

Inflationary Deception: How Banks Are Evading Reserve Requirements And Inflating The Money Supply

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Abstract

Viewed from a practical definition of money, the banking system appears to be engaged in a significant monetary inflation. The use of reserve-sweep programs, which started in 1994, has allowed banks to reduce the effective reserve requirement on transaction deposits (demand and other checking deposits), freeing up high-powered money for other purposes. This activity has effectively lowered the reserve ratio of banks. While this is old news, this paper examines the monetary evidence over the past decade of sweeps programs and finds there is ample reason for concern that monetary inflation is accelerating because of these programs. The sweeps programs produce distortions in reported monetary components that tend to hide this fact. The symptoms have been a low growth rate of transaction deposits and M1 from 1995 through 2001 coupled with an abnormally large increase in reported savings deposits since 1995. The growth rate of reported savings deposits has accelerated further since early 2001. Two correction methodologies are used to estimate the true level of savings accounts, transaction deposits, and M1. One method uses sweeps estimates from the Federal Reserve, and the other uses an extrapolation of the growth rate of savings accounts from a period before the initiation of sweeps programs. Both methods show a large increase in transaction deposit money. The author concludes that a significant monetary inflation is taking place and is laying the foundation for price inflation in the years ahead.

The Difference Between Money and Credit

To understand inflation, we first have to have a clear concept of money. According to well-established monetary theory, general widespread *price inflation* – what is attempted to be measured by such things as the CPI – is an end result of an increase in the supply of money: *monetary inflation*. But which definition of money should we look at? M1? M2? M3? MZM? Which particular components of these measures are really the significant parts of money? If we are in danger of a major bout of price inflation, which money measure – or group of measures – is most likely to reveal the danger? To answer these questions, I will first develop a useful definition of money similar to that proposed by Shostak¹ and discuss the difference between money and credit. Then we will be in a position to see how the quantity of money is changing based on these definitions.

Before we get started, let's review the Federal Reserve's definitions of the monetary aggregates. These definitions are from reference 2.

M1: The sum of currency held outside the vaults of depository institutions, Federal Reserve Banks, and the U.S. Treasury; travelers checks; and demand and other checkable deposits issued by financial institutions (except demand deposits due to the Treasury and depository institutions), minus cash items in process of collection and Federal Reserve float.

M2: M1 plus savings deposits (including money market deposit accounts) and small-denomination (under \$100,000) time deposits issued by financial institutions; and shares in retail money market mutual funds (funds with initial investments under \$50,000), net of retirement accounts.

M3: M2 plus large-denomination (\$100,000 or more) time deposits; repurchase agreements issued by depository institutions; Eurodollar deposits, specifically, dollar-denominated deposits due to nonbank U.S. addresses held at foreign offices of U.S. banks worldwide and all banking offices in Canada and the United Kingdom; and institutional money market mutual funds (funds with initial investments of \$50,000 or more).

MZM (money, zero maturity): M2 minus small-denomination time deposits, plus institutional money market mutual funds (that is, those included in M3 but excluded from M2).

These definitions are rather complicated. Is all of this money? Well, it depends on how you define money. Much of what is called money these days really isn't. There seems to be a lot of confusion between *money* and *credit*, and some of that confusion is built into the M definitions above. I have a very simple, seat-of-the-pants definition of money: *Money is what you use to buy groceries at your local supermarket.* (This concept can safely be expanded to retail purchases beyond groceries, but the grocery store offers a simple scenario that will serve well for illustration.) Basically, *money* is the stuff we exchange for *goods and services*.

Credit is different from money. Instead of exchanging money for *goods and services*, a credit transaction involves exchanging money for a *promise* that the money will be repaid in the future, usually with an interest premium. In the process, the control of the money is shifted from one person (the lender) to another (the debtor). An important condition for a credit transaction is that the lender must relinquish the use of the money for the duration of the agreement³. Except for some special situations, the written paper that represents a credit transaction is not money; that is, it is not readily accepted as a means of payment at your local supermarket. For example, try taking a Treasury Bill – a piece of paper representing a credit transaction between you and the U.S. Treasury – to your supermarket to buy a pound of coffee.

When you buy your groceries, you will use either *currency* or – directly or indirectly – a *demand deposit* (also known as a checking, or transaction account⁴). In today's world, currency is the most basic form of money, and it underlies the other form in common use, the demand (or transaction) deposit. When you open a demand deposit with your bank, you give the bank the use of your money in exchange for the promise that the bank will return your money any time you “demand” it. To deposit money to your account, you can either give the bank currency or you can write or endorse a check drawn on another demand deposit.

At first glance, a demand deposit seems like a credit transaction, but demand deposits fail an important test: you do not relinquish your use of the money in your checking account. You still reserve the right to write checks in payment for goods and services. Fundamentally, a check is a written instruction to the bank to transfer the bank's promise to pay from one person to another. In another sense, checks direct the flow of demand-deposit money from one account to another. Both are valid points of view because the check is fully accepted as *money* in transactions – as long as the seller trusts you. Meanwhile the bank can lend out the same “money” and create additional accounts, an act of monetary inflation⁵. The only thing that keeps this process in check is the reserve requirement imposed by banking regulations. This is a very important issue, and there will be more on this later. Because both you and the bank can use the money simultaneously, demand deposits act like money and are not credit transactions. In spite of their origin as a pseudo-credit transaction, demand deposits must be treated as money.

