How Should We Define the Money Supply ? Austrian Versus Monetarist Approach

Nicolas BOUZOU[1]
University Paris-Dauphine
Séminaire Jean-Baptiste Say

[1] Nicolas_bouzou@excite.com
104TER rue de Champigny
94430 Chennevières sur marne
France

Abstract

The purpose of this paper is to provide an aggregate that measures the quantity of monetary signs *relevant for studying business cycle*. Such an indicator could particularly be helpful in evaluating risks of banking and financial crises.

Two kinds of approaches are opposed : the Austrian and the monetarist (positivist).

On one hand, monetarists adopt an empirical approach that takes into account statistical correlation between money supply and national income. On the other hand, the Austrian theory of money and credit lists all claims redeemable at par on demand. Based on individualism, Austrian methodology enables to draw a clear-cut boundary between claim and credit transactions.

In order to construct a proper Austrian indicator applied to the American case, it is necessary to exclude from M1, M2 ands M3 pure credit transactions that do not give rise to a money creation like traveler's checks, time deposits and money market mutual funds. We add demand and other deposits held by the US government, foreign official institutions and foreign commercial banks. This gives us and indicator quite similar to MZM (Money of Zero Maturity).

Moreover, and contrary to the monetarist approach, the Austrian one shows that non-bank do not create money. Central banking and fractional-reserve banking are the only causes of business cycle.

Keywords : Austrian economics, business cycle, credit, money supply, monetarism, monetary aggregate, positivism, statistics.

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1-Introduction

A proper definition of the money supply is vital for both theories and applied economics, notably for the study of inflation, business cycle, monetary and banking crises, exchange rate dynamics or monetary policies. It could be of considerable use to businessmen who are involved in international financial operations and are interested in judging the risk of a crisis in a stock market for instance[2].

The money supply is generally viewed as the total number of currency units in the economy. But such a definition does not tell us how to measure it.

A recurrent Austrian criticism of the monetarist approach lies in the absence of a proper definition. Milton Friedman's view is that the money supply must grow at a fixed rate[3]. But it is impossible to carry out this kind of monetary policy without having defined what elements should be included in this definition of the money supply beforehand. A monetary theory is thus needed[4].

On one hand, positivists (monetarists and keynesians) suggest that the evaluation of money supply is mainly a question of econometric experimentation[5]. On the other hand, the Austrian approach is often criticized because the subjectivist principle sometimes makes measurement difficult. This traditional epistemological debate provides a good illustration of what opposes the Austrian methodology (based on a-priorism, subjectivism and verbal logic) to the positivist one (based on statistical correlations)[6].

[2] Shostak [1999] shows how a Misesian process of expansive monetary policy led to the Asian crisis of 1997.
[3] But since 1998, a few monetarist economists have proposed to adopt a rule based on the stabilization of the national income [MacCallum, 1988].
[4] Shostak [2000] quotes Alan Greenspan admitting that he had difficulties in establishing what part of liquidities constitutes money.
[5] The positivist approach is summed up in Friedman and Schwartz [1970] : "Which counterpart is most useful in making predictions about observable phenomena on the basis of the theory one accepts".
[6] A clear exposé of this discussion is given in Rothbard [1976]. For the positivist point of view, see Friedman [1953].

Why measuring the Money Supply ?

Measuring the money supply is essential for economists who subscribe to a monetary explanation of the trade cycle. For both monetarist and Austrian, money supply is not a passive element adjusting to the current stage of the cycle. Fluctuations in price and quantities result from the monetary policy. The monetary explanation goes back to the English "Currency School" in the 19th century. For this school of thought, the boom is due to the issue of bank notes without metallic backing. The main error of the Currency School is to have not understood that current accounts played the same role as notes.

However, monetarist and Austrian approaches are very different from each other.

Monetarists limit their analysis to variations in aggregate quantities like total output or "general price level". In their approach, money supply must grow at a fix rate in order to be anticipated. On the contrary, the Austrian view of the business cycle is a microeconomic one. Unanticipated changes in the money supply can have effects on macroeconomic indicators as GDP or unemployment, but these are not the most tangible. In the line of Cantillon [1755], Austrian economists consider that all sectors are not affected simultaneously and proportionally[7]. Banks usually first grant new credits to sectors that require expansive and long-term investments, i.e. capital goods industry. Actually, the artificial lowering of interest rates increases the profitability of time consuming investments. These companies are the first to benefit from the expansive monetary policy. A credit expansion not offset by a restriction in consumption entails sectoral malinvestment. A rise in the money supply sets in motion the boom.

