Market Perspective

Are Credit Conditions Still Tight?

During the current financial crisis, the Federal Reserve has taken a variety of aggressive measures to offset the negative impact of the crisis on credit markets and the economy. The Fed has lowered the federal funds rate — its major monetary policy instrument — down to near zero in nominal terms and to below zero in real terms in an effort to offset the crisis-induced tightness in credit markets. There is, however, a widespread belief among Fed watchers and market participants that the credit market conditions remain tighter than the Fed had intended and than would have been expected based on historical experience.

Monetary policy usually affects the economy with a substantial lag. Credit markets, on the other hand, typically respond almost immediately to Fed policy actions. Market interest rates — an important part of the transmission mechanism between Fed actions and the broader economy — historically have been highly responsive to Fed policy moves, especially at the shorter end of the yield curve. There have been, however, episodes when the response at the longer end of the curve has puzzled policy makers — the so-called "Greenspan conundrum" is an example. Ten-year Treasury yields remained stubbornly low throughout the Fed tightening cycle in 2004-05. At the same time, short-end interest rates were rising steadily in lock-step with the fed funds rate, flattening and eventually inverting the yield curve.

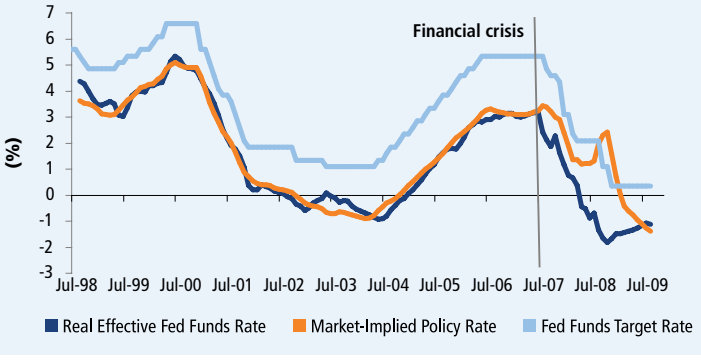
To judge whether credit markets are again responding in an unusual way to monetary policy actions, we created a measure of the fed funds rate implied by its historical relationship with market-determined interest rates. Specifically, we examined 13 different short- and long-term interest rates that span different segments of the credit market, generally following Lopez's research at the San Francisco Fed.[1] To overcome the disparity of interest rate responses to Fed policy actions, we reduced the 13 market rates to their principal components, in effect creating three synthetic, mathematically constructed interest rates. These can be interpreted as capturing information about the level of interest rates, the steepness of the curve and the curvature of the term structure. This procedure reduces the 13 interest rates to a more manageable three mathematical constructs while preserving 99.3% of the information contained in those 13 rates.

The data used in the mathematical constructs span several markets and maturities to provide the broadest overview of credit conditions. The series, which cover the period of January 1998 to September 2009, include:

Market	Interest Rates
The Interbank Market	One- and three-month Libor rates One- and three-month term fed funds rates
Commercial Paper	One-month AA-rated financial paper rates One- and three-month A2/P2-rated non-financial paper rates
Corporate Bonds	Baa-rated corporate bond rates
Agency Bonds	Index rates on Fannie Mae and Freddie Mac securities
Mortgages	Conforming and jumbo 30-year mortgage rates

We then estimate the historical relationship between the real effective (inflation-adjusted) fed funds rate and the three principal components of interest rates from January 1998 to July 2007.[2] The goal is to estimate how closely the policy rate implied by market rates tracks the actual policy rate in the period prior to the current financial crisis. We then use the estimated model to see if the historical relationship holds through the current crisis and how responsive market rates have been to crisis-induced Fed policy actions (see Figure 1).