Using an ATM card that is tied to your demand deposit (as most are) is equivalent to writing a check. The only difference is that the transfer instruction is transmitted electronically instead of by paper. When you withdraw cash from an ATM machine, you are exercising the “demand” right of your demand-deposit relationship with the bank.

A credit-card transaction is an instruction to the credit-card lender to pay your bill using the lender's demand-deposit account. In a credit-card transaction, you promise to repay credit-card company; at the same time, the credit-card company gives up the use of the money that it has paid to the recipient. This fully passes the test of a credit transaction. The money part of the transaction comes from the credit-card lender's demand-deposit account. Thus, even if you pay for your groceries with a credit card, *money* is used in your grocery purchase; it just isn't *your* money.

To summarize so far, the use of checks, ATM cards, and credit cards all involve moving demand-deposit money from one account to another account.

Money-market accounts with or without check-writing privileges are different. The assets in a money-market fund consist mostly of short-term commercial or Treasury paper. As a money-market fund account holder you own a share of those assets. Your money-market fund assets are not directly useable at your supermarket. Check writing privileges merely allow you to direct the liquidation of a portion of your assets and, at the same time, cause the movement of demand-deposit money from the money-market fund's reserve demand-deposit account to the recipient's account. Fund procedures make sure a sufficient quantity of your money fund assets will be liquidated to replenish the money fund reserve account. The liquidation process involves the transfer of demand-deposit money from the account of the securities purchaser to the money-fund reserve account. Thus, your check-writing transaction ultimately involves the shifting of demand-deposit money from the securities purchaser through the fund reserve account to the final recipient. Only demand-deposit money is used in this transaction sequence, and, unlike a bank demand deposit, there is no double use of the money. The assets that are liquidated are not money; they are marketable credit transactions. For these reasons, money-market accounts should be classified as credit transactions, not money. It is an error to include money-market account assets in a definition of money; to do so also involves some double counting of the demand-deposit reserve account of the fund (in M2 and M3). The same logic applies to brokerage accounts that have check-writing privileges.

In all these different transactions, there is one common element: it is primarily demand-deposit money moving around from account to account. Demand-deposit money is what makes the economic world go 'round. Currency is used for relatively small purchases⁶, but demand-deposit money is used for large purchases and almost all business-to-business transactions. The various kinds of demand deposits (Total Checkable Deposits, or TCD), together with currency, are the primary money used in our economy, and they are the primary components of M1.

Are there any other important parts of money? Other forms of so-called money that are included in the higher Ms – time deposits, repurchase agreements, money-market fund deposits, and Eurodollars – are credit transactions, not money. You can't spend any of these assets directly at your supermarket, and there is no double use of money. Because M2 includes M1 and M3 includes M2, only parts of M2 and M3 are money. Shostak has argued that government deposits, which are not included in M1, should be included in a definition of money. I agree; however, government deposits make a relatively small addition to the total money supply defined in M1.

It all seems fairly straightforward except for one thing: savings deposits. Savings deposits require that the depositor only *partially* relinquish the use of the money in the account. Thus, they are primarily a credit transaction, but they also can have a limited money role. Savings deposits can be accessed through ATM cards for a limited number of third party purchases (your groceries in our example), but banking regulations⁷ have limited their use for this purpose to three times per month. Because of this, savings deposits have only a limited, quasi-money role, and they are not convenient to use for everyday transactions. Because of the legal limitations on their use and their relative inconvenience, savings deposits are not as useful as demand deposits for large transactions. When savings deposits are used for ATM purchases, money

flows from the savings account to the recipient's demand-deposit account. Thus, what was savings-deposit "money" now becomes demand-deposit money. This generally happens only on a very limited basis, and it is safe to say that savings deposits are not a *significant* component of money in terms of their economic impact. Given the relatively small economic impact of savings deposits, it seems safe to leave them out of our definition of money.

Given these insights, it is clear that *money consists primarily of currency and the various kinds of demand deposits*. M1 consists of currency in circulation, demand deposits, other checkable deposits, and travelers' checks. Demand deposits and other checkable deposits added together comprise *Total Checkable Deposits* (TCD). Traveler's checks are a very small quantity and can be ignored, and federal government deposits can also be ignored without causing much error. Thus, M1 is very close to a good definition of money. Because of the difference between money and credit, the non-M1 parts of M2 and M3 should be viewed not as money, but as measures of certain types of short-term credit transactions. Given that half or more of U.S. currency circulates outside the country and that it has a relatively minor economic impact, TCD may provide a better picture of the quantity of money that has the most impact on the domestic economy. Thus, we should look at TCD and M1 for signs of monetary inflation.

Well, so it would seem, anyway. Unfortunately, it isn't that simple any more. To understand why, we need to look at what banks have been doing with savings deposits.

