



## Low Inflation in a World of Securitization

Brett W. Fawley, *Senior Research Associate*

Yi Wen, *Assistant Vice President and Economist*

For the second time in the economic recovery, U.S. inflation is approaching 1 percent.<sup>1</sup> At the same time, the Fed has increased its balance sheet, including the monetary base, by roughly 250 percent over the past 4½ years. Many explanations for low inflation despite aggressive monetary easing have centered on the decline of the money multiplier; while the Fed controls how much money is in circulation, banks decide how many loans to make with that money and hence affect the broader monetary aggregates such as M1 and M2.

### Weak lending may still be the culprit behind low inflation, but monetary aggregates may no longer closely track credit conditions.

During the current recovery, banks have largely decided to hold the Fed's injections as excess reserves and not make loans (see, e.g., Wheelock, 2010). By definition, however, this explanation focuses on credit creation by banks. In fact, market-based lenders (such as those who purchased mortgage-backed securities)—not banks—fed the recent credit boom and bust. Weak lending may still be the culprit behind low inflation, but monetary aggregates may no longer closely track credit conditions.

Economists generally agree that both money and credit play a role in determining economic output and prices (see, e.g., Friedman, 1981). Historically, however, the two have comoved closely such that money has reasonably approximated credit conditions.<sup>2</sup> When a bank makes a loan, it creates a deposit from which the borrower can draw. The loan appears as an asset on the bank's balance sheet and the deposit as a liability (which gets counted as money).

The United States, however, has recently been an international outlier with respect to money growth and inflation. The table illustrates average annualized money growth and inflation in four major economic regions from September 2008 (the Lehman Brothers' bankruptcy) to the present. While both the Bank of England and the Fed have aggressively expanded their balance sheets, only England has experienced average core inflation rates over 2 percent. In addition, M2 has grown twice

as fast in the United States as in the euro area but has generated almost identical inflation.

One explanation for the lower U.S. inflation might be that securitization has decoupled the link between credit and money in the United States. In the securitization model, a market-based financial institution purchases loans from commercial banks, pools them, and sells their payments as securities to investors.<sup>3</sup> In their traditional roles, banks determine the supply of credit to the broad economy, and market-based institutions facilitate asset trading by making markets and underwriting security issuance. With securitization, however, credit creation shifts to the market-based financial institutions that acquire the banks' loans. Securitization shifts credit creation toward market-based institutions in at least two ways: First, when banks sell their old loans to financial institutions, they are freed from the tightened reserve requirement under old loans and thus able to make new loans. Second, many securities created by the market can be used as collateral in borrowing.

Adrian and Shin (2009) argue that monetary aggregates are useful for measuring credit conditions only to the extent that "deposit-taking banks are the only financial intermediaries" (p. 604). Market-based lenders first surpassed banks as the primary holders of U.S. mortgages in 1990 (Adrian and Shin, 2009). By the peak of the credit boom in 2007, U.S. bank loans to the private sector totaled 63 percent of gross domestic product (GDP) and outstanding debt securities 168 percent (Bini

#### Average Annualized Growth (September 2009–March 2013)

Economic region	Monetary base (%)	M2 (%)	Core CPI (%)
United States	26.2	6.4	1.6
United Kingdom	32.8	4.7	3.5
Euro area	11.7	3.2	1.4
Japan	9.4	2.8	-0.9

NOTE: CPI, consumer price index.

SOURCE: Federal Reserve, Bank of Japan, Bank of England, European Central Bank, U.S. Bureau of Labor Statistics, U.K. Office for National Statistics, Statistical Office of the European Communities, Japanese Ministry of Internal Affairs and Communications.

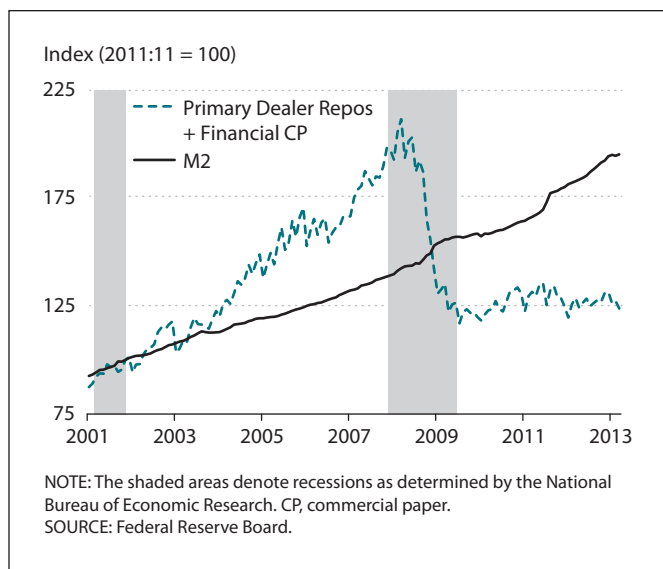
Smaghi, 2009).<sup>4</sup> Because broker-dealers play an important role in securitization and securitization plays an important role in allocating credit in a market-based financial system, “broker dealers may be seen as a barometer of overall funding conditions in a market-based financial system” (Adrian and Shin, 2009, p. 600).

