The Dog that Didn’t Bark – and the One that Did

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As a graduate student in the early 1980s, I had the good fortune to study under and work for Ben Friedman. My first project was to collect and analyze data on private credit: the total borrowing by U.S. households and non-financial businesses. In those days analysts spent considerable time looking at monetary aggregates, and it was Ben’s view that credit aggregates didn’t receive enough attention. The private credit aggregate included all household and non-financial company debt used to finance consumption and investment (mortgages, auto loans, home equity loans, credit cards, corporate bonds, etc.). We found the credit data provided useful information about monetary policy as well as the economic outlook. During an economic expansion, if private credit grew rapidly relative to nominal GDP (gross domestic product), this indicated monetary policy was too easy and should be tightened. When private credit slowed sharply, it indicated the economy (with a lag) was likely to contract as well; this might or might not call for easier monetary
policy, depending on inflation and inflation objectives. If inflation was too high – as it certainly was in those days – the Fed would have to tighten policy, which (by slowing credit growth) would slow the economy. A recession could well result, but by keeping a close eye on credit growth, the Fed could better forecast the downturn and thus calibrate its actions.

From 1952–1984 – and the data indicate a remarkably tight correlation. As Ben discussed in his 1983 article “Monetary Policy with a Credit Aggregate Target,” this credit aggregate provided significant, incremental information for forecasting nominal GDP, over and above the information in the monetary aggregates or in interest rates. Ben made an additional point about the credit aggregate – which I did not fully appreciate until decades later – noting that as more and more private credit becomes securitized and is no longer held on bank balance sheets, the monetary aggregates could well become a less useful tool for tracking the economy. The monetary aggregates – which include checkable, time and savings deposits – represent a source of funding to commercial banks and, as such, would tend to track bank lending and the stock of bank credit outstanding.

Chart 1 depicts the total outstanding stock of credit extended to the private non-financial sector, along with the level of nominal GDP.
In those days, securitization outside of the Agency mortgage-backed securities (MBS) market was in its infancy, and the shadow banking system was not even on the drawing board. But the credit aggregate index, because it included all credit extended to the private sector – whether held on bank balance sheets or securitized – would remain robust even as private credit shifted from bank lending to securitization. Here, it seemed, was a practical indicator of the stance of monetary policy, an indicator that bore a tight relationship to nominal GDP. It had held up for 30 years, and it appeared to be robust. Or so we thought.

**Until It Wasn’t**

Chart 2 depicts the history of private credit and nominal GDP since we did our original work in the early 1980s. It is well known that the relationship between the monetary aggregates and economic activity broke down in the past 25 years, but as the chart shows, the same is true for aggregate credit extended to the private sector. Given the stability of this relationship for the 30 years ending in 1984 – through two wars, the great inflation, the breakdown of Bretton Woods (I) – it is startling to see the chasm that emerged between credit outstanding and nominal GDP since then. Indeed, the chart provides one measure to assess the extent of the “great leveraging”
that U.S. households and firms took on during the credit boom. For example, in 1984, $3.5 trillion of nominal GDP supported $3.5 trillion of private credit outstanding. By 2007, $14 trillion of nominal GDP supported $25 trillion of private credit outstanding. Similar charts could illustrate the credit bubbles in other countries (for example, the U.K.).

Of course, debt levels are supported not only by income – as measured by nominal GDP – but also by asset valuations themselves. Indeed, throughout the great credit boom, household net worth rose to record levels, hitting $64 trillion in 2007 (up from a mere $12 trillion in 1984). With household asset values rising faster than debt, debt appeared to be sustainable. As a result, too few questions were asked for too long by too many (and I certainly don’t exempt myself) about the implications of this surge in non-financial leverage, which, at least in retrospect, was itself the source for much of this asset price appreciation. (Hyman Minsky emphasized this point in Stabilizing an Unstable Economy (1986)). Analysts, investors and policymakers just presumed that with inflation tame and GDP growing reliably along its “great moderation” path, the widening chasm between private credit and nominal GDP could be ignored, much as the breakdown in the relationship of the velocity of the monetary aggregates to GDP growth was ignored. Indeed, this presumption became embedded in the econometric models that academics used to analyze monetary policy: The quantity of money in circulation or the quantity of credit extended to the private sector does not even appear in those models.
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Central banks were advised to “look at everything,” but only to the extent that “everything” helped forecast inflation or GDP (or their product, nominal GDP). With realized and forecasted inflation tame (forecasts reflect realized historical data), and with only two relatively mild recessions in 25 years, analysts considered the credit data insignificant, and believed it could be safely ignored. The great moderation was “the dog that didn’t bark.” But unlike the Sherlock Holmes tale, the dog that didn’t bark got all the attention. The credit bubble also had a dog that did bark, a dog that too many people ignored for too long: the surge in private non-financial leverage relative to GDP.