Savings Deposits, Banks, and the Sweeps Programs

Banks love savings deposits. Like Certificates of Deposits, they don't have to maintain a reserve like they do for demand deposits. The money set aside for demand-deposit (transaction-deposit) reserves constitutes what is known as *high-powered money*, money that could potentially be loaned out and multiplied many times, producing very nice profits for the banks. But those pesky banking regulations require the banks to keep reserves handy, just in case a significant minority of demand-deposit holders – no more than ten percent, now, the current reserve requirement for big banks – decide to come into the bank on the same day and demand their currency back from the bank. Thanks to the FDIC, the probability of a major, general-public run on a US bank is very low these days (although, because of the upper limits of FDIC coverage, runs by large depositors still do occur from time to time where the weapon of choice is the wire transfer⁸).

In 1994, banks discovered that they could "sweep" the "unused" – my term here, one that will become clear shortly – parts of transaction deposits into a special type of account called a *Money Market Deposit Account*, or MMDA⁹. The MMDA accounts are classified as – and, for reporting purposes, are included with – savings deposits. They still have to follow rules concerning the number of transfers that can be made from savings deposits back into demand deposits. That is a real limitation that requires some clever optimization. To do this, the banks have sophisticated software that analyzes every depositor's activity and figures out how much can be swept into an MMDA without getting into a situation where the bank has to transfer money back to the demand deposit more than the maximum allowed number of times. If the bank exceeds this amount, they have to reclassify the MMDA back to a demand deposit.

Think about it. Many people keep a certain amount of cushion in their checking accounts as an extra reserve. The bank is watching your usage of your account. It figures out how much money you really use in your transactions throughout the month. The rest is not really used – except by the bank, of course. You are actually using part of your checking account as a zero-interest savings account. The bank sweeps that part into an MMDA. You never see the change; it is completely transparent to you. The bank reports to you the full amount that you think you have, and you don't have the slightest idea this activity is going on. If, at some time, you should write a check for the full amount of your deposit, or if you show up at the bank and demand all your money, the bank must honor your instructions and transfer or give you all your money. It has been gambling that you won't do this, and I'm sure they lose the bet once in a while. But most of the time it works just fine.

From the point of view of the bank, the beauty of the sweep program is that *the amount swept from your demand deposit is deducted from the bank's reportable transaction-deposit total*. The total amount of transaction deposits in M1 is reduced by this amount, and the reported savings-deposit total is increased by this amount. The effect is a reduction in the amount of demand deposits in M1, a reduction in M1, and a corresponding increase in the amount of savings deposits in M2. (Note that M2 and M3 don't change because M1 is part of both.) The portion swept is really part of a demand deposit, but after sweeping, it is legally – well, that is questionable in my mind – a savings deposit and can be reserved as such, which is to say not reserved at all.

The reserves that were associated with the unused portion of your demand deposit are now no longer required. That excess reserve money – high powered, remember – is now available to be loaned out and multiplied. Higher profits are on the horizon. And, as we will see, so is monetary inflation.

The reserve-sweep program idea has really caught on. It is easy to see the effect of this activity on monetary measures in Figure 1. This figure shows various monetary measures obtained from the Federal Reserve's FRED II database¹⁰. Total Checkable Deposits (TCD) represents the total of all types of demand and checkable deposits (transaction deposits). The figure is available at FRED II, but TCD can be calculated by taking M1 and subtracting currency and traveler's checks. Note that in 1994, the year that the sweep programs started spreading through the banking system, TCD started into a six-year decline. At the same time, total savings deposits started increasing dramatically. These changes are the visible manifestations of the increasing use of sweep programs by the banks.

There are two important effects of sweep programs on monetary measures. First, the reported amount of transaction deposits in M1 no longer reflects the true amount of those deposits, and it hasn't since 1994. It is a dead giveaway that transaction deposits were *declining* for several years when the Fed was continually increasing its System Open Market holdings¹¹. Second, because MMDA sweep accounts are included in total savings deposits, the amount of savings deposits is artificially inflated by the amount that demand deposits are understated.

While Figure 1 shows monthly data, weekly TCD and total savings account data (not shown) show a monthly cycle where demand deposits increase when savings deposits decline and vice versa. More recent

data show increasing amplitude in this cycle. I believe that this is evidence that the banks have been learning how to further optimize the sweep process. They are moving a higher proportion of money back and forth from demand deposits into MMDA accounts, and I think the cycle represents the funds that the banks must recycle back to demand deposits to meet user demand – in those cases where they lose the bet. The banks are learning how to push the system as hard as it can go.

One thing is very clear. Since about the beginning of 2001 – about the time the Fed pushed short-term rates to historic lows – there has been a massive increase in savings deposits; at the same time, TCD has started to increase. How much of the increase in savings deposits represents an increase in transaction deposits and how much is a real increase in savings deposits? I find it hard to believe that, with the extremely low interest rates that were available on savings deposits during this period, investors were flocking to savings deposits in such large numbers.

