

Understanding the Tools Needed for Maintaining a Healthy Economy

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This paper describes the tools that are necessary for determining the appropriate amount and timing of the creation of new money (or its removal) required for the maintenance of a healthy economy, and the concepts that underlie those tools.

What is Money?

Money is what we buy things and pay bills with. It is our "medium" of exchange. It is never used up, but constantly flows around the economy in a circular flow of people's income and spending. Paper money, coins and checking accounts are all examples of this medium of exchange.

The confusion between Money and Credit -- People own paper money and their checking accounts, just as they own their coins. These should not be viewed as a form of credit -- i.e., that requires repayment, as implicitly asserted by banks and many economists. This widespread misunderstanding of money, and its misrepresentation of how the economy functions, has its roots in the practices of medieval goldsmiths four centuries ago, when gold was used as money. It was heavy and subject to theft, so people would deposit their gold with a goldsmith for safekeeping, receiving in exchange paper deposit receipts, which they began using as paper money.

Since this meant people didn't have to be constantly making gold withdrawals, the goldsmiths needed only a fraction of that gold on hand -- say, 20% -- to back up occasional withdrawals. This made it possible for a goldsmith to make loans, handing out paper "deposit receipts" based on the other 80%. Since the gold still belonged to the original owners, the money represented by these new receipts had been created "out of thin air." Through the following centuries, banks inherited from the goldsmiths this creation of money "out of thin air" in the process of bank lending. The natural incentive of banks was to increase loans in booms, with the inevitable busts that followed.

Now, four centuries later, the gold basis of this system is obsolete. However, because those original paper receipts were redeemable in gold, and thus represented a "debt" of the goldsmith to the holder of the paper, the idea lingers on that currency and checking accounts are "credit" --

something owed to someone -- rather than the simple medium of exchange. Remarkably, the Federal Reserve considers the Federal Reserve notes in our wallets as their credit liability to us, even though the original inscription on those bills, "payable to the bearer on demand," was long ago replaced with "legal tender for all debts public and private" -- i.e., something you own and can spend, rather than something owed to you. Likewise, banks consider checking accounts a debt they owe to the account holders, even though the account holders already **own** the money in those accounts.

Money as inventory stock rather than credit liability -- People **own** their transaction money. They keep in their pockets as currency or store it in a checking account at a bank. They use their **inventory stock** of transaction money to service their **flow** of spending on goods and services, just as a storekeeper maintains a certain level of inventory to service the normal flow of sales, or a homemaker keeps a stock of food in a pantry to keep a family fed. Recognition of money as inventory rather than credit -- and thus rejecting, as a measure of money, savings accounts and all other financial instruments that are used for saving rather than spending -- is a **fundamental institutional reform** necessary for understanding the relationship between money and GDP, and for providing the resulting tools for maintaining a healthy economy.

The Money-GDP Relationship

Money and GDP -- As noted above, money is the inventory stock of the medium of exchange with which people buy goods and services (GDP). They can't buy these directly with savings accounts or CDs, only with currency and checkable accounts. People and businesses keep in their checkable accounts and wallets what they feel they need to for servicing their purchases. The sum of all these checkable accounts and currency -- about \$900 billion each -- is the nation's money supply (M1), and the net overall sum of those purchases of goods and services is GDP.

"New money" -- Because of this relationship, if the economy is to grow, either to keep up with normal population growth or to recover from a recession resulting from an insufficient money supply, the economy requires an infusion of "new money." New money is money that comes from outside the regular circle of spending and income. In our "fractional reserve" economy, thanks to the medieval goldsmiths mentioned earlier, this new money is created "out of thin air" in the process of bank lending. A bank need only keep a certain fraction of its depositors' checkable accounts on reserve, and can lend the rest. In a similar fashion, when the Federal Reserve buys a Treasury security, it does so by creating the money out of thin air in the seller's bank account.

The problem of interest payments on checking accounts -- The functional relationship described above between checkable accounts and GDP is vital to understanding how much new money is required for a rapid recovery, or, for that matter, maintaining stable economic growth once recovery is achieved. And for this, it is essential that the sole reason money be kept in checkable accounts be for those GDP transactions. If interest is paid on such accounts, they suddenly have a savings/investment aspect. They no longer represent solely the inventory needed to support GDP spending, and thus render unclear the amount of money the economy needs.