Measuring the money supply could also be useful in anticipating the appearance of a financial bubble. A bubble forms when an artificial expansion of credit entails a rise in the demand and in the price of financial assets. The new money is highly likely to go into financial markets before affecting real economies because of the open market process [Friedman, 1963]. Banks sell securities because central banks buy at a good price. But they find themselves with larger reserves than sufficient. They turn first to securities comparable to those assets they have sold,

[7] In the *Theory of Money and Credit* [1912], Mises explains how monetary expansion gives rise to shifts in factors of production allocation, relative prices and income distribution.

i.e. fixed-interest coupon and low risk obligations. With the money that remains, they can buy riskier assets like shares. This entails a rise in the price of financial assets that could become a self-fulfilling phenomena [Blanchard and Watson, 1979]. So, this paper could provide a useful tool for investors who want to estimate the size of the bubble that could exist in financial markets.

2-The usual aggregation of the means of payments: an overview

It is today widely held that cash and demand deposits are a part of the money supply. But it has not always been the case. Authors of the Currency School considered that bank notes were the only form of monetary substitute and that the 100% reserve rule (at the margin) was only needed for the issue of notes [Loyd, 1841]. If it had realized that demand deposits were monetary substitutes too, it should have fostered the implementation of such a rule for both bank notes and demand deposits. Fisher [1913] makes a distinction between bank deposits and notes, this distinction lying in what is generally acceptable for exchange (notes) and what is only acceptable by the consent of the payee (checks).

According to Mises [1912], what is relevant in studying the structure of production is not the quantity of commodity money (of units of gold for instance), but the quantity of monetary signs since there are them that are relevant in the study of business cycle. These views lead Rothbard to assert that money supply "in the broader sense" is all claims redeemable at par on demand.

Friedman and Schwartz [1970] adopt an empirical approach of the money supply. They consider the best way to define it is to state statistical relations between monetary or financial assets and indicators such as national income. The money supply is then equal to the aggregate value of the assets treated as money (i.e. according to the authors: coins, demand deposits at commercial banks, time deposits at commercial banks, deposits at mutual saving banks and at the Postal Saving System, savings and loan shares, cash surrender value of life insurance policy and government bonds redeemable on demand for amounts stated in advance), these items being adjusted for double counting. But the “optimal money supply” in the monetarist sense is set up in accordance with a few statistical considerations, the most important being not to get an accurate breakdown of commercial bank deposits between

demand and time deposits before 1914. The monetarist money supply is also composed of coins, demand deposits adjusted at commercial banks, time deposits at commercial banks since it is the one that enables one to obtain the best correlation between the rate of change in money and the rate of change in net national product.

In their study, Friedman and Meiselman [1969] define an "optimal" monetary aggregate in calculating correlation coefficients between different measures of monetary supply and income. Their two criteria are:

- The correlation coefficient between the quantity of money and the income has to be the highest.

- The correlation coefficient between the revenue and the selected indicator of the monetary supply must be higher than the coefficient between the income and each element of the indicator.

Several elements are tested: cash, demand deposits, time deposits and saving deposits (in mutual saving banks, savings and loan associations, post offices). Friedman and Meiselman show that the "good" money supply is composed of cash, demand deposits and time deposits.

Kaufman [1969] uses a similar methodology. He enlarges the panel of assets in including US saving bonds and short-term (less than one year) treasury bonds. He works with two periods: 1953-59 and 1960-66. The income is the best explained by cash, demand deposits and time deposits with a delay of two or several quarters. The income is the best explained by cash and demand deposits in the current period or with a delay of one quarter.

Following the same approach, Smith [1978] analyses the relation between national income and five alternative measures of the money supply in the UK between 1924 and 1977. He finds that the best indicator consists of M3 plus building societies, Trustee Savings Bank and National Saving Deposits.

According to Laidler [1966, 1969], the appropriate definition of money is that which provides a stable aggregate demand for money function . He concludes in his 1966 work : “its stability is improved by including time deposits in the definition of money “(p.55).