I think it is likely that, given the very low short-term interest rates that have prevailed through this period, people are content to allow larger unused balances to remain in their checking accounts. Short-term

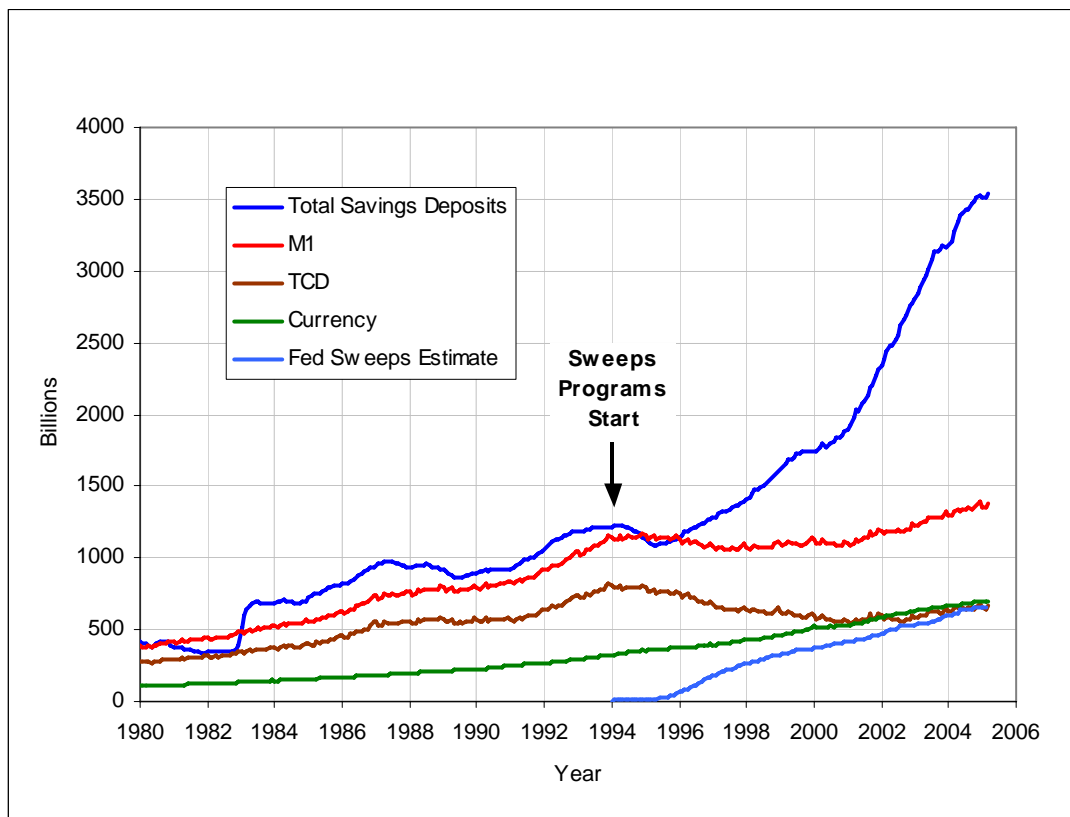


Figure 1. Monthly, non-seasonally-adjusted monetary figures reported by the Federal Reserve. TCD are Total Checkable Deposits. Sweeps programs started in 1994, and the Fed's estimate of the total cumulative amount of sweep activity is shown. The growth in Total Savings Accounts accelerated after the beginning of sweeps programs; at the same time, TCD declined, reflecting the reclassification of TCDs to savings accounts. Since mid-2000, the growth rate of savings accounts has further accelerated.

rates have been so low that there is very little opportunity cost for this behavior. However, there is another side to this. If this theory is true, then, as short-term rates rise, people will become more motivated to invest some of their excess balances in other short-term instruments. As I will discuss below, this has important implications for future monetary inflation.

How Much Money is There Really?

Judging by the number of papers written on the subject, the Fed has been a little concerned about what is going on. *The banks do not report to the Fed how much money is involved in this activity*¹². The Fed must estimate the amounts involved in sweeps, and some Fed research activity has been focused on determining how much sweeping was going on and how it was affecting monetary measures.

Figure 1 includes the Fed's estimate for total sweep activity. We can obtain an estimate of the true levels of savings deposits, TCD, and M1 by taking the Fed's estimated data, subtracting it from savings accounts and adding it to TCD to obtain an estimate for the true levels of these measures. Figure 2 shows the results of that adjustment.

After adjustment using the Fed's sweeps estimates, both M1 and TCD have growth rates similar to what has been seen in the past. However, Total Savings Deposits still show what seems to be an abnormally high – and to me, suspicious – rate of growth. Why would people be rushing into savings accounts to get interest rates of a few tenths of a percent?