The chart illustrates the weak relationship between money (measured by commercial bank liabilities) and credit (measured by two of the major liabilities of market-based financial institutions: commercial paper and repurchase agreements [repos]) in the recent crisis. Money shows no sign of a boom or bust; in fact, M2 has grown faster after the crisis than before it. But credit conditions (measured by market-based credit instruments outstanding) are just as weak today as at the trough of the recession.

What does this mean for policymakers? U.S. credit conditions may not drastically improve until sources of market funding start to recover. The Bank of England has moved away from asset purchases toward incentivized lending schemes that loan high-quality collateral (gilts) to banks, which can then be used to obtain cheap funding in repo markets. Given the U.S.’s reliance on market-based credit, similar policies to subsidize repo borrowing may have more impact than continuing to increase bank reserves.

Of course, policymakers must still determine the extent to which low lending volumes reflect diminished demand or supply. On the supply side, lenders are restricted by both need and choice. The exposed riskiness of previously perceived safe assets significantly increased risk-weighted leverage ratios, and Basel III measures as currently envisioned will enforce stricter leverage ratios going forward. As a result, banks must deleverage and shrink their balance sheets. Perhaps as a result, financial institutions have also been historically picky in making loans: The average credit score of applicants receiving a home loan is close to 50 points higher than its historical average of 700. At the same time, households and firms also needed to deleverage following the housing bust, and loan demand for consumption and investment has fallen from its peak. In particular, firms have largely postponed investment even while accumulating high profits. Not since World War II has investment reached lower levels as a share of profits and cash flow.

In the short run, many factors beyond money and credit, including expectations, determine inflation.<sup>5</sup> But if weak lending is holding inflation down, renewed short-term collateralized borrowing may be a better signal of a recovery in credit markets and a harbinger of inflationary pressures than traditional monetary aggregates. ■



## Notes

<sup>1</sup> The Federal Reserve’s preferred measure of inflation is core personal consumption expenditures (PCE), which in March 2013 was 1.1 percent, based on year-to-year changes.

<sup>2</sup> Money closely follows bank credit, although of course banks do not uniquely provide credit. Large firms have access to bond and commercial paper markets.

<sup>3</sup> Market-based lenders are differentiable from commercial banks on the basis of funding. Commercial banks are primarily funded by deposits; market-based lenders obtain their funding in capital markets by issuing securities or borrowing in short-term money markets. Examples of market-based lenders include the government-sponsored enterprises (GSEs) Fannie Mae, Freddie Mac, and others as well as investment banks and broker-dealers.

<sup>4</sup> In Europe, bank loans equaled 145 percent of GDP and outstanding debt securities equaled 81 percent.

<sup>5</sup> Over recent periods, researchers have generally found that domestic monetary aggregates add at best marginal value to near-term inflation forecasts. This result could partially arise from misspecification, however. D’Agostino and Surico (2009) find superior forecastability when global money supply is used to forecast U.S. inflation.

## References

Adrian, Tobias and Shin, Hyun Song. “Money, Liquidity, and Monetary Policy.” *American Economic Review*, May 2009, 99(2), pp. 600-5.

Bini Smaghi, Lorenzo. “Conventional and Unconventional Monetary Policy.” Keynote lecture at the International Center for Monetary and Banking Studies, Geneva, April 28, 2009; <http://www.bis.org/review/r090429e.pdf>.

D’Agostino, Antonello and Surico, Paolo. “Does Global Liquidity Help to Forecast U.S. Inflation?” *Journal of Money, Credit, and Banking*, March/April 2009, 41(2-3), pp. 479-89.

Friedman, Benjamin M. “The Roles of Money and Credit in Macroeconomic Analysis.” NBER Working Paper No. 831, National Bureau of Economic Research, December 1981; <http://www.nber.org/papers/w0831.pdf>.

Wheelock, David C. “The Monetary Base and Bank Lending: You Can Lead a Horse to Water...” *Federal Reserve Bank of St. Louis Economic Synopses*, 2010, No. 24, September 3, 2010; <http://research.stlouisfed.org/publications/es/10/ES1024.pdf>.

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Views expressed do not necessarily reflect official positions of the Federal Reserve System.