Since these seminal contributions, the general approach has followed the positivist methodology as used in Friedman and Schwartz [1970]. The aim is to define weighted aggregates taking into account the degree of moneyness (i.e. the substitutability between financial assets and what is widely considered as money)[8]. Non-monetary aggregates are excluded from the indicator. Financial assets can be substituted for money as medium of exchange and reserve of value, but at different degrees. These degrees have to be quantified so that the aggregate can be weighted. Traditional aggregates constitute an extreme case of weighted aggregates (all coefficients being equal to one)[9].

Allais's theory [1975] leads us to introduce the Austrian theory thanks to the concept of subjectivity. Like Friedman, Allais is a pure positivist economist. He was a student at L'Ecole Polytechnique, a French school of engineers. He is an eminent representative of the French tradition of mathematician economists. According to Allais, the experimental method in the only one valuable in all areas of knowledge. In this respect, he establishes no difference between physical and human sciences. However, his theory of the money supply is interestingly based on subjectivism. Allais defines the quantity of money held by an operator as the part of his asset that he considers rightly or wrongly as enabling him to make payments without delay or restriction. The inclusion of time deposits is relative to the judgment of operators. It has to be weighted by a psychological coefficient that depends on the term of the deposit. If the coefficient is equal to 0, time deposits are considered as savings (their term is probably long). If the coefficient is equal to 1, time deposits are considered as money (their term is probably short). Although Allais considers the existence of this coefficient as inevitable, he recognizes that its measurement is problematic. Moreover, following the same rule, other financial assets must be included in the aggregate and weighted. The money supply must include both money in a narrow sense (M1), a part of time deposits and a part of the other assets.

However, the positivist fallacies reappear when Allais wants to determine the coefficients thanks to econometric regularity.

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[8] This new discipline is purely constructivist. Its vocation is to provide to monetary authorities a guide to carry out their policy [Lecarpentier-Moyal, 1998].

[9] That is the reason why they are so criticized in Friedman and Schwartz [1970].

Allais's merit is to introduce subjectivism in the debate on the inclusion or non-inclusion of time deposits in the money supply. Unfortunately, such a conception that does not draw a clear theoretical boundary between money and saving must lead to a positivist impasse.

3-The Austrian approach

The Austrian view is summed up in Rothbard [1978, 1983]. A correct definition of money lies in Mises [1912] : *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*.

The items that work as perfect money substitutes readily take the place of money at par.

The conception of money as an economic good

Since Menger [1871], the Austrian tradition considers that money originates in the process of a free market, but cannot originate by order of the state or from a social contract. The emergence of money constitutes a technical progress compared to a barter system. It entails a reduction of both information costs and transaction costs (see Rothbard, 1983). But not every good can become money. Moneyness requires several qualities: an industrial demand, a high divisibility, a high value per unit weight, and a good durability. This explains why for 25 centuries, gold and silver have been chosen by the market as money.

What is the money supply in this system ? Simply the aggregate of all the monetary gold existence, i.e. all the gold (or silver) ready to be used as intermediary of exchanges[10]. But as Rothbard recalls [1983], all money is owned by someone, so the total money stock in the society at any given time is the aggregate of all existing money stock (cash balance) owned by each individual or group.

[10] The non monetary gold is not used as an intermediary of exchanges. It faces an industrial demand, for instance in the jewellery sector.

However it is easier for the people to use what Mises calls money substitutes for practical reasons [Mises, 1912].

Claim and credit transactions[11]

Deposit banking serves the convenience of the holders of gold and silver. The depositor places his gold in the bank and receives in return a warehouse receipt (a money substitue) stating that he can redeem his goods whenever he presents the ticket at the warehouse. For the duration of the deposit, the gold or silver becomes an asset of the bank with redemption due as a supposed debt, albeit instantly on demand. But no one but the depositor is permitted to make use of the money. If the banker lends the funds to a third, property rights are violated. The warehouse receipts must be counted in the money supply since it can be exchanged for goods and services.

So, if somebody deposits $ 10 000, we have the following balance sheet :

A	L
Gold coin or bullion : $ 10 000	Warehouse receipts for gold : $ 10 000
Total assets: $ 10 000	Total liabilities: $ 10 000

A credit transaction involves the purchase of a present good in exchange for a claim on a future good [Rothbard, 1993]. Money is transferred from a lender to a borrower. The ownership of the lender for the money is temporarily reassigned to the bank or the money market mutual funds. The operation does not result in a creation of money. Credit banking is an entrepreneurial activity that only channels saving towards the most profitable use.

