

**The Economic Outlook**  
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I am pleased to be with you here today to discuss my views on the economic outlook.<sup>1</sup> When this date was arranged many months ago, I was looking forward to delivering my remarks during the sleepy dog days of summer. Instead, we meet during fairly tumultuous times in financial markets. Over the last several weeks, we have seen substantial revisions in market participants' assessments of the fundamental value of securities related to sub-prime and other non-standard mortgages, financial distress related to mortgage finance at several entities, considerable widening of credit spreads, and significantly larger swings in asset prices. This turbulence makes assessing the economic outlook more challenging than usual, and of course makes central bank policymaking especially challenging.

In the wake of this recent turbulence, the predominant concern for macroeconomic policy revolves around the potential effects on real spending by consumers and businesses. It is quite possible for financial market developments like we have seen over the last few weeks to have just minimal effects on real activity. On the other hand, there are several channels by which such episodes could cause a weakening of spending. Indeed, the Federal Open Market Committee in its statement last Friday morning noted that "the downside risks to growth have increased appreciably." With the situation still unfolding, a fair amount of uncertainty remains, however, and I will be scrutinizing the incoming data very closely for clues about the evolution of the outlook for inflation and growth.

My remarks today will focus on how recent developments affect the outlook for inflation and growth. I will begin by reviewing the events that have roiled financial markets in recent weeks, and then discuss the economic outlook as it appears right now, beginning with inflation and then turning to the prospects for growth in aggregate spending by households and firms. Along the way, I will comment on the potential implications, and I should emphasize potential, of recent financial market turbulence for the outlook. As always, these remarks are my own personal views, and are not necessarily shared by my colleagues in the Federal Reserve.

### **Financial markets**

Just as housing plays a leading role in the outlook for the real economy, housing finance has played a leading role in current market turbulence, so it's worth briefly reviewing the recent evolution of housing-related credit markets. The expansion of home mortgage credit in the last several years to borrowers with riskier credit profiles – either because of their credit histories or because of the types of non-traditional mortgage contracts with

which they financed their home purchases – was part of a longer and broader wave of retail financial innovation.<sup>1</sup> At the heart of this wave was the application of information technology to the gathering and analysis of data on borrowers' financial histories. This allowed more differentiated assessments of risk at the level of the individual borrower. Ultimately, this made possible the tailoring of products to borrowers with different risk characteristics and broadened access to credit for many riskier borrowers who otherwise would have been unable to borrow. These developments appeared first in the market for unsecured consumer credit and then spread to housing finance, especially in the last decade.

The improved assessment of credit, along with other advances in information technology, also facilitated the broad development of markets in which individual loans are pooled and securitized, which allowed these pooled exposures to be priced in active capital markets. The role of the capital markets in securitized lending to households can be thought of as complementary to the role of the institutions that originate the loans. Since securities pool the risks of individual borrowers, the realized return on such pools will be dominated by *aggregate* risk factors – that is, factors affecting broad segments of borrowers. Investors in such securities will require compensation for the relevant aggregate risk factors affecting the average return on the pooled loans, but not for the idiosyncratic risk associated with any particular loan. Capital markets accumulate the perspectives of many investors and produce a collective assessment of these aggregate risks that is then reflected in the interest rate and terms that the originating institution offers to borrowers.

Note that market assessments of securitized portfolios also embody assessments of the effectiveness of the originating institution at managing the risks inherent in the underwriting process. For example, anecdotal reports suggest that mortgage companies that originated and sold so-called “no-doc” or “low-doc” loans may have been especially vulnerable to falsification by their brokers. While the extent of such fraud is not known, such vulnerabilities are a form of aggregate portfolio risk to the extent that they are capable of influencing the relative returns of different mortgage pools, and capital market pricing embodies an implicit view on the magnitude of such risks.

