



# Outlook for the Economy and Inflation

## Introduction

The last time I spoke to the Money Marketeers was in spring of 2005, when our monetary policy issues were vastly different than those we are facing today. Three years ago, I told you about the Federal Reserve's move toward greater transparency and a new communications strategy that I hoped would enhance the effectiveness of our policy. Those communications have certainly gotten a healthy workout with the changes we have seen in economic conditions over the past several months.

After expanding at a solid pace from 2004 through most of last year, the economy has stalled, largely due to problems that began in the housing sector. Financial market conditions have been fragile since last August and inflation has become elevated, both of which are posing risks to the economic outlook.

As you know, the Federal Open Market Committee has been tracking developments in the economy and financial markets very closely, and our policy actions have been aggressive. Since August, the FOMC has lowered its federal funds rate target by 225 basis points. In January alone, the FOMC reduced the funds rate by 125 basis points, recognizing that a tightening in credit markets could lead to an even steeper-than-expected slowing in economic activity.

Tonight I will offer you my perspective on the economy and inflation. I will explain how some critical assumptions affect my economic projections. Finally, I will also talk about the role that inflation expectations play in the current environment.

Please note that the views I express this evening are mine alone and do not necessarily reflect the views of my colleagues in the Federal Reserve System.

## The Economic Outlook

The Federal Reserve just released its latest economic projections for 2008, 2009, and 2010. I know that many of you have memorized these projections, but for the few of you here tonight who have had other pressing business issues, let me briefly summarize them.

The most recent economic projections made by the Federal Reserve Board members and Reserve Bank presidents, which were submitted in January, show a central tendency for real GDP growth this year of 1.3 to 2.0 percent. This central tendency is considerably lower than the one provided in October. A number of factors led to the downward revisions, including a steeper-than-expected housing market correction, tighter credit conditions, and higher oil prices.

### Additional Information

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Real GDP is projected to accelerate somewhat in 2009 and to reach 2.5 to 3 percent by 2010.

The central tendency projection for core PCE inflation in 2008 is 2.0 to 2.2 percent, revised up from 1.7 to 1.9 percent projected in October. However, the FOMC participants' projections call for inflation to moderate over the next two years. Overall PCE inflation is projected to decline from its current elevated rate, assuming that energy and food prices flatten out. This measure is projected to return to a range of 1.7 to 2 percent in 2010.

Those are the projections of the FOMC participants, and the projections that I submitted in January fall within those central tendency ranges. My baseline projections - or what I believe is most likely to occur - are, of course, just one of many plausible outcomes.

## Critical Economic Assumptions

Let me explain a bit about how I formulate my projections and some key assumptions I am making in my current projections for growth and inflation. Of course, I rely on econometric models when making my projections because they offer the discipline of economic theory and historical experience. But models are by nature a simplification of a complex and dynamic economy, so they cannot always capture every important dimension. Nor are they always flexible enough to adapt to breaks with historical norms.

So, from time to time, we need to adjust a model-based forecast so that it adequately represents our best thinking about the forces influencing the economy both now and in the future. In other words, model-based forecasts are often conditioned by judgment.

As I developed my economic projections in January, I made critical assumptions in two key areas. One assumption concerns the availability of credit, and the other pertains to the process driving the price statistics. I'll talk about the credit issue first.

Widespread credit market disruptions are uncommon events, but their consequences are sobering. During these episodes, even some financially healthy borrowers can have trouble finding credit, and the credit that is available is expensive. For their part, lenders act to safeguard their capital and preserve liquidity. Trading volumes can plummet in some markets, and the lack of counterparties can complicate risk strategies. As many financial institutions retrench at the same time, their collective behavior can cause a slowdown in consumption and investment spending throughout the entire economy.

We have good reason to think that current financial strains have substantially slowed the pace of economic activity. High-quality borrowers in a number of markets are having trouble obtaining credit. Many financial institutions have seen a sharp rise in the cost of capital and in the price of credit default swaps. Risk spreads have widened in many financial markets. The Federal Reserve's Senior Loan Officer Survey for January noted tighter lending standards for housing, commercial real estate, and consumer loans. The stories I am hearing from my banking supervisors and the CEOs at large banking organizations echo these reports. And there is one more important element to keep in mind - the ongoing decline in home prices.