Assume somebody lends 5 000 to the bank, 5 000 are financed by issuing shares, and the bank keeps 2 000 in cash. We have the following balance sheet :

A	L
Cash : $ 2 000	Bonds & CD : $ 5 000

[11] For a more advanced presentation, see Rothbard [1983] and Hülsmann [2000].

IOUs : $ 8 000	Equity : $ 5 000
Total assets : $ 10 000	Total liabilities : $ 10 000

Banks engage in fractional reserve banking and money creation when they use deposited money to grant credits [Hülsmann, 2000]. They lend deposited money or they issue money titles in excess of the cash they keep in their boxes. Total cash reserves are lower than the warehouse receipts outstanding. If a bank issues $ 5 000 of warehouse receipts not backed by gold, we have the following balance sheet:

A	L
Gold coin or bullion: $ 10 000 IOU from X: $ 5 000	Warehouse receipts for gold: $ 15 000
Total assets: $ 15 000	Total liabilities: $ 15 000

Money substitutes, fiduciary media and business cycle

According to Mises [1912, p.50], money substitutes are "absolutely secure and immediately payable claims to money". What counts is the fact these substitutes can be exchanged free of expenses and without delay against money. They include money certificates, i.e. notes covered by commodity money, and fiduciary media, i.e. demand deposits and notes uncovered. The two basic forms of warehouse receipts, bank notes and deposits, are also money substitutes.

Money substitutes must be counted in the money supply because they are generally accepted as means of payment. According to Mises [1949, p.433] : "money substitutes can fully replace money in an individual's or a firm's cash holding". It follows that *the money supply is composed by all claims redeemable in cash at par on demand including demand deposits yielding interest (NOW accounts…)*.

The distinction inside the money substitutes between the fiduciary media and money certificates is fundamental for the Austrian business cycle theory. If a rise in credit is linked to an increase of the circulation of fiduciary media, then it will lead to a malinvestment crisis,

i.e. a wrong allocation of capital goods. In this case, investment is not financed by prior saving, i.e. a fall in consumption, but by an artificial expansion of credit that sends a wrong signal to the market (the interest rate has decreased, but the social time preference has not changed). A rise in saving and an artificial expansion of credit send the same signal to the market and affects similarly the allocation of resources in the economic system. This phenomenon entails the directing of production toward investment goods. But the final consequences are the opposite: more saving implies more investment and more growth, but the expansion of credit entails a boom and bust cycle. If the credit expansion comes from an increase in saving, the banking system would have played an efficient role in the allocation of resources. It would have cheated the producers if it does not.