As housing markets slowed beginning in early 2006, delinquencies and defaults on subprime and some nontraditional mortgages rose more rapidly than had been expected by investors in the related securities, particularly on the most recent origination vintages. The concentration of rising delinquency rates among subprime adjustable-rate mortgages suggests that borrowers who just met qualification criteria were most likely to experience repayment problems. And the coincidence of rising delinquencies with the end of housing price appreciation, along with the fact that auto and credit card delinquencies have not risen nearly as much, suggests that minimal housing equity has been a significant influence on the propensity of borrowers to miss payments. The fact that newer loans are performing markedly worse than more seasoned credits also supports this view.

The realization of greater-than-anticipated losses lies at the center of much of the recent financial market volatility. While we normally think of capital markets as effective at

assessing and pricing risks, there is a general impression that markets got it wrong in the case of sub-prime and other nontraditional mortgage finance. It might seem obvious that market participants were – perhaps naively – too optimistic about mortgage credit quality during the housing expansion. But thinking of the expansion as driven by financial innovation provides a useful perspective as well, I believe. Any innovation brings with it considerable uncertainty about how big of a change from past behavior it will bring about. In particular, much of what was new in mortgage lending had not been through the test of a significant slow-down in home sales and home prices. Assessments of how such mortgage portfolios would perform in such scenarios relied less on data from similar episodes and more on extrapolation and inference from normal times, and thus were inherently more uncertain. All product or service innovations rely to a similar extent on extrapolation. In this regard, misjudgment about the prospects for losses in this new wave of innovative mortgage financing is similar to misjudgments made in the late 1990s about the rate at which demand for telecommunications bandwidth was going to grow.

The housing downturn has revealed information that now is feeding the process of reassessing and repricing risk. Market participants as diverse as mutual funds, hedge funds, banks and broker-dealers have struggled to re-evaluate the risks associated with various segments of the mortgage market. As those risks have been reassessed, the prices of mortgage-backed securities have adjusted accordingly. In some cases, the prices buyers are willing to pay are below the prices at which originators are willing to sell, and quantities traded have sunk to near zero.

This reassessment has gone somewhat beyond subprime mortgages and nontraditional mortgages. More broadly, securities related to a range of so-called non-agency mortgages, even to borrowers with high credit scores, have seen a widening of spreads. Some institutions whose profitability depends heavily on securitizing the mortgages they originate have seen their credit spreads widen significantly as well, especially compared to institutions that are better positioned to absorb new originations on their own balance sheets. Market participants also appear to be re-evaluating the mortgage-related exposures of a range of intermediaries. And credit spreads have widened as well for many corporate borrowers below the highest credit ratings.

These market adjustments place many participants in difficult positions. Some have experienced significant losses or have gone bankrupt. Entities that issue commercial paper or other instruments to fund their ongoing flow of originated mortgages are finding it difficult to continue that funding at rates they find satisfactory. In some cases, they are diverting their pipeline to their own balance sheet; in other cases, issuers are drawing on backup lines of credit. More generally, sizable shifts in market valuations are leading other participants to seek to adjust their portfolios substantially, adding to market volatility in a range of assets. The breadth of risk assessments has enhanced the relative attractiveness of, and driven down the yield on, highly liquid instruments such as U.S. Treasury securities, particularly at short tenors. The market for asset-backed commercial paper has been particularly stressed by these developments.

In the days leading up to the FOMC meeting on Aug. 7, many observers, citing the turbulent market conditions, called on and expected the Fed to lower its target interest rate. As you know, the Committee did not do that, but instead held the federal funds rate at five-and-a-quarter percent. In its statement, the Committee recognized that recent financial volatility had raised the risks to real activity, but emphasized that the fundamentals for broader household and business spending continue to look fairly sound. The Committee also emphasized in that statement that risks to inflation remained a predominant concern.

Even without a change in the interest rate target, the Fed has tools at its disposal that can help the market make necessary adjustments in times like these. The Federal Reserve Bank of New York, acting on behalf of the System, uses open market operations to keep the overnight federal funds rate at or close to the FOMC's target rate. This has had the effect of automatically expanding the supply of reserves to the banking system as the demand for liquidity has risen during this market turbulence. The week before last, the desired levels of reserve holdings rose at many banks, which tended to put upward pressure on the price of overnight loans of reserves in the federal funds market. The New York Fed offset this increase in the demand for reserves by adding a significant amount of funds on Friday, Aug. 3, through its open market operations, so as to keep the funds rate near the five-and-a-quarter percent target. Since then, reserve demand has been especially variable, and thus the effective federal funds rate has been correspondingly more variable from day to day around the Committee's target.

