

# WANTED: PUBLIC BORROWERS OF LAST RESORT

09 December 2020

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Since the Great Financial Crisis and the advent of unconventional monetary policy, capital markets have become obsessed with quantitative easing (QE) and its potential expansion, extension or tapering. Motivating this obsession is the widely held view that “people have to put their money somewhere”, be it in goods, services, or financial assets. Hence, the more central banks expand their balance sheets, the more conventional wisdom deems it beneficial for the real economy and capital markets. To what extent should we embrace this view? Is it overlooking some important issues?

## Friedman’s legacy and some forgotten controversies about money

The central role given to the quantity of money issued by central banks is part of Milton Friedman’s legacy.<sup>1</sup> First of all, Friedman judged the monetary policy conducted by the Federal Reserve after 1929 as “inept” for its failure to provide liquidity to a fractional reserve banking system facing a depositors’ run. According to him, had the Fed increased its security holdings, the banking crisis of the 1930s would not have been so severe. Next, as regards broad money - the money created by commercial banks and their clients-, Friedman argued that its velocity - the frequency at which it changes hands during a given time - is essentially stable in the short- to medium-run. Velocity rises “somewhat” during expansions; it falls “somewhat” during contractions.<sup>2</sup> In other words, barring exceptional circumstances like the ones experienced during the Great Depression, when the velocity of broad money fell sharply, one should assume money velocity to be stable. The quantity of central banks’ money tells the whole story, a simple and easy to remember one.

These views would have raised eyebrows among early economists. First of all, they emphasized, instead, the role of the velocity of money. According to Mark Blaug, “Cantillon is the first to leave absolutely no doubt that the effect of an increase in money velocity is equivalent to an increase in money alone”.<sup>3</sup> Published in 1755, Richard Cantillon’s seminal work was written in the 1720s.<sup>4</sup>

1. Friedman, M., Schwartz, A., (1963), *A Monetary History of the United States, 1867-1960*, Princeton University Press, Princeton.
2. It is common practice to measure money velocity by the ratio of nominal GDP-to-money. Strictly speaking, this is a short cut because nominal GDP does not take into account the transactions linked to intermediate consumption. Nor does it take into account financial transactions in secondary capital markets. Hence, one should never forget to make a distinction between the *income-velocity* of money (measured by the ratio of nominal GDP-to-money) and its *transactions-velocity*. One could measure the latter by collecting data about bank debits, which are generally not available. It is however reasonable to assume that the transactions-velocity of money is a multiple of its income-velocity. By our estimates, the transactions-velocity of broad money is about 10 to 11 times its income-velocity in the EMU and the USA
3. Blaug, M., (1962), *Economic Theory in Retrospect*, Cambridge University Press, Cambridge.
4. Cantillon, R., (1755), *Essay on the Nature of Commerce in General*, Routledge, New York.

Then, the Banking School challenged the Currency School's claim that money creation is exogenous and that it is possible for a central bank to control the quantity of broad money through its own balance sheet. The Banking School did so by invoking arguments, which economists nowadays summarize by observing that in a fractional reserve banking system "loans make deposits". If bankers do not always perceive this way of describing the money creation process to be valid at the level of an individual bank, especially if a banking system is made of "long-loans/short-deposits" banks raising funds in the interbank markets from "long-deposits/short-loans" banks, economists have no doubt that it is correct at the level of any banking system. In this respect, it is telling that the words "debt" or "indebtedness" are nowhere to be found in the index of Friedman's magnum opus.

### **QE has not prevented a decline in broad money velocity**

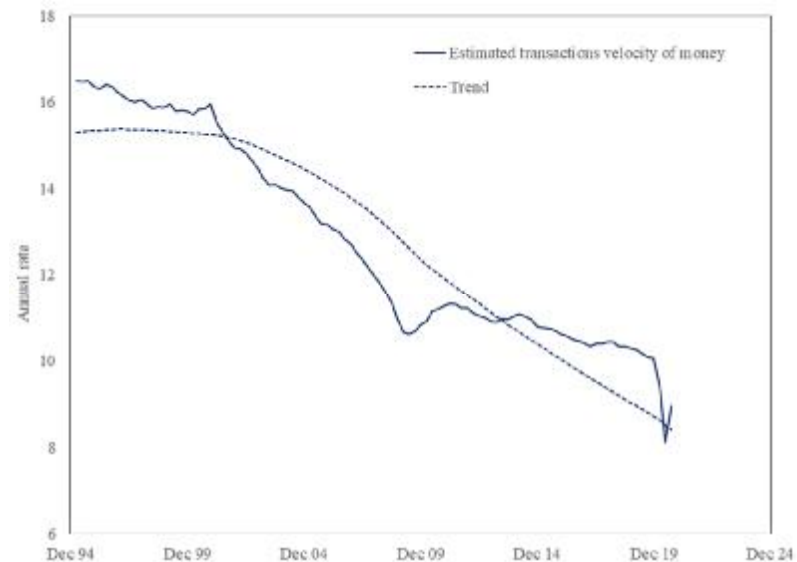
**If anything, contemporary monetary developments, in the EMU (like in other major economies), are a reminder that it is simplistic and therefore risky to sum up the fuzzy concept of liquidity with QE as if it was the alpha and omega of monetary phenomena.** For the sake of brevity, the following investigation will only refer to EMU data, but its key observations are, to a large extent, valid in other developed economies. In recent years, the EMU has indeed experienced the following monetary phenomena.