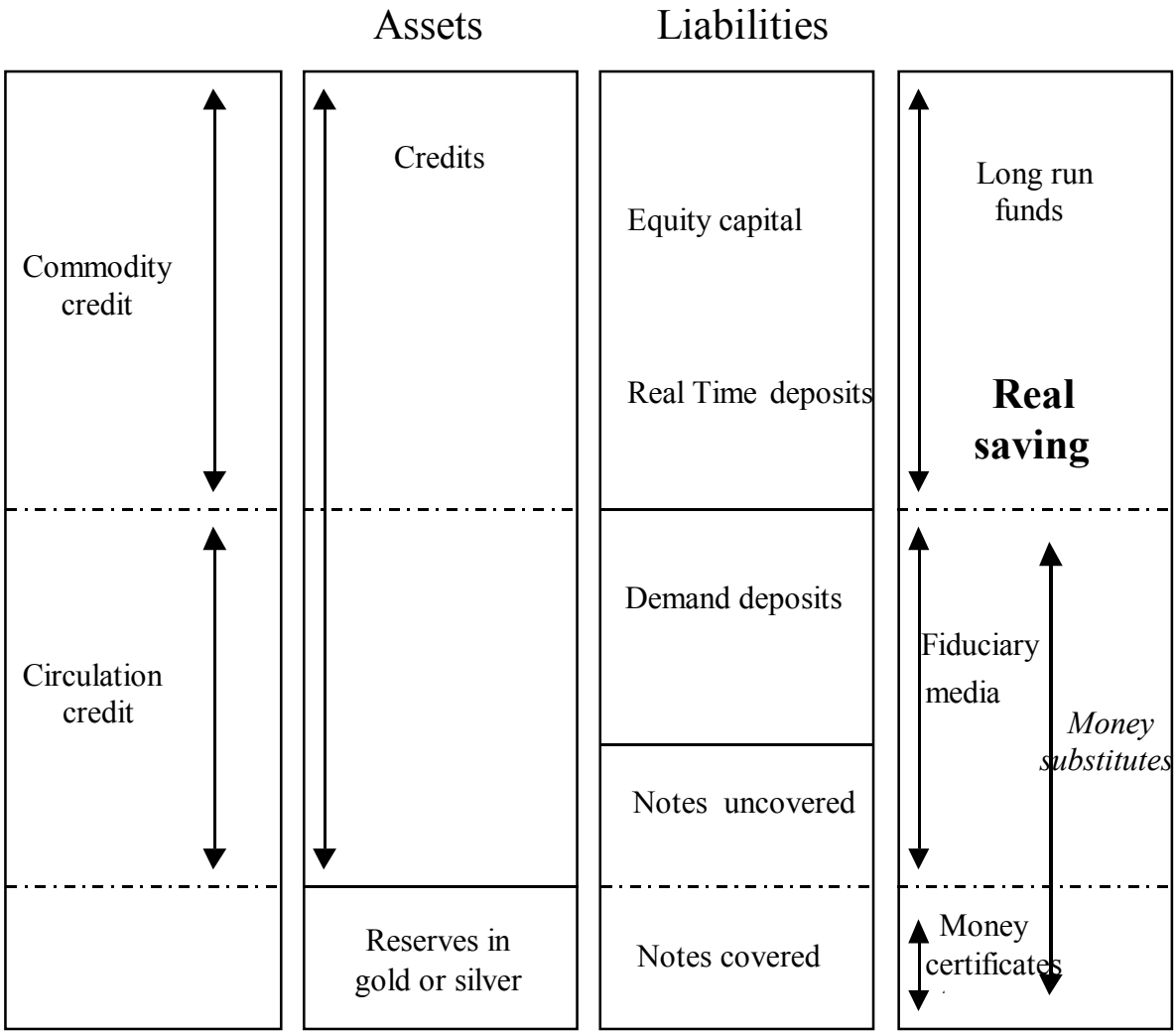
The creation of money substitutes is not neutral if it entails a rise in fiduciary media[12]. Changes in the quantity of fiduciary media (i.e. demand deposits and notes uncovered), and also in money substitutes, influence prices and interest rates[13].

Rothbard [1978] suggests that only inflationary bank expansion that enters the market through new business loan impacts on the business cycle. That is why Hayek [1975] distinguishes between simple inflation, due for instance to a public deficit, and credit expansion[14]. According to Rothbard, the figure for commercial bank loans to business can provide a rough estimate of movements in Mb. But it does not help us to distinguish between an increase in commodity credit and an increase in circulation credit[15]. Moreover, Rothbard's assertion is not relevant because of the non-neutrality effect. Even in the case of the creation of notes, the inflationary consequences of the monetary expansion favors some sectors at the expense of others and can incite them to invest the new profits. However the channel, a monetary expansion always leads to malinvestment phenomena.

The following balance sheet, adapted from various Austrian contributions (notably Mises, [1912]), enables to visualize the different kinds of liabilities and their impact on the business cycle.

[12] In our previous bank balance sheet, only the creation of the $ 5 000 has an inflationist effect.
[13] See the following balance sheet.
[14] Hayek points out the difficulties of studying the crisis of the seventies because the expansion of money was only partly lead by means of bank credit expansion, and has gone into several channels.
[15] In Mises's approach [1912], commodity credit is credit backed by equity capital and real time deposits but circulation credit is credit backed by demand deposits and notes uncovered by reserves in gold or silver. See the following bank balance sheet.

Bank balance sheet - The Austrian approach



A subjectivist principle

A crucial point in the Austrian theory is that money must be accepted as a general medium of exchange. These are the individual perceptions that make a currency. As Rothbard says: "So long as demand deposits are accepted as equivalent to standard money, they will function as part of the money supply." [1978].

This means that in a fractional reserves system, bank notes or demand deposits are not automatically a part of the money supply : "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".

This methodological point makes the Austrian conception of the money supply inconsistent with the monetarist view.

Subjectivism explains why, in a fractional reserve system, money substitutes are considered to function as money. In such a system, deposits and notes are not always really redeemable in cash, but individuals think they are.

What should be included in the money supply: the Austrian literature

In a public and hierarchic monetary system, two other elements can help us to define the money supply. First, a deposit insurance system legally insures deposits up to a certain amount. Second, the central bank stands ready to head off a banking panic by printing and lending the quantities of notes needed to banks or thrifts unable to meet their demand liabilities [Salerno, 1987].