Last week, financial market volatility intensified as news emerged regarding important market participants and commentary suggested heightened anxiety about the evolution of financial conditions in certain markets. On Thursday evening, Aug. 16, the Federal Open Market Committee convened by video conference and adopted a revised statement regarding the economic outlook. In a separate action, the Board of Governors accepted the requests of two Reserve Banks for a reduction in the discount rate from 6 ¼ to 5 ¾ percent. The 10 other Reserve Banks requested similar discount rate reductions the following day, which the Board accepted. This decision was noteworthy because, since 2002, the Reserve Banks have set their discount rates as a penalty rate, 100 basis points above the target federal funds rate. Lowering the spread over the funds rate target reduces the premium banks pay to obtain credit at the discount window. The Board's statement also announced a change in the Reserve Banks' usual practices to allow the provision of term financing for as long as 30 days, renewable by the borrower. The Board noted that these changes, which are temporary, are designed "to provide depositories with greater assurance about the cost and availability of funding" and "(t)o promote the restoration of orderly conditions in financial markets." The Board's announcement also stated that "(e)xisting collateral margins will be maintained," so lending will be on good collateral with prudent haircuts, consistent with classic lender of last resort doctrine.<sup>2</sup> Sound discount window policy, I believe, should aim at supplying adequate liquidity without undermining the market's assessment of risk. Conservative collateral requirements and charging a penalty rate are important prerequisites for that policy objective.

## **The Real Economy**

The Committee's action last week underscores an important point. Financial market volatility, in and of itself, does not require a change in the target federal funds rate, in my view. Interest rate policy needs to be guided by the outlook for real spending and inflation. Financial turbulence has the potential to change the assessment of the appropriate rate if it induces a sufficient revision in growth or inflation prospects.

Even before the recent stint of financial market turbulence, the predominant concern on the real side of the economy was the outlook for housing activity. Residential investment fell rapidly over the last three quarters of 2006, but then the rate of decline slowed in the first half of this year. The question in my mind a couple of months ago concerned whether home-building would bottom out soon or continue declining. Recent data on actual housing market activity have dampened my optimism, however. Housing starts and residential building permits, which earlier this year looked as if they might be stabilizing, have both softened in the last couple of months. Broader measures of sales activity are also showing a pronounced downward trend.

While the housing market implications of the recent financial market turmoil are quite unclear at this stage, there is a possibility that it will result in further increases in retail mortgage rates for some borrower classes and thus further dampen residential investment. Mortgage rate spreads have risen substantially for subprime borrowers, as one would expect given what has transpired, and for any borrowers with low down payments and low documentation. In the last few weeks, rates have moved up for jumbo mortgages as well. It is not yet clear, however, to what extent some of these increases will persist or to what extent they represent transitory responses to temporarily heightened uncertainty.

Business investment spending has been an impressive source of strength over much of this expansion. Real spending on equipment and software increased at a healthy 6.2 percent annual rate from the first quarter of 2003 to the second quarter of 2006. Spending on structures picked up at the end of 2005, increasing at a 13 percent rate since then. Business investment faltered late last year, with weaker sales of autos and construction materials apparently playing important roles. Most of the fundamentals for business investment are still quite positive, however; profitability is high and the cost of capital is still fairly low, despite recent financial market developments. Thus investment could well maintain momentum this year, I believe, and we have been seeing some favorable signs. For example, manufacturing production increased by 2.2 percent from March through July.