Broad money (M3), which is mainly created by commercial banks and their clients, has grown at a much slower pace (+3.7% a year on average since September 2008, +5.6% since December 2014) than the ECB's balance sheet (+12.5% a year on average since September 2008, +16.7% since December 2014). Up until the Great Financial Crisis, a EUR 1 increase in the ECB's balance sheet used to be accompanied by a fourfold increase in M3. Over the last five years, this multiplier has fallen to 0.60. So much for the ability of a central bank to control broad money through its own balance sheet!<sup>5</sup>

Derived from the ratio of nominal GDP-to-M3, the transactions-velocity of broad money has furthermore slowed down (by an average 2% a year since September 2008, 3.2% a year since December 2014), to about 10 times a year before the Covid-19 outbreak, as shown in Figure 1. As such, it has further widened the gap between the ECB's quantitative impulse and the response of private agents. In other words, since the Great Financial Crisis, the decline in the velocity of money has neutralized or sterilized the first 2 to 3 pp of broad money growth, that is, about 55% of the total. In 2020, the velocity of broad money has exhibited some unusually large fluctuations: declines in Q1 and Q2 of -6.6% and -13.6% respectively, followed by a 10.5% rebound in Q3. So much for the alleged stability of money velocity!

5. It goes without saying that broad money growth would have been much slower or even negative in 2020, had States not guaranteed bank loans to help businesses withstand lockdowns.

Figure 1 – Estimated transactions-velocity of EMU M3



Sources: Refinitiv; Allianz Research.

### Money velocity does not fluctuate randomly: it says something about the “monetary climate”

Fluctuations in the velocity of money are often implicitly presented as “exogenous” or independent of the quantity of money. The modern theory of monetary dynamics challenges this view by introducing the concept of demand for money. According to the theory of monetary dynamics, **fluctuations in nominal spending are caused not only by freshly created money, as suggested by the most simplistic form of monetarism, but also by the hoarding or dishoarding of preexisting money balances in the wake of imbalances between the demand for broad money and the supply of broad money:**

- When the demand for money exceeds the supply of money, the economy suffers from a **liquidity gap** that causes people to hoard money balances (i.e. to increase their precautionary balances by reducing their transactions balances), as a result of which money velocity falls.
- Conversely, when the supply of money exceeds the demand for money, the economy suffers from **excess liquidity**, a situation that causes people to dishoard money balances and money velocity to rise.

When excess liquidity prevails, agents strive individually to get rid of the money balances they do not want to hold, but fail collectively to do so, because **the only place in which people can put their money is not goods, services or financial assets, but in someone else’s pocket.** When a liquidity gap prevails, the opposite happens.

To lend itself to empirical testing, this framework needs an explicit demand for money function. According to a common assumption, the demand for money  $M_D$  should be commensurate with nominal GDP: the higher the nominal GDP, the greater the need for money to fund transactions. This is the idea underpinning Marshall's  $k$