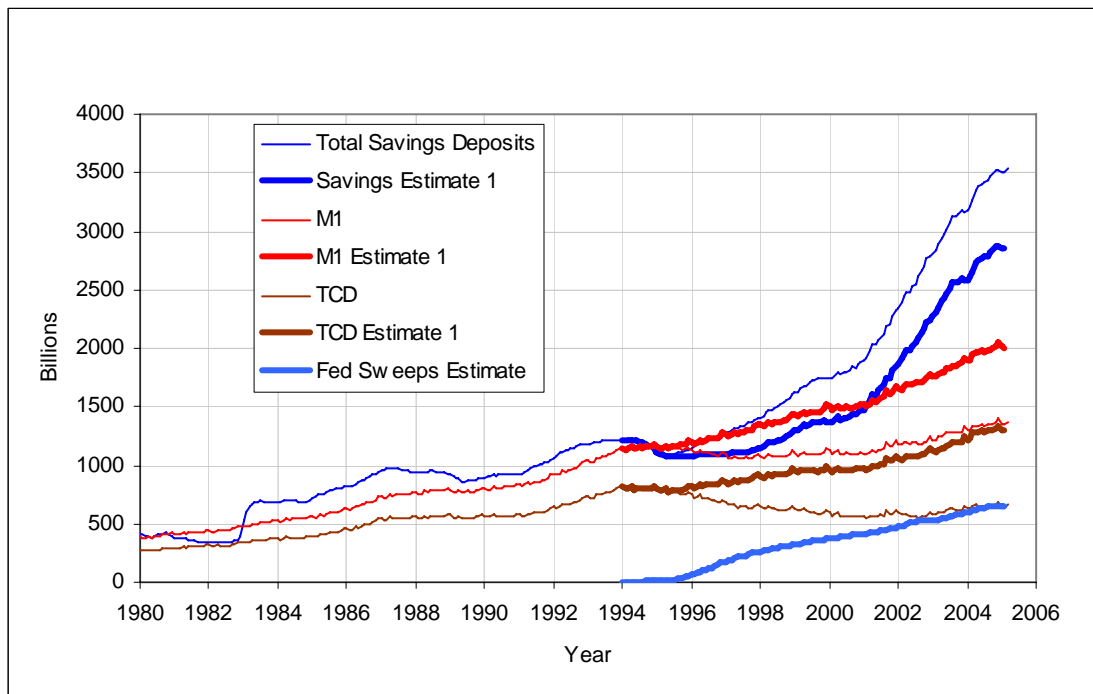


Figure 2. Monetary measures adjusted for the effect of sweeps programs using Fed estimates. The Fed's estimates for the sweeps programs was subtracted from Total Savings Deposits and added to TCD (a component of M1) to obtain estimates of the true level of TCD and M1. The original measures are shown in lightweight lines, and the adjusted parts of the measures are shown in bold lines. M1 and TCD show significantly higher growth with this adjustment. However, adjusted savings accounts still show a very high (and suspicious) rate of growth since the beginning of 2001.

An alternative analysis is worth examining. We start by assuming that the growth rate of the true level of savings accounts – the part not due to sweeps activity – continued at about the same rate after sweeps programs were started. Then we can extrapolate that growth rate forward to obtain an estimate of the true level of savings accounts. The difference between the extrapolation and the reported value is a measure of sweep activity. That measure can be used to adjust savings and TCD in the same way that was used for Figure 2.

Figure 3 shows the curve fit that was used to estimate the true level of Total Savings Deposits. For comparison, Small Time Deposits are shown for the same period.

The selection of where to fit the curve was admittedly arbitrary. I reasoned that the growth in savings accounts during the decade before 1994 – a time of higher interest rates than existed after 2001 – would provide a decent approximation to what would happen later in the 1990s, so I fit a constant growth rate, exponential curve through data for that period. It may be that the growth rate of savings deposits during this period was lower than it would be later; there really is no way to tell. But it would provide a useful comparison with the adjustment using the Fed's sweeps estimates.

The Small Time Deposit data in Figure 3 shows a negative correlation with the reported Total Savings Deposit data for the period, yet both figures tend to oscillate around an average trend line, at least until 1993 or so. This somewhat-coupled behavior lends some support to the interpretation that savings deposits would not have risen above the curve fit line without the influence of sweep programs. If anything, the