It is worth noting here that there is one area in which financial market events could affect business investment spending. One of the market segments in which activity has slowed dramatically in recent weeks is in the financing of leveraged buy-outs used to take companies private. Here, as in the mortgage-backed segment, we have seen rising credit spreads, especially for instruments below investment grade, and significantly reduced issuance. These transactions seem to have been motivated more by restructuring liabilities and governance arrangements and less by a need to fund near-term capital

spending. Given the other strong fundamentals for business spending, it is not clear that the rising cost of buy-out financing should have significant effects on real investment.

Some observers have questioned the outlook for consumer spending, often citing statistics that lead them to believe that consumer debt is too high or consumer saving is too low. I won't argue with the data – by the usual measures, saving *is* quite low, with the widely cited personal saving rate clocking in at a meager 0.6 percent for the second quarter. But keep in mind that the personal saving rate has been on a downward trend from about 10 percent in the early 1980s. A number of forces could potentially be at play here, including, for example, the significant credit market innovations that have taken place over that period.<sup>3</sup> I understand how historical averages can exert a gravitational pull on the forecasts of variables like the saving rate, and I don't believe the downward trend in the saving rate is likely to persist indefinitely. But having said that, it's not obvious to me why we should expect that long-term trend to reverse itself anytime soon.

An alternative perspective on savings and consumption is that the recent growth in household spending indicates confidence in future income prospects, rather than any fundamental recklessness. The labor market is reasonably tight, with the unemployment rate at 4.6 percent. Earnings are growing at about a 4 percent rate. The working age population is growing at a 0.9 percent annual rate, and payroll employment has grown significantly more rapidly, at a 1.6 percent rate for the last few years. While employment growth won't be above average forever, prospects for real income growth look pretty good. Moreover, household net worth was a relatively high 5 2/3 years of disposable personal income as of the first quarter, and has been rising during this recovery, which suggests that savings, properly measured, might not be so low after all. As always, real wage growth will tend to track gains in labor productivity, and while productivity growth was fairly strong for the first several years of this decade, the recent slowdown is a negative risk for consumer spending.

Financial market turmoil has the potential to make households apprehensive and thereby cause a precautionary pullback in consumer spending. We have numerous experiences in the past several decades, however, of declines in household financial net worth, and experience suggests that the effect on household spending tends to be small. Evidently, consumer expectations regarding their future income prospects is a stabilizing influence on their spending plans.

An alternative channel through which recent financial market developments might conceivably affect consumer spending is through an increase in interest rate spreads. So far, however, consumer interest rates have risen appreciably only in selected segments of the mortgage market, and other rates have held steady. As a result, I believe the likelihood of the recent turbulence inducing a slowdown in consumer spending is relatively small at this point.

On balance, then, I still expect consumer spending to be reasonably healthy, and for business investment to continue to expand. But I expect overall growth to come in somewhat below its long-term trend for the remainder of this year, based on my

expectation that the drag from housing will continue for some time. The most plausible downside risk is that financial market developments will lead to higher mortgage rate spreads and will further depress housing activity. Other finance-related risks to economic growth appear to be relatively minor.

### **The Inflation Outlook**

As recently as its Aug. 7 meeting, the FOMC identified its “predominant policy risk” as “the risk that inflation will fail to moderate as expected.” I believe that this risk remains relevant, although some recent reports have been encouraging. Since February, 12-month core inflation has eased down, falling below 2 percent in June. While the most recent months’ figures have been encouraging, it is still too soon to be confident that the moderation we have been seeing represents a downward trend. A similar moderation that occurred in the last months of 2006 was followed by a subsequent uptick.

The FOMC often talks about inflation in terms of core measures – leaving out the prices of energy and food products. This focus has the potential for causing some confusion. If we are seeking to stabilize the purchasing power of the dollar, and I believe we are, why leave out purchases on which people spend significant sums? Before addressing this question, let me first note that the story of what has happened to inflation recently is broadly similar if we look at overall inflation. Inflation rose from 2004 to 2005, reaching a peak of 3.9 percent, year-over-year, in September of 2005 as energy prices spiked. Since then, year-over-year overall inflation has fluctuated more widely than core but has generally trended down from its peak. In recent months, overall inflation has been slightly above core inflation, with June coming in at 2.3 percent, year over year, down from 3.5 percent a year earlier.