$$M_D = kY$$

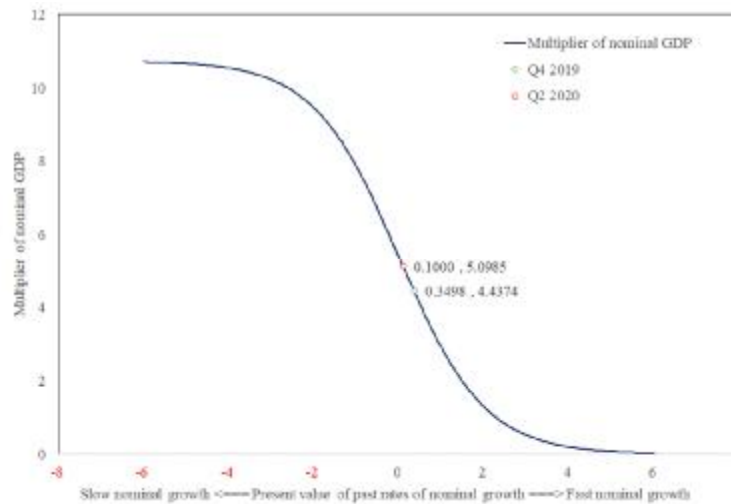
where  $k$  is a constant and  $Y$  represents nominal GDP.

However, through its effect on confidence and expectations, the pace at which nominal GDP has been growing should also have an impact on the demand for money: the faster nominal growth has been, the higher confidence is and the lower is the demand for precautionary balances. Following Allais, combining these two insights leads us to formulate the demand for money as a time-varying fraction (or multiplier) of nominal GDP:

$$M_D = k(t)Y$$

in which  $k(t)$  is a bounded non-linear function (a so-called logistic function) of the sequence of past rates of nominal growth, as shown in Figure 2.<sup>1</sup>

Figure 2 – Logistic multiplier of nominal GDP



Sources: Refinitiv, Allianz Research.

All this boils down to a framework in which the rate of nominal growth depends not only on the money freshly created, but also on the hoarding or dishoarding of preexisting money balances, the latter depending in turn on the imbalance  $M_D/M$  between a logistic demand for money function and the supply of money. Empirical tests show that such a framework does a good job at modelling observed rates of nominal growth.

This framework also highlights the dangerous positive feedback loop that can take hold between nominal growth and monetary imbalances. If not

<sup>1</sup> Allais, M., (2001), *Les fondements de la dynamique monétaire*, Ed. Clément Juglar, Paris.

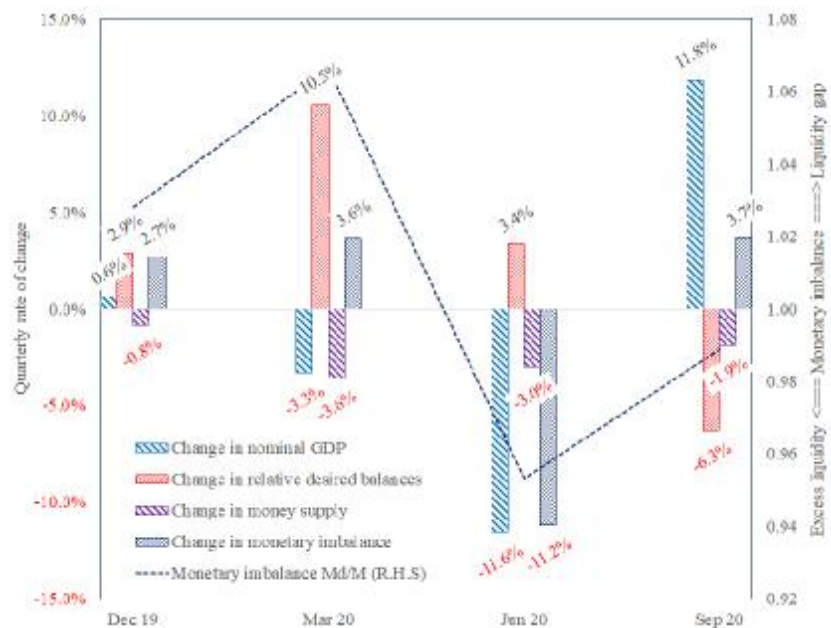
fully offset by some freshly created money, an initial liquidity gap causes nominal growth to slow down, which in turn increases the multiplier of nominal GDP, which in turn exacerbates the initial monetary balance, and so on, until monetary equilibrium is achieved by means of a fall in nominal GDP.

Therefore, one should consider monetary imbalances and the subsequent fluctuations in broad money velocity, especially the shorter-term and the more pronounced ones, as the footprints of the “monetary climate”.<sup>2</sup> Inflation worrywarts should take comfort from declining broad money velocity rather than fret about QE. Reflation traders should hope for a pick-up in broad money velocity rather than bet the ranch on QE.