It is worth reflecting for a moment on the reasons why all this leverage – and the rise in aggregate demand it supported – did not result in inflation, or at a minimum, a rise in inflation expectations. If it had, central banks would have reacted to it. The surge in leverage did not put upward pressure on inflation because the financial globalization that occurred during the past 25 years and, more recently, the global savings glut opened up a huge global market for U.S. fixed income securities. These bonds were dollar denominated, and with the dollar the global reserve currency, they enjoyed privileged access in global portfolios. As a result of this inflow of foreign capital, the U.S. was able to finance record and ever-rising current account deficits. The leverage-financed rise in aggregate demand that would have been inflationary in a closed economy was not inflationary in the open economy, as imports rose (and global supply rose faster) to meet the demand. In
addition to the savings glut, another factor that contributed to the global appetite for U.S. debt obligations is that many of them were packaged into asset-backed securities (ABS) that investors and rating agencies believed had minimal default risk. MBS issued by Fannie Mae and Freddie Mac were in that category, as were the AAA tranches of the private label ABS and collateralized debt obligations (CDOs) that were issued in vast amounts during the credit boom. As Chart 3 shows, the scale of this gross capital flow was immense. Between 2002 and 2007, gross foreign holdings of U.S. assets rose from less than $10 trillion to more than $20 trillion.

From Credit Bust to…?

Although analysts focus a great deal of attention these days on the expansion of the Fed’s and other central banks’ balance sheets, these efforts need to be put into the context of the scale of the credit bust. As shown in Chart 4, for the first time in 50 years, total private sector credit outstanding has contracted, led by the household sector paying down debt, with net business borrowing essentially flat.

Household Net Borrowing and Now Total Net Borrowing Have Contracted for the First Time in 50 Years
Although it is typical for aggregate credit growth to slow in a recession, Chart 5 shows that the current cycle is without precedent. While the correction in the credit markets has been sharp and sizable, Chart 2 indicates that at this point, private leverage has at best just stabilized relative to nominal GDP. The data provided by the Fed’s flow of funds is on a book-value basis, so surely some of the adjustment has and will occur on a mark-to-market basis. Moreover, further contraction in private sector credit relative to GDP is likely to continue for some time. At some point, as the system stabilizes, credit growth should resume. However, it is likely that in “the new normal” economic and financial environment, the old historical relationship between credit and nominal GDP growth may re-emerge, with the demand for private credit growing at or below the pace of nominal GDP growth. For this reason, the world economy needs to be prepared for the U.S. to be the caboose of the global growth train for at least the next five years. Deleveraging is inevitable, but the consequences will largely depend on how readily and effectively the rest of the world can become the engine.

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Chart 5

Residual from Regression of Change in Private Credit on Change in M2 Money Supply

M2 is one of the Federal Reserve’s measures of aggregate money supply. M2 includes physical currency, checkable deposits, household savings deposits, small time deposits and retail money market mutual funds.
Past performance is not a guarantee or a reliable indicator of future results. Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk. Investing in foreign denominated and/or domiciled securities may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and their value may fluctuate in response to the market's perception of issuer creditworthiness; while generally supported by some form of government or private guarantee there is no assurance that private guarantors will meet their obligations. Collateralized Debt Obligations (CDO) are investment grade securities backed by a pool of bonds, loans, or other assets.

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