Monetary policy requires looking forward at where inflation is headed. So while measures of overall inflation gauge well where inflation has been, the question is how best to determine the likely *trend* in inflation – that is, what is the most likely behavior of inflation in the very near future?

There are many ways – many statistical tools – to try to extract a trend from data on inflation. One simple approach is to use the standard measure of core inflation. The justification for this approach is based on the historical behavior of food and energy prices. These two components of overall price indexes have typically proven to be very volatile. They move around a lot due to movements in temporary factors affecting supply and demand in the markets for food and energy products. More precisely, current movements in food and energy prices do not appear to alter the expected future rate of increase in these prices. If this supposition is correct, then the trend in core inflation might be the best forecast of trends in overall inflation. In this case, stabilizing the trend in core inflation and stabilizing overall inflation amount to the same thing, since swings in non-core inflation will not affect the outlook for the overall inflation trend.

The bottom line is that monetary policymakers most definitely care about overall inflation, but they tend to talk about core inflation measures because they are viewed as

more informative about future trends in overall indexes. And by either measure, the most recent news on inflation trends has been favorable.

Having said that, I believe there are still reasons to remain concerned about the risks to the inflation outlook. First, there are indications that the recent improvement may have been transitory, and that we may see inflation remain at this level, or perhaps even move up again. Second, the public's expectations of future inflation – an important determinant of inflation trends – appear to be inconsistent with further reductions in inflation. Survey measures of inflation expectations – such as the Philadelphia Fed's Survey of professional Forecasters or the University of Michigan's Consumer Sentiment Survey – have recently been indicating long-term expectations ranging from 2.4 percent at a 10-year horizon (SPF) to 3.1 percent at the 5- to 10-year horizon. Similarly, measures of expectations of inflation 5 to 10 years forward, derived from the yields on Treasury Inflation Protected Securities (TIPS), have remained near or above 2.5 percent. All of these expectations measures are for the CPI. Taken together, they imply long-run expectations for PCE inflation perhaps slightly above 2 percent, which is greater than the most recent year-over-year readings we've received.

Although these long-run expectations suggest trend inflation is above where I would like it to be, it is encouraging that they do not appear to be rising in response to recent financial market developments. Market participants have marked down their expected path for the federal funds rate, and a coincident rise in inflation expectations would have raised significant policy concerns. I believe central banks should be careful to conduct policy during periods of financial market distress in ways that are consistent with their long-run goals, both for price stability and economic growth.

To summarize, a great deal of uncertainty remains about if and how recent developments will alter the outlook for the real economy and inflation. As events continue to unfold, I will be watching for signs that changes in the cost of credit might be having broader effects on spending than we have seen or seem likely so far. I will also continue to monitor the indicators of inflation and inflation expectations. Going forward, I think there are two key principles that should inform policy. First, the provision of liquidity to financial markets should seek to not interfere with the market's assessment and pricing of risk. And second, federal funds rate adjustments in response to changes in the outlook for inflation and growth should continue to endeavor to stabilize inflation expectations. Conduct of policy guided by these principles can minimize the real effects of financial market volatility.

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<sup>1</sup> In preparing these remarks I benefited from the assistance of John Weinberg and Roy Webb.

<sup>1</sup> Lacker, "Retail Financial Innovation," speech to the Virginia Bankers' Association, June 14 2005.

<sup>2</sup> Bagehot, Walter, "Lombard Street: a Description of the Money Market." New York: Orion 1991 (original edition, New York: Scribner Armstrong, 1873); Humphrey, Thomas, and Robert Keleher, "Lender of last Resort: a Historical Perspective," *Cato Journal* v. 4 n. 1, 1981; Goodfriend, Marvin and Jeffrey Lacker, "Limited Commitment and Central Banking," *Federal Reserve Bank of Richmond Economic Quarterly*, Fall 1999.



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<sup>3</sup> John Weinberg, "Borrowing by U.S. Households," Federal Reserve Bank of Richmond 2005 Annual Report..