### Looking back at 2020 through the prism of money velocity

According to this framework, a year ago, money velocity was significantly above its long-term trend and the EMU was experiencing a growing liquidity gap, exposing money velocity to the risk of some downward reversion to that trend, a phenomenon that the Covid-19 crisis caused and amplified in Q1 and Q2 2020, as shown in Figure 3. In Q2 2020, the liquidity gap morphed into excess liquidity mainly because of the sharp fall in nominal GDP. At the end of Q3 2020, the EMU economy was still experiencing excess liquidity but the monetary imbalance was shrinking. **In other words, money velocity should decline again in Q4 2020. Under plausible assumptions as regards money growth in Q4 2020, a serious slowdown in nominal growth is to be expected in Q4 2020 and beyond.**

Figure 3 – Decomposition of changes in monetary imbalance in the EMU



Sources: Refinitiv, Allianz Research.

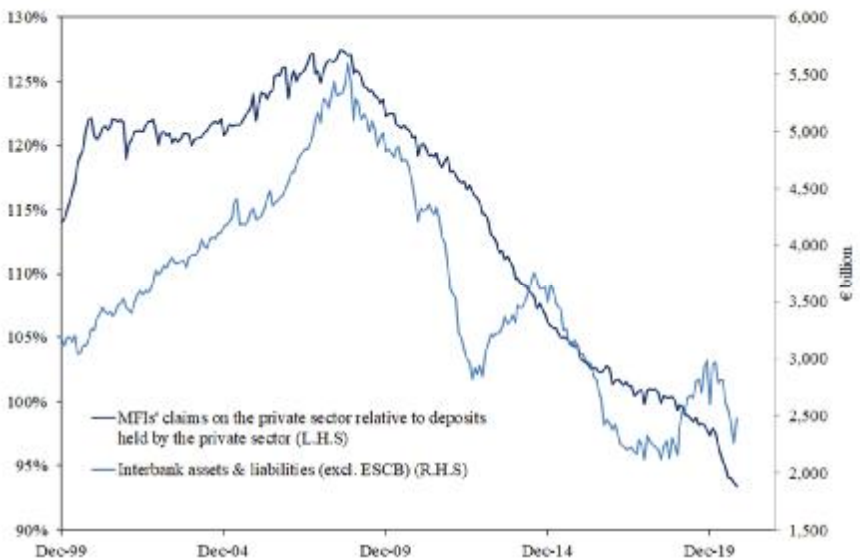
<sup>2</sup> The potential impact of other factors (like demographics) on money velocity are beyond the scope of this investigation.

### No loans, no deposits.

In a fractional reserve banking system, loans make deposits. Bank deposits are not fully backed by “hard” reserves issued by the central bank and held there or by gold, but mostly by claims (loans or bonds) on corporates, households, governments and other deposit-taking institutions.

**This means that, in a fractional reserve banking system, money creation at large depends not only on the banks’ willingness to lend but also on their clients’ willingness to borrow.** Regulatory constraints and non-performing loans on one side, high level of indebtedness and income uncertainty on the other side, compressed interest rates margins and depressed inflation expectations in between, do not bode well for money creation, if it is to be left to private lenders and borrowers. Private lenders and borrowers share responsibility for the decline, shown in Figure 4, of banks’ claims on the private sector relative to the deposits held by the latter. This decline has started in September 2008, but has accelerated in 2020. To a large extent, it mirrors the contraction of the interbank market, which is probably not a coincidence. **In a way, private agents are collectively somewhat irrational: they want to have the cake (bank deposits) and eat it, too (but without bank loans).**

Figure 4 – EMU banks’ claims on the domestic private sector



Sources: Refinitiv, Allianz Research.

### Without public borrowing from the banking system, the private sector’s demand for liquidity will remain not satiated

This matters because, according to the model of monetary dynamics outlined above, nominal growth converges towards the rate of growth of broad money, if the latter is constant. Preventing a slowdown in broad money growth is the least that policy should aim at. In this respect, a lender of last resort is nice to have but may not be enough. Failing some borrower of last resort, money creation will remain subdued, money velocity will continue to slowdown, nominal growth will not accelerate and

nominal long-term interest rates will stay low.

The good news is that governments have very much been the borrowers of last resort since February 2020. The bulk of broad money growth in the EMU since the beginning of the Covid-19 crisis (about EUR 1.1 trillion) stems indeed from increased bank claims (mostly bonds) on the general government sector, EUR 800 bn by the ECB, EUR 300 bn by commercial banks.

**As long as the velocity of broad money does not pick up, one should not only welcome the funding of public deficits by the banking system, but also call for it.** As long as the private demand for bank credit does not rebound, free from State guarantees, public borrowers must remain the borrowers of last resort. A premature withdrawal of public borrowers would spell a monetary ice age.

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