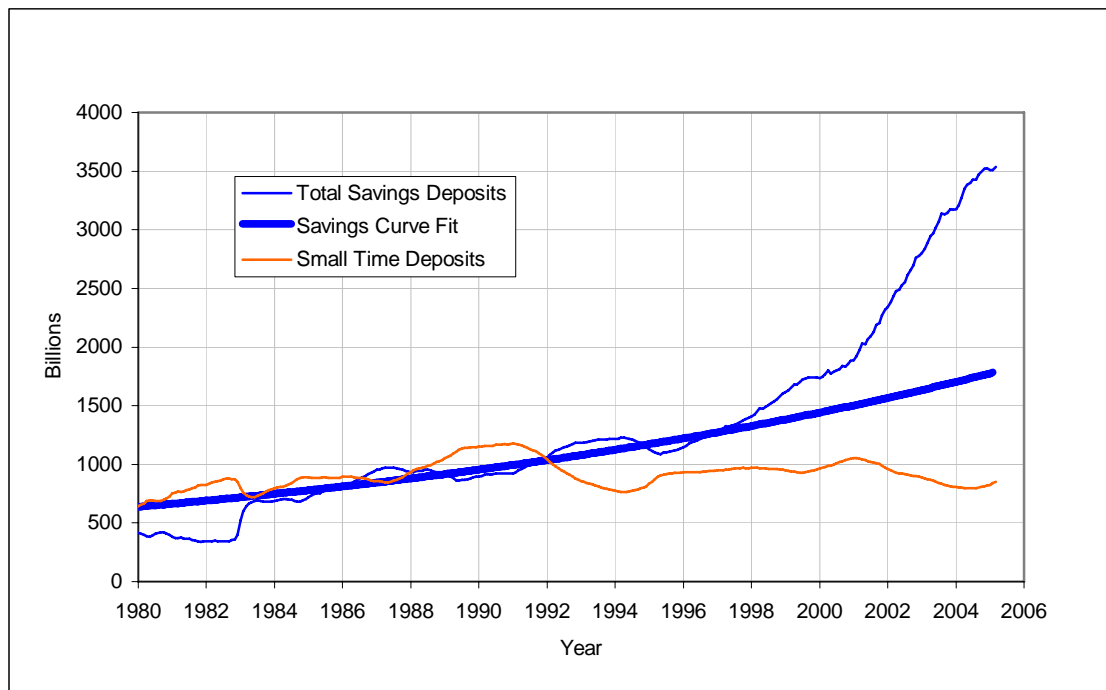


Figure 3. Estimating the true level of Total Savings Deposits. The level and growth rate between 1983 and 1995 was assumed to be typical of the growth of savings accounts. A constant-growth-rate, exponential curve was applied to data in this range, and the curve was extrapolated to 2005. For comparison, Small Time Deposits are shown over the same period.

Small Time Deposit data suggests that the curve fit may actually be too high. The adjustments to monetary measures using this curve fit are shown in Figure 4.

How accurate is the estimate shown in Figure 4? It is reasonable? The accuracy depends on how likely it is that savings accounts continued the growth rate used for the extrapolation. Given the current reporting system, it is difficult to say exactly what has happened to non-sweeps-related savings accounts over this period. Certainly, the very high growth rate in savings accounts shown in the raw data (Figure 1) is suspicious, and the high growth rate shown in Fed-based estimate in Figure 2 is also suspicious. To repeat, given the extremely low interest rates available on savings accounts and the low savings rate of the U.S. during this period, it seems unlikely that savings deposits grew at the rates shown in the raw data and the Figure 2 estimates. It is quite possible that the real figures are somewhere between the estimates of Figure 2 and Figure 4. Given the likely behavior of savings accounts, I believe that the true story is closer to Figure 4 than Figure 2. This implies that a significant monetary inflation is taking place.

Could such a large monetary inflation actually be happening? If so, what is the mechanism for this inflation?

Deposit-sweep programs have a direct impact on the effective reserve ratios of banks. If banks are required to keep a 10% reserve on all transaction deposits, what happens when, say, half of these deposits essentially “disappear” from the reserve requirement? A real TCD of \$1000B implies a 10% reserve re-

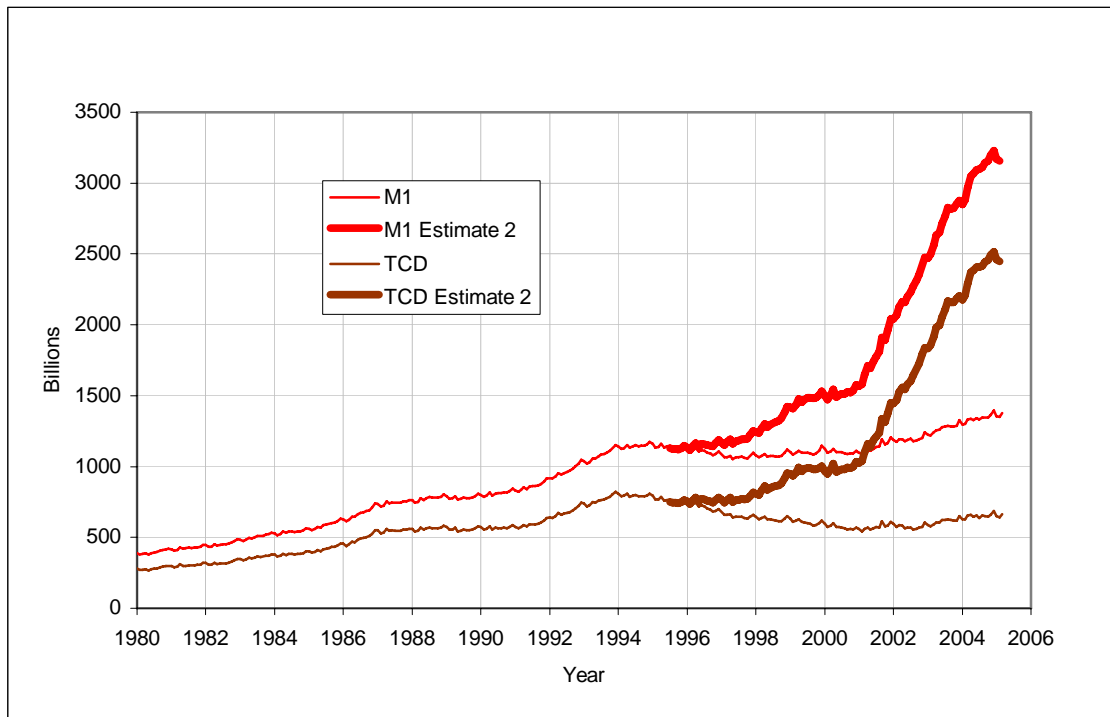


Figure 4. Monetary measures adjusted for the effect of sweeps programs using the extrapolated savings account estimate of Figure 3. M1 and TCD both show explosive growth since the beginning of 2001.

quirement of \$100B. Let's assume that half of that amount is "unused" by depositors and the bank's software detects that fact. Half of TCD is swept to and reclassified as savings deposits, eliminating half of the required reserve quantity. This frees up half of the total reserve quantity, \$50B, of high-powered money that can now be loaned out, perhaps in home mortgage loans. Under a 10% reserve requirement, if all of that \$50B of high-powered money were eventually converted to demand-deposit loans, it could eventually multiply to \$500B of new demand deposits.

