bonds, of course, simply help finance government activity. We are left, then, with commercial banks (as well as life insurance investments). Commercial bank assets are comprised of reserves, government bonds, consumer loans, and business loans and investments (corporate bonds). Their liabilities consist of demand deposits, time deposits (omitting large CDs), large CDs, and capital. In trying to discover movements of  $M_b$ , with any precision, we founder on the difficulty that it is impossible in practice to decide to what extent any increases of business loans and investments have been financed by an increase of deposits, thus increasing  $M_b$ , and how much they have been financed by increases of capital and large CDs. Looking at the problem another way, it is impossible to determine how much of an increase in deposits (increase in  $M_a$ ) went to finance business loans and investments, and how much went into reserves or consumer loans. In trying to determine increases in  $M_b$  for any given period, then, it is impossible to be scientifically precise, and the economic historian must act as an "artist" rather than as an apodictic scientist. In practice, since bank capital is relatively small, as are bank investments in corporate bonds, the figure for commercial bank loans to business can provide a rough estimate of movements in  $M_b$ . With the development of the concepts of  $M_a$  (total supply of money) and  $M_b$  (total new money supply going into business credit), we have attempted to give more precision to the Austrian theory of money, and to the theoretical as well as historical Austrian analysis of monetary and business cycle phenomena.