The checkability must not be a criteria. Savings deposits are not checkable. They must however be included in the money supply. They are redeemable on demand at par. People who put their money in savings deposits are persuaded to keep it at their disposal.

Rothbard [1978] proposes also the following aggregate:

M = total supply of cash held in the banks + total demand deposits + total savings deposits in commercial and saving 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).

Salerno [1987] proposes:

M = currency in the hands of the non bank public (i.e. excluding currency held by the US treasury, the FED and in the vault of commercial banks) + checkable deposits + saving deposits + overnight repurchase agreements + overnight eurodollars (deposits are made by local firms in interest bearing accounts at the offshore bank of a local bank, where national interest-rate regulations have no legal force; the local currency thus deposited plus interest earned are credited daily to the firms' demand deposit accounts held at the parent bank) + money market deposits accounts + demand and other deposits held by the US government, foreign official institutions and foreign commercial banks at US commercial and federal banks.

We notice that time deposits are not included in M.

More recently, Shostak thinks that, in the tradition of Mises and Rothbard, the money supply should be :

M = cash + demand deposits with commercial banks and thrift institutions + saving deposits + government deposits with banks and the central bank

In the tradition of Mises, Rothbard [1978] proposes the creation of a typically Austrian aggregate called Mb (b for 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 investment, then Mb will have increased by 600 000 in that period."

But in the attempt to define a proper money supply aggregate, a few claims continue to make debate. The most important are time deposits and Money Market Mutual Funds shares.

In Rothbard's view, time deposits are redeemable before the date of redemption at fixed rates, but at penalty discounts rather at par [Rothbard, 1978]. He suggests so including them at the actual penalty level. We cannot agree with him. We consider that depositors usually will not redeem time deposit and CDs since it is not their vocation. Individuals who make time deposits engage in a credit transaction. We also give a response to Allais's problem of weighting.

A number of economists have recently worried about the rise of the Money Market Mutual Funds (MMFs) that, during the nineties, have attracted nearly one-half of the net growth of household savings. Could these non-bank institutions set in motion an uncontrolled creation of money and trigger a gigantic malinvestment phenomenon ?

MMFs are open-end investment companies which offer their shares to the public and redeem them on demand [Sennholz, 2001]. They put their funds in assets sage and secure like commercial paper. They generally propose checks facilities for limited accounts. They usually stabilize the price of their share at $1, which permits them to compete with commercial banks on the segment of customer convenience[16].

A theoretical analysis shows that MMFs do not create money "out of thin air". When A deposits $ 1 000 with a Funds, he transfers to it money from his bank. With this sum, the money market mutual funds buy bonds, government securities and short-term money market securities. The $ 1 000 are now transferred to the sellers of securities. There is no new money. The fact that most MMFs offer checks facilities does not change the data of the problem. If A makes a check for $ 200, the funds sells securities and returns money to A. Once again, we have only a funds transfer. Moreover, the fact that the funds invest in instruments of short or even overnight maturity does not change the nature of the operations. We only face to very short-term credit transactions. All the more so as MMFs match the term structure of their assets with the term structure of their liabilities since they assume that all depositors could remove their funds at the same time [Macey, 2000]. MMFs function like the loan banking described previously.

[16] For a more comprehensive approach of the functioning of MMFs, see Gorton & Pennacchi [1993].

That leads Rothbard to an optimistic conclusion about the rise of MMFs [1991] : " These are a means by which savings are being channeled into short-run credit to business, again without creating new money or generating a boom-bust cycle. Institutionally it would now be easier to shift from fractional to 100 percent reserve banking than ever before."

In fact, there could be only one reason for including the MMFs shares in the money supply. When a bank creates fiduciary media, this new money can be transferred in a MMFs. An indicator that wants to take into account items that are relevant in the study of the business cycle would have to include it. But there is no mean to know if these shares have been bought thanks to a rise in fiduciary media or notes backed by commodity money. This problem is one of the most discouraging in the studying of the monetary aggregates.

4-Application of the Austrian approach to the American case

The a-prioristic methodology enables to draw a quite clear boundary between claim and credit transactions. We can also set up a more proper aggregate than by means of a positivist and imprecise approach. So, neither the a-priori not the subjectivist methodology prevent us from establishing an aggregate, but it helps us to do it correctly.