But wait a minute! Much of that new deposit money could be also swept into MMDA accounts, freeing up even more money. This is the classic money multiplication scheme that is inherent in – and the primary economic difficulty with – fractional-reserve banking. The money repeatedly cycles through the banking system until it multiplies to the limit allowed by the reserve ratio. If only half of TCD is required to be reserved in practice, then the *effective* banking reserve ratio is reduced to only half of 10% or 5%. This is very important and bears repeating: in this example, the effective reserve ratio has now become half of the legal requirement. Thus, the maximum potential amount of new transaction deposit money would be $\$50B/0.05 = \$1000B$. If this inflation happened instantaneously, this amount of new deposits would be added to the existing TCD level of \$1000B, doubling TCD to \$2000B of transaction deposits. In other words, halving the reserve requirement will eventually end up doubling the TCD level. After this massive inflation, we would expect to see a *reported* TCD amount of 50% of \$2000B = \$1000B.

Anderson and Rasche state¹³ (boldface mine),

...we interpret the effects of deposit-sweeping software on bank balance sheets to be **economically equivalent to a reduction in statutory reserve-requirement ratios.**

Unfortunately, we don't know what the new equivalent reserve requirement is, and it is sure to change over time as transaction account usage patterns change. However, it is a well-known economic principle that fractional-reserve banks will always inflate to the limit of their reserve requirement. It is in the self-interest of the banks to squeeze as much profit out of this practice as possible.

The example above was based on an assumption that the banks can reclassify half of TCD. In reality, we don't really know what that fraction is; it could be more or it could be less. In February, 2005, TCD was reported to be about \$640B. The TCD estimate in Figure 2 (based on the Fed's sweeps estimate) is about \$1300B (implying about a 50% reduction in reserve ratio to 5%), and the TCD estimate based on Figure 4 is \$2450B (implying about a 75% reduction in reserve ratio to 2.5%!). Based on the suspicious appearance of the savings growth in Figure 2, I tend to lean toward the more severe interpretation of Figure 4¹⁴. The truth may be somewhere between the two. If the situation really is like that shown in Figure 2, then the effective reserve ratio has been reduced by sweeping to around 5%; if the situation is like that shown in Figure 4, then the effective reserve ratio has been reduced to only 2.5%.

What Could Happen Next?

While the banks may consider sweeps programs a temporary reclassification, the fact is that *anyone who has a demand deposit that has been created with this new money thinks it is real money*. This TCD money

is not going to simply evaporate. As short-term interest rates rise and/or price inflation increases, people are going to be less willing to carry large zero-interest checking account balances. The excess money will be diverted to other investments that have a non-zero return, and the percentage of “unused” money in all demand-deposit accounts will decline. The amount available for sweeping will drop, but more importantly, banks will see an increase in their effective reserve requirements.

One possible scenario is that banks will extinguish TCD money as loans mature, increasing their reserve ratio by reducing the amount of total deposits. As some of the excess TCD money is destroyed, we would expect to see a decline in reported Total Savings Accounts during this process. The data in Figure 1 show signs that the reported monetary component growth rate is declining, but it will take time to confirm this.

Another – and more disturbing – scenario is that banks will be pressured to find additional reserves to cover requirements, causing an increase in the demand for overnight loans of Federal Funds. As the demand for Federal Funds rises, the Fed would detect this and start injecting reserves. Through this practice, the Fed would monetize a substantial part of the inflation that has been produced by sweeps programs. This process would result in permanently ratcheting up the money supply. Looking very far ahead, I can see the possibility of interest rate cycles combining with sweeps programs to produce cycles of both monetary and price inflation.

The most likely scenario will probably be a blend of both of these and the nature of the mix will depend on the speed at which change takes place. Rapid changes in transaction account usage could put the banks in a bind that would result in Fed reserve injection. If change happens slowly enough, the banks may be able to manage part of the problem by reducing sweep activity and TCD totals.

Where’s the Price Inflation?

If this monetary inflation is real, why haven’t we seen the price inflation one would expect to follow behind it? It seems likely that eventually this monetary inflation must result in a substantial and general price inflation. The timing and extent of this inflation is uncertain, as it always is. It takes time for money to multiply, and it takes time for the money to circulate in the economy and produce price rises. The effects of the Vietnam War/Great Society monetary inflation in the 1960s were not fully expressed until the mid to late 1970s. At the present time, price inflation as measured by the CPI is slowly rising. The asset inflation of the real estate bubble may also be related to this increased supply.

The rising CPI may be the first effects of what could be a period of very nasty price inflation ahead.