This problem was long recognized by the Fed in the form of a prohibition of interest payments on checking accounts, which kept a clear distinction between transaction money and savings money. The loss of that clear definition of money, which resulted from the Fed's 1980 ending of the interest prohibition, created a confusion that resulted in Chairman Greenspan's 2000 remarkable comment: "...what specifically constitutes money is a notion that has, so far, eluded our analysis." Thus, another **fundamental institutional reform** essential for effective monetary management is the re-establishment of that prohibition, so that all transaction money -- coins, currency, and checking accounts -- is interest-free, and thus solely dedicated to GDP spending.

The Money Demand Ratio (MDR) -- As noted earlier, the nation's money supply (M1) is the sum of all individual transaction inventories. The net sum of all expenditures is GDP. The ratio between these -- the M1/GDP stock/flow ratio -- is, for the economy as a whole, a close analogy of the inventory/sales ratios, referred to earlier, that are used by businesses for managing their inventories to support their flow of sales. This "Money Demand Ratio" (the inverse of the traditional and less appropriate concept of "monetary velocity") is the key to determining how much money needs to be added to or withdrawn from the economy to achieve growth goals and avoid inflation as the economy nears its potential after a rapid recovery. Thus, another **fundamental institutional reform** is the recognition of the purpose of this ratio, and a legal requirement for its use in a "money-growth" formula as the transparent determinant of quantitative money-supply targets and a protective firewall against uncontrolled "printing press" money creation. The Fed must be required to monitor and analyze the behavior of the MDR in "normal" times to establish norms for it, and to do further requisite analysis of its behavior in unsettled times like these to determine appropriate money supply targets.

(For a further elaboration on the MDR, see: <http://iea-macro-economics.org/mdr.html> .)

The Statistical Tools for Maintaining Economic Health: the MDR and the Money Growth Formula -- It is said that "with too little money, you have a recession; too much, you have inflation." What is needed are tools that can steer between these extremes to support whatever level of economic activity is defined as desirable. Given the inherent relationship between money and GDP, such tools can be found in the **MDR** and the **Money Growth Formula**.

The MDR is not a simple fraction dependent on the values of M1 and GDP. As a stock/flow ratio, it is an *independent* variable reflecting an economic reality at any given time -- the level of transaction balances people and business feel are desirable for supporting their GDP expenditures. If people or businesses hoard money, the MDR will be high, and a greater money stock is needed to finance a given level of GDP. On the other hand, high interest rates on investments cause people and businesses to "economize" on their transaction accounts, putting any excess balances into investments. In that case, the MDR will be lower -- people will still manage to continue their GDP spending level, but with lower balances. Thus, a given level of the money supply at a given level of the MDR (the independent variables) *generates* a given level of GDP, as expressed in this Money Growth Formula:

$$\text{GDP} = \text{M1} / \text{MDR} \quad \text{or, in growth-rate terms,} \quad \text{GDP}_{\text{gr}} = \text{M1}_{\text{gr}} - \text{MDR}_{\text{gr}}$$

"Economic health" is a matter of how much GDP is produced relative to what could actually be produced in a "full employment" economy. When a given growth rate of GDP is set as a target, the money-supply level needed to finance it can be determined, *so long as the MDR has been adequately monitored and well-understood*. A declining MDR serves as a "new money

equivalent," reducing the need for actual new money. For instance, the MDR's steady 30-year decline following World War II meant that the money supply required very little growth to support a growing economy.

A legal requirement of adherence to this formula, combined with a strong understanding of MDR behavior, addresses concerns about inflation that would result from excessive "printing" of money. It brings a previously non-existent level of transparency to monetary policy, and eliminates the "seat of the pants" approach for which former Fed Chairman Greenspan was known. It also makes possible a rational growth path toward the economy's potential -- rapid at first and then slowing as potential is approached -- that can bring us out of this depression most quickly with minimum risk of inflation.

NOTE: As noted above, this conceptual framework is based on a *quantity* concept of money's role in the economy. As such, it is diametrically opposed to the current use of *interest rates* as the means of managing the money supply. But it should be noted that it is unrelated to the "Quantity Theory of Money," which concerns price levels rather than economic activity.