Until the mid 1970s, only commercial banks were allowed to establish checking accounts, and they were not allowed to pay interest on them. But with the acceleration of the emergence of financial innovations, regulations have changed. Today, other types of banks, such as savings and loans associations, mutual savings banks and credit unions can also offer checking accounts.

Let us see how American official monetary aggregates (M1, M2 and M3) are computed[17].

M1 consists of (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions; (2) travelers checks of non-bank issuers; (3) demand deposits at all commercial banks other than those due to depository institutions, the U.S. government, and foreign banks and official institutions, less cash items in the process of collection and Federal

[17] The following notes are extracted from the Statistical Release of the Board of Governors of the Federal Reserve System, March 16, 2000.

Reserve float; and (4) other checkable deposits (OCDs), consisting of negotiable order of withdrawal (NOW account) and automatic transfer service (ATS) accounts at depository institutions, credit union share draft accounts and demand deposit at thrift institutions. Seasonally adjusted M1 is calculated by summing currency, traveler's checks, demand deposits, and OCDs, each seasonally adjusted separately.

M2 consists of M1 plus savings deposits (including money market deposit accounts), small-denomination time deposits (time deposits-including retail RPs-in amounts of less than $100,000), and balances in retail money market mutual funds. It excludes individual retirement account (IRA) and Keogh balances at depository institutions and money market funds. Seasonally adjusted M2 is computed by summing savings deposits, small denomination time deposits, and retail money fund balances, each seasonally adjusted separately, and adding this result to seasonally adjusted M1.

M3 consists of M2 plus large-denomination time deposits (in amounts of $100,000 or more), balances in institutional money funds, RP liabilities (overnight and term) issued by all depository institutions, and Eurodollars (overnight and term) held by U.S. residents at foreign branches of U.S. banks worldwide and at all banking offices in the United Kingdom and Canada. It excludes amounts held by depository institutions, the U.S. government, money funds, and foreign banks and official institutions. Seasonally adjusted M3 is calculated by summing large time deposits, institutional money fund balances, RP liabilities, and Eurodollars, each adjusted separately, and adding this result to seasonally adjusted M2.

Let us see which elements must be excluded and which must be included.

- *Elements to exclude*

a) Traveler's checks (from M1). These are pure credit transactions that do not affect the money supply.
b) Small denomination time deposits (from M2). They involve loans by the public to banks and thrifts.
c) Money market mutual funds are excludable from the aggregate because they do not give rise to monetary creation.

d) Large denomination time deposits (from M3) for the same reason than small denomination time deposits.

- *Elements to add*

a) Demand and other deposits held by the U.S. government.
b) Demand and other deposits held by foreign official institutions.
c) Demand and other deposits held by foreign commercial banks at U.S. commercial and Federal banks.

This gives us an indicator quite similar to MZM (Money of Zero Maturity which consists of M2 minus small denomination time deposits plus institutional money market mutual funds). MZM is better than M2 since it captures the quantity of money immediately spendable (cash plus instantaneously redeemable par value claims to cash). Unfortunately, MZM also includes institutional market mutual funds and forgets a few relevant items (c.f. previously).

5-Discussion & conclusions

The results provide some evidence that adopting an Austrian or a monetarist methodology leads to different monetary aggregates. Positivist methodology can lead to take into account many highly liquid financial assets. But monetarism fails to do the theoretical distinction between claim transactions and credit transactions. The latter ones are not inflationary, but a rise in the quantity of monetary substitutes in a fractional reserves system is. So it makes no sense to pretend that shares are money, except if we consider that it is a hard money (as gold). Authors who consider that a wide spectrum of assets containing to a different extent some of the features of moneyness actually aggregate monetary substitutes backed by Central Bank notes and other goods like shares or standardized contracts.

On the contrary, an a-prioristic line of attack exhorts us to take genuine time deposits and money market mutual funds shares off our aggregate. In other words, only the Austrian approach enables to state that only banks can create money.

However, the most important problem with a purely theoretical approach is that it is impossible to know if a MMFs share or a ”true” saving product has been bought thanks to a rise in fiduciary media. If it would be the case, it would have to be counted in the “Austrian money supply”.

Moreover, whatever the approach we choose, it is difficult to define a constant and universal monetary aggregate in a fractional reserves system. A specific indicator must be built for every country and for every period that consider the specific legislation. Each investment in a financial instrument must be classified as a claim transaction or a credit transaction. In the American case, MZM is the best available indicator, although it includes MMFs.

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