Closure

Reserve-sweep activity started in 1994, and data since that time strongly suggest that the monetary inflation is significant, ongoing, and accelerating. It has nothing to do with the Fed injecting reserves into the banking system, nothing to do with the Federal Funds rate, and nothing to do with federal government budget deficits and borrowing. It has only to do with a change in the *effective reserve requirement* of our fractional-reserve banking system caused by reserve-sweeps programs.

The sweep programs constitute a massive deception on the part of the banking system. The reduction in the effective reserve ratio of the banking system harkens back to the days when wildcat banks were free to multiply money without any concern for reserves at all. While the situation today is not as serious – there are still legal limits of a sort – the inflationary implications are still frightening and once again clearly demonstrate the dangers inherent in fractional-reserve banking. Low reserve ratios have historically been a bad thing for banks and the economy, and when I look at the savings-deposit growth in Figure 1, I wonder when this monetary bomb is going to explode in the economy.

References

¹ Shostak, Frank, *The Mystery of the Money Supply Definition*, Quarterly Journal of Austrian Economics, vol. 3, no. 4 (Winter 2000), pp. 69–76. My definition of money is in very close agreement with Dr. Shostak's definition presented in this paper. This paper is available online at http://www.mises.org/journals/qjae/pdf/qjae3_4_3.pdf

² M1, M2, M3, and MZM (Money of Zero Maturity) are defined here: <http://research.stlouisfed.org/publications/usfd/notes.pdf>.

³ For a thorough discussion of the differences between money and credit, see Von Mises, Ludwig, *The Theory of Money and Credit*, Liberty Fund, Indianapolis, Indiana, 1981.

⁴ I am going to be using the term *demand deposit* to include the term *transaction deposit*. This is admittedly sloppy, and I hope it doesn't cause confusion. The Fed reports *demand deposits* separately from what are called *other checkable deposits*. Both of these groups are combined in the term *transaction deposits*. I will often use the term *demand deposit* to mean any kind of transaction deposit.

⁵ It is beyond the scope of this paper to discuss the sordid details of fractional reserve banking. See Rothbard, Murray N., *The Mystery of Banking*, New York: Richardson and Snyder, Dutton, 1983. This is available online at <http://www.mises.org/mysteryofbanking/mysteryofbanking.pdf>.

⁶ It is a little known fact that more than half of the currency in circulation circulates outside the U.S. It acts as an official or de facto currency in many countries. This reinforces my view that currency is a relatively minor player as regards to its economic importance. See

U.S. Department of the Treasury, *The Use and Counterfeiting of United States Currency Abroad, Part 2*, March 2003.

<http://www.federalreserve.gov/boarddocs/rptcongress/counterfeit2003.pdf>.

See also Porter, Richard D., and Judson, Ruth A., *The Location of U.S. Currency: How Much Is Abroad?*, Federal Reserve Bulletin, vol. 82 (October 1996), pp. 883-903.

<http://www.federalreserve.gov/paymentsystems/coin/1096lead.pdf>.

⁷ Legal opinion by Oliver Ireland, Associate General Counsel, Federal Reserve Board. <http://www.federalreserve.gov/boarddocs/legalint/FederalReserveAct/1996/19960904/>

⁸ See Skeie, David R., *Money and Modern Bank Runs*, <http://ideas.repec.org/p/red/sed004/785.html>

⁹ See these papers for more information about sweeps programs.

a. Anderson, Richard G., and Rache, Robert H., *Retail Sweep Programs and Bank Reserves, 1994-1999*, Federal Reserve Bank of St. Louis Review, January/February 2001, pp. 51-72.

<http://research.stlouisfed.org/publications/review/01/0101ra.pdf>

b. Bennett, Paul, and Peristiani, Stavros, *Are U.S. Reserve Requirements Still Binding?*, FRBNY Policy Review, Circa 2001.

<http://www.newyorkfed.org/research/epr/02v08n1/0205benn.pdf>

c. Anderson, Richard G., *Retail Deposits Sweep Programs: Issues for Measurement, Modeling, and Analysis*, Working Paper 2003-026A, Federal Reserve Bank of St. Louis, <http://research.stlouisfed.org/wp/2003/2003-026.pdf>

d. Anderson, Richard G., *Retail Sweep Programs and Money Demand*, Monetary Trends, Federal Reserve Bank of St. Louis, November 2002.

<http://research.stlouisfed.org/publications/mt/20021101/cover.pdf>

¹⁰ FRED is *Federal Reserve Economic Data*, a database of over 3000 economic time series. It can be accessed at

<http://research.stlouisfed.org/fred2/>.

¹¹ Fed holdings can be seen at

<http://www.federalreserve.gov/releases/h41/Current/>. Historical data is available at the same site.

¹² The Fed posts their monthly estimates of Sweep Account Program totals at

<http://research.stlouisfed.org/aggreg/swdata.html>

¹³ See reference 9a, page 51.

¹⁴ In my personal checking account, I only use about one quarter or less of the total balance. Thus, based on my personal pattern, the bank is probably sweeping 75% or more of the account balance, which agrees with the higher sweep rate implied by Figure 4. I would expect corporations to run a tighter ship.