Figure 1: The Market-Implied Policy Rate and Effective Fed Funds Rate Decoupled as the Financial Crisis Began



Source: Bloomberg, ING Investment Management

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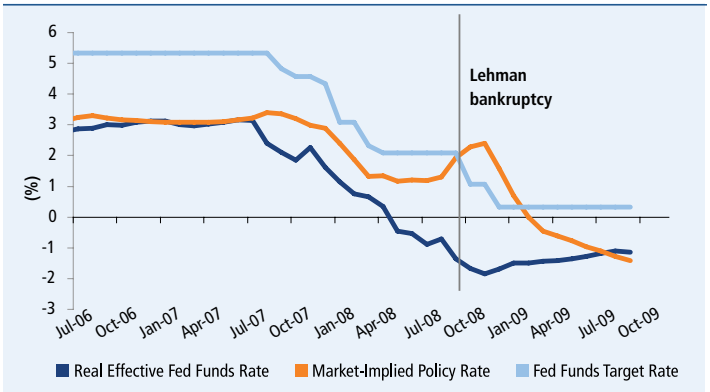
The analysis confirms that credit market conditions historically have been quite sensitive to Fed policy actions; the policy rate implied by market rates (the orange line in Figures 1 and 2) — the rate we have estimated by regressing the real effective fed funds rate on three principal components — tracks the real effective fed rate (the dark blue line) closely. The historical relationship breaks down, however, at the start of the current crisis in the summer of 2007. Immediately following the start of the crisis, a gap developed between the actual fed funds rate and the rate implied by the market. The gap widened substantially and remained so throughout the period of aggressive easing from September 2007 through April 2008, when the Fed cut its target rate from 5.25% to 2% in seven months. The gap then exploded as the financial crisis deepened following investment bank Lehman Brothers' bankruptcy in September 2008 (see Figure 2). At this point, the Fed had to lean even more aggressively against tightening credit market conditions. The central bank further reduced its target rate from 2% to 0.25% from October to December 2008, provided liquidity directly to the commercial paper market and initiated quantitative easing via outright purchases of longer-term agency and Treasury securities.

Figure 2: The Fed Acted Aggressively Following the Lehman Bankruptcy



Source: Bloomberg, ING Investment Management

Our analysis shows that following the onslaught of unconventional policy measures, the gap between market-implied and actual policy rates narrowed gradually and finally closed in July 2009. The analysis suggests that, contrary to the prevailing belief, credit market conditions as reflected in market rates are not tight anymore. Moreover, the market rates aggregated into our market-implied policy rate measure recently started to overshoot slightly below the effective policy rate. Historically, when markets overshoot on the downside and the negative gap persists, the risks of consequent asset price inflation and a bubble formation rise. According to our model, that was the case from March 2003 to May 2004 as well as during the years of the technology bubble (depicted in Figure 1 as periods during which the orange line stays below the dark blue line).

Finally, our analysis suggests that current aggregate credit conditions, as reflected in market interest rates, are less tight than some market participants believe.[3] Interest rates are unprecedentedly low — low enough to justify the creeping fear of medium-term inflation that persists in the market and has manifested itself in the ever-rising price of gold. ■

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[1] Lopez, Jose A. "Gauging Aggregate Credit Market Conditions" FRBSF Economic Letter, October 19, 2009. Also see: Christensen, Jens, Jose A. Lopez, and Glenn Rudebusch. 2009. "Do Central Bank Liquidity Facilities Affect Interbank Lending Rates?" FRBSF Working Paper 2009-13.

[2] The period from January 1998 to July 2007 has been used to estimate statistical relationship between real, inflation adjusted, effective Fed funds rate and three principal components extracted from 13 different market interest rates. The generalized least squares model was fitted to address the auto-correlation problem in the time series data. Then the estimated model was used to generate the market-implied policy rate in the interval from August 2007 to September 2009. The interest rate data selection follows Lopez. We use, however, a different modeling technique and come to the opposite conclusion.

[3] Not only interest rates, of course, but also some other non-price credit conditions — such as banks ability and willingness to extend credit to riskier segments of the market — can affect the overall tightness of aggregate credit conditions. According to the recent senior loan officers' opinion survey, a smaller percentage of credit officers are continuing to tighten their lending standards than was the case during the acute stages of the current financial crisis.

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