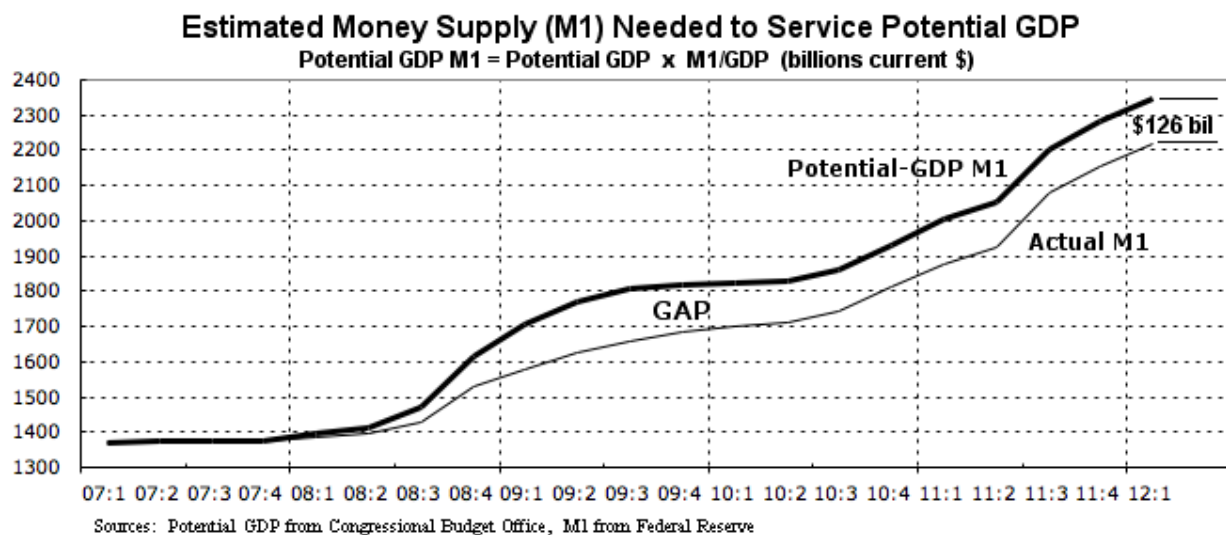
Using The Monetary Tools to Achieve Economic Potential

The Potential GDP Money Supply -- How much money would be required to finance our economy's GDP at its potential -- i.e., in a "full-employment" 4% unemployment economy? A variation of the Money Growth Formula can provide an insight into this question:

$$M1_{PGDP} = \text{Potential GDP} \times M1/\text{GDP} = \text{Potential GDP} \times \text{MDR}$$

It is important to note that this is the money supply level *characteristic* of an economy already at potential. It expresses the ultimate goal, but not how to get there. Creating that quantity of money all at once to recover from a depression could have inflationary consequences.

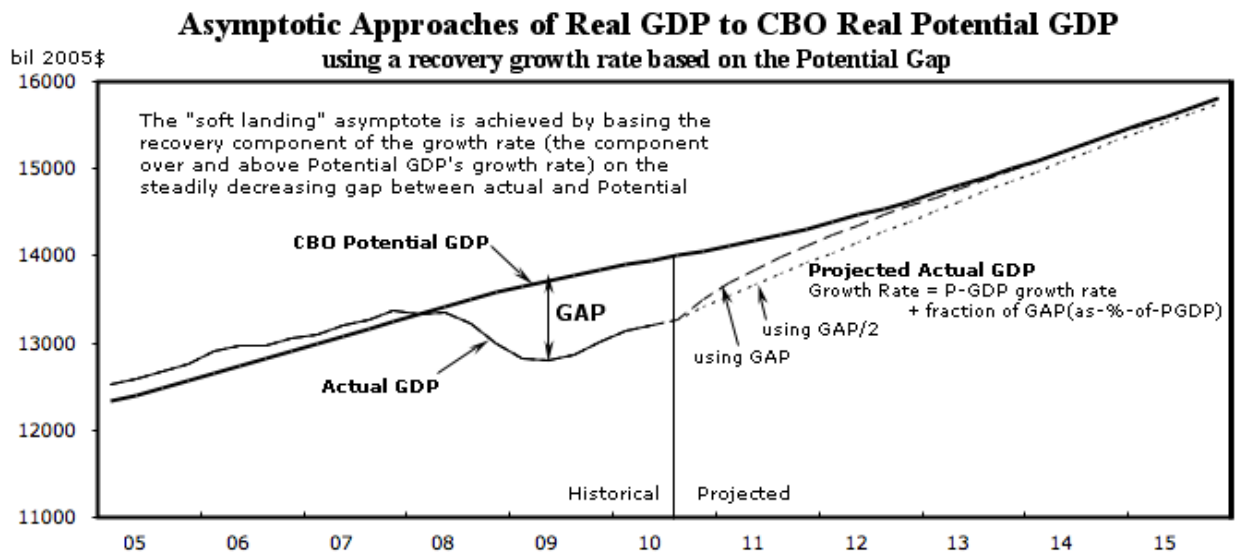
Here is one estimate, using the Congressional Budget Office's estimate of Potential GDP:



Ideally, this approach depends conceptually on a measure of Potential GDP that matches GDP at its 4% unemployment points. The CBO's measure isn't entirely satisfactory in this regard, but it gives us a ballpark figure of about \$120 billion with which to evaluate other recommendations. In this light, Fed Chairman Bernanke's proposal of five times that much, even spread over six months, would seem to involve a potential risk of inflation. But what would a reasonable monetary target and timing look like?

Targets: the Cart Before the Horse -- In a rationally managed economy, the setting of a monetary target is based on what the economy needs to achieve a desired GDP target, rather than setting a pre-decided monetary target and see what happens to GDP. How should such a GDP target be chosen?

In recovery from a deep depression, the initial recovery rate should be very rapid. There is little danger of inflationary supply bottlenecks or monetary inflation at that point, and the psychological-feedback-loop component of recovery-induced confidence is of utmost importance. As recovery proceeds, however, the pace needs to be throttled back, so that the economy's actual output approaches its potential in a "soft landing" (asymptotic) approach. In a recovery, economic growth has two components -- the growth of Potential GDP, plus a "recovery growth rate" designed to bring the economy up to potential. One possible approach to setting this recovery growth rate is to base it on some fraction of the percentage gap between Potential and actual GDP. Here is an example using a full or half gap:



This provides the GDP targets necessary for setting the corresponding money targets.

Deficits, Dual Deficits and the Deficit-Spending Boogey-Man

The federal deficit is in reality a "dual deficit." It has two implicit components:

- a. a "Policy" component reflecting tax and spending decisions over which Congress has control

- b. a "High-Unemployment" component, reflecting economic conditions over which Congress has no direct control

The Congressional Budget Office (CBO) implicitly recognizes this in the "Standardized Budget" that it calculates, designed to reflect government revenues and outlays at a standardized level of unemployment, so that budgets can be compared across years. This corresponds to the "Policy" component mentioned above. The difference between this and the regularly-published budget is the High-Unemployment component.

The High-Unemployment component is made up of what are commonly referred to as the "automatic stabilizers." These create deficits in periods of depressed economic activity -- reduced tax income and increased expenses such as unemployment benefits -- which tend to stimulate the economy. They also provide surpluses in economic good times.

Deficits in these two components must be dealt with in entirely different frame of reference and with different statistical approaches. The Policy budget should be balanced as often as possible - - it is what Congress controls. The High-Unemployment budget, on the other hand, must be allowed to handle depressed conditions. Using Policy budget countermeasures to try to eliminate High-Unemployment deficits is like forcing a sick person to work instead of rest.

Automatic recession deficit spending -- A consequence of the failure to take account of the dual nature of the budget is the inevitable outcry from some quarters about the evils of deficit spending. What this fails to recognize is that there is a close relationship between the High-Unemployment deficit and the unemployment rate. In recent years, this has amounted to about a \$60 billion automatic deficit [1] for each 1% unemployment over a 4% "full-employment" level. At the present level of 9.8% unemployment, this amounts to a

\$350 billion **automatic** deficit if nothing is done to end the recession quickly.

In an argument about deficits, one must keep in mind the choice between spending money to help generate spending by the unemployed, state and local governments and others, or to waste it on the reduced productivity of an extended depressed period.

Conclusion

The political atmosphere in the aftermath of the 2010 election is not the most conducive to a rational approach to ending this depression quickly. There are opponents of almost any kind of federal spending (except military spending). There are opponents of deficits incurred for any reason (except military spending). It is clear that business-as-usual politics and finance cannot do what is needed. If we are to achieve a recovery to a stable, full-employment economy, we need a commitment to the use of these tools and a more precise control over the money supply.

Note

1. For analysis behind this concept, see: http://iea-macro-economics.org/unemp_deficit.html