

In reference to: *BIS Working Papers #395 The financial cycle and macroeconomics: What have we learnt?* by Claudio Borio

An answer to Claudio Borio's call for a new explanatory model

by Paul Grignon, independent researcher, author and movie producer

To quote Mr. Borio:

Deposits are not endowments that precede loan formation;
it is loans that create deposits.

Mr. Borio then goes on to call for the building of a model with the following requirements (emphasis added):

Essential features that require modelling

The first feature is that *the financial boom should not just precede the bust but cause it*. The boom sows the seeds of the subsequent bust, as a result of the vulnerabilities that build up during this phase.

The second feature *is the presence of debt and capital stock overhangs* (disequilibrium excess stocks). During the financial boom, credit plays a facilitating role, as the weakening of financing constraints allows expenditures to take place and assets to be purchased. ... However, as the boom turns to bust, and asset prices and cash flows fall, debt becomes a *forcing variable*, as economic agents cut their expenditures in order to repair their balance sheets.

The third feature is a distinction between potential output as non-inflationary output and as sustainable output (Borio et al (2012)). Current thinking implicitly or explicitly identifies potential output with what can be produced without leading to inflationary pressures, other things equal ... it regards sustainability as a core feature of potential output: if the economy reaches it, and in the absence of exogenous shocks, the economy would be able to stay there indefinitely.

How could this be done?

How best to incorporate the three key features just described into models is far from obvious. Even so, it is possible to make some preliminary suggestions. To varying degrees, they could help *capture the intra-temporal and inter-temporal coordination failures that no doubt lie at the heart of financial and business cycles*.

A third, arguably more fundamental, step would be *to capture more deeply the monetary nature of our economies*.

In full agreement with the previous two foregoing statements, and starting from the logic inherent in the initial quotation, I suggest that a sufficient explanatory model is more easily constructed than the author imagines. It was first published in 2009 as animated flow diagrams within Money as Debt II - Promises Unleashed, my animated feature movie (77 min) widespread online.

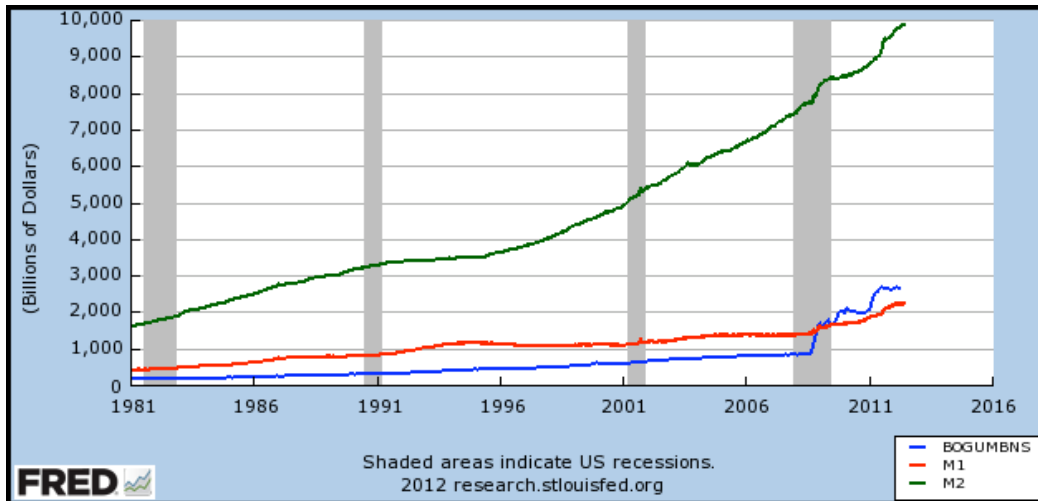
“Twice-lent” money creates Perpetual Debt

“Money” (i.e. bank credit) is created as Borrower 1’s loan FROM a bank, spent, and then lent again as Depositor 1’s loan TO a bank. There are now two entirely unconnected debts of the same “legal tender on demand”. Money is inevitably “twice-lent” by the design of the banking system itself because there is no other way to store bank credit than to lend it to a bank. If all money is created this way, then it follows that borrowers can only fulfill their principal debt obligations if they can obtain the principal they created back from the depositors that currently have it. In addition, this must happen *on time* to make the scheduled payments. There is nothing in the design of the current money system that favors this happening. In fact, we are urged to save money indefinitely and grow it exponentially with interest, thus preventing its timely extinguishment as a principal payment.

For as long as Depositor 1 *lends* rather than *spends* the credit, it will be unavailable to be earned by Borrower 1 unless it has first been borrowed into circulation by a second borrower, Borrower 2. Assuming that Borrower 1 is competent, the original loan will be paid off and the principal extinguished. But Borrower 2’s debt is NOT extinguished. It is now a debt of principal that no longer exists.

Assuming that all money comes into existence as a debt-of-itself and is thus committed to its own extinguishment, none can be substituted. Borrower 2 is now dependent on Borrower 3 taking out a new loan sufficiently large and on time to meet Borrower 2’s repayment schedule. And Borrower 3 will be similarly dependent on Borrower 4 and so on ad infinitum. Thus, it is entirely predictable that any slowdown in the creation of new bank credit, for ANY reason, would precipitate a Borrower’s mathematically inevitable default, due simply to there being two or more debts of the same principal.

One cannot pay off \$2 or \$3 in principal debt with just \$1 of principal, (debt overhang) but one can avoid default by means of perpetual debt. Perpetual debt, however, requires that the amount being lent and re-lent *never decreases* and the timing of delivery never slows down. Mathematically, it is a ratchet effect that *every increase must be permanent*.



In the money system as a whole, the Perpetual Debt Level is the amount of bank credit created by borrowers that is only available to them to earn if it has first been borrowed into circulation a second time, as existing money. The potential Perpetual Debt Level in the USA is the 8 Trillion dollar spread between M2 (all time-related deposits, savings deposits, and non-institutional money-market funds i.e. existing money created as some borrower's debt and lent again indefinitely by a depositor) and M1 (checkable deposits, i.e. existing money and money newly created, likely to be spent in the short term). M2 diverged from M1 for the past 30 years.

The faster the acceleration in creating new bank credit, and the more this credit concentrates into the hands of the those who don't need to spend it, and the more money that moves into financial games rather than being spent or invested distributively in employment, (both features of increasing income disparity and technological dis-employment) the higher the Perpetual Debt Level would logically be, and the greater the mathematically inevitable defaults would be whenever the acceleration of debt creation levels off. Assuming that a period of acceleration must inevitably lead to a period of deceleration, then it follows that any significant financial boom, particularly one in real estate, will be the cause of subsequent *mathematically inevitable defaults*. Borrowers will forfeit their homes through no fault of their own, collateral values will plummet, and bank balance sheets will be rewritten in red ink that requires bailouts with new legal tender (taxpayer-debt) money.

As for the third requirement, I do not believe that sustainability can be achieved with the current money system. It is mathematically dysfunctional in the absence of *perpetual exponential growth of debt to banks*. The current concept of money-as-a-thing-in-itself made valuable by *scarcity* is mathematically inconsistent with a complex global economy that necessarily functions on highly elastic and abundant supplies of credit that should ultimately be for real things, *not money*.