Credit contractions have been thankfully rare in the United States in recent decades, so we have limited practical experience in dealing with them. But both the academic literature and our limited experience suggest that the real rate of interest that is consistent with a neutral monetary policy will decline during a credit crunch,

and that the nominal federal funds rate target needs to adjust accordingly to keep policy from becoming unduly restrictive. During such episodes, it is also important to address the liquidity needs of the banking system.

Because credit contractions can emerge and spread rather quickly, the central bank must be prepared to act in an aggressive and timely manner to counteract their effects. And indeed, the Federal Reserve's policy actions since last August have been designed to ease the strains in financial markets and to counteract a projected weakening in economic activity.

So a key assumption underlying my 2008 projections is that economic activity is, in fact, highly vulnerable to a significant credit crunch. Because credit crunches can restrain economic activity through channels that are not fully captured by econometric models or historical experience, my forecast builds in a slower growth trajectory for consumer spending, residential investment, and non-residential investment than the model would have called for otherwise. These adjustments, of course, are only an educated judgment. A credit crunch could impose even more restraint on economic activity, presenting a downside risk to my baseline projection.

The second area where I made critical assumptions in my projections relates directly to inflation dynamics. I realize that most economic forecasters have under-predicted headline inflation for the past couple of years. Nevertheless, I am sticking with my model and projecting both headline and core inflation to moderate over the next few years as resource utilization rates slacken. In addition, my inflation projection assumes that increases in energy and other commodity prices do not continue to accelerate and that inflation expectations remain anchored. Let me elaborate.

We all know that energy prices have risen dramatically over this business cycle<sup>1</sup> - in fact, they have nearly doubled from 2001 to 2007, at an average annual rate of about 12 percent. The CPI excluding food and energy has risen at a much slower annual pace on average than the headline CPI - 2.1 percent versus 2.9 percent for the headline number.

Economists tend to rely on the core measures as the better guide to the "true state" of inflation, since the headline measures can reflect transitory volatility in the prices of individual items. But as we all know, the key word here is transitory - that is, the large price fluctuations are usually expected to reverse to some degree, or at least to diminish. Over time, we expect the total change in headline and core measures of inflation to be similar. As I mentioned, the FOMC's inflation projection follows this pattern over the 2008-2010 horizon.

But we have not had that experience with the CPI during this business cycle. The energy price shock has been large and persistent. From December 2001 to December 2007, the total CPI advanced by 19 percent, compared with 13 percent when we exclude food and energy. From 2004 to 2007, the figures are 10 percent versus 7 percent. So, which are the better estimates of inflation during these intervals?

To answer that question, we need to make a crucial distinction - between inflation and a relative price increase. Inflation is a condition that affects all prices, not just the price of particular goods or services. Changes in relative prices reflect changes in supply and demand conditions in specific markets. Sometimes we experience such a large and persistent relative price change that it temporarily ripples through the inflation data, such as our experience with

energy prices.

The United States has experienced three episodes of sustained increases in energy prices in the past 50 years. Energy prices doubled from the mid-1960s to the mid-1970s; they doubled again from the late 1970s to the early 1980s; and they have just doubled again in the past six years. The first two episodes were marked by dramatic accelerations in both the CPI and the CPI excluding food and energy, and were accompanied by economic recessions. Today, we know that the CPI has not accelerated by very much when compared with the two prior episodes, and the CPI excluding food and energy has edged up a little.

There are several ways of estimating core inflation, and I do not think that simply removing the effects of food and energy prices from the CPI always provides the best measure of trend inflation. Several other measures, such as the median CPI and the 16 percent trimmed mean CPI, have been tracking above the CPI excluding food and energy for the past several years. And in recent months, more than half of the CPI price distribution has risen at a rate of 3 percent or more. These trends in the data pose an upside risk to my outlook for inflation.

Inflation forecasts also require an assumption about inflation expectations, and here the news is more positive. Despite the acceleration in the price statistics during the past several years, there is very little evidence that people's saving, investing, and work-related decisions have been unduly influenced by inflation fears. This is fortunate, because there is lasting harm to the economy when inflation expectations begin to affect the decisions of households and businesses. Let me now turn to that topic in more detail.

## Inflation Expectations

Rising inflation expectations can both hinder economic performance and sustain a higher inflation rate. As you know, people's actions to guard against inflation consume precious resources that would be used more productively in a world where people didn't have to worry about inflation. Inflation expectations can also become part of the inflation process itself, affecting any number of price and wage decisions that would make bringing down the inflation rate a more drawn-out and costly affair. These are the costs that a central bank must keep in check if our economy is to achieve its full potential, including maximum sustainable employment.

You might think that measuring inflation expectations is fairly straightforward, but anyone who has tried to do so knows how difficult this task can be. We have two kinds of tools at our disposal - measures based on financial assets and measures based on surveys.

The most prominent financial-asset-based measures are derived from Treasury Inflation Indexed Securities, commonly known as TIPS. These securities give the investor a fixed real return because their principal and interest payments are tied to the CPI. Regular Treasury securities are not tied to the CPI so breakeven inflation, the difference between nominal Treasury securities and TIPS, is used to infer expected inflation over length of the contract. However, it is difficult to extract a clean measure of inflation expectations from breakeven inflation. Two prominent problems are inflation uncertainty and liquidity risk.

A rise in inflation uncertainty is distinct from a rise in inflation expectations, although both impose costs on the economy. Rising inflation uncertainty - or, in other words, a widening in the range of plausible inflation outcomes - introduces a risk in making long-term contracts, particularly financial contracts. Investors look to be

compensated for this risk, as they would for any other risk, making the terms of financial contracts more costly than they would be otherwise.

The second problem - liquidity risk - arises because the liquidity characteristics of the regular Treasury markets and the TIPS markets are not the same. The regular Treasury market is broader and deeper. So in periods of financial stress, such as those we have witnessed lately, large flights to quality might create a downward bias in breakeven inflation as a measure of inflation expectations.

Perhaps a more straightforward way to gauge inflation expectations is to simply ask people their views on inflation. In fact, the University of Michigan's monthly survey does just that. Unfortunately, we have problems with interpreting this data. For one thing, households' beliefs about future inflation are typically much higher than the actual inflation rate. Also, people are likely to report their inflation predictions in terms of whole numbers, and particular whole numbers at that. On average, women also tend to have higher inflation expectations than men, the poor higher than the rich, and the young and elderly higher than the middle-aged.,<sup>2</sup>

These patterns in survey responses lead many to question the accuracy of using them to measure inflation expectations. When you get right down to it, they underscore the fact that we really know very little about how people form their inflation expectations. Economists at the Federal Reserve Bank of Cleveland, like many others, are pursuing research that seeks to better measure the inflationary expectations of households and businesses and to shed some much-needed light on the process by which inflation expectations are formed.

Until that time, I am left with the data I have in hand. Both the TIPS-based and survey-based measures of inflation expectations seem to have been fluctuating in a stable range during the past couple of years. In other words, inflation expectations appear to be anchored.

## Conclusion

Let me conclude this evening where I began. Economic activity slowed sharply last quarter, and that softness has clearly spilled over into the current quarter. The projections I made at the end of January show sub-par economic growth over the near term as the fallout from residential real estate deepens, further straining financial markets and disrupting the flow of credit to businesses and households. Over time, I expect these restraining influences to diminish. I also project that economic slack, combined with a leveling off of energy and commodity prices, will help to bring inflation down from its recently elevated readings to a level consistent with price stability.

While my baseline projection represents my current thinking on the economy's most likely path, I am well aware of the key assumptions on which this outlook depends. I recognize that the validity of my assumptions must be tested on an ongoing basis, and that is why I spend so much time analyzing data and talking with business and financial market participants.

The current economic environment is exceptionally fluid, and the economy faces some substantial risks. The Federal Reserve is committed to addressing these risks as we remain focused on achieving our dual mandate of price stability and maximum employment.

<sup>1</sup>December 2001 to December 2007.

<sup>2</sup>See Bryan, Michael F. and Guhan Venkatu, “The Demographics of Inflation Opinion Surveys,” *Economic Commentary*, Federal Reserve Bank of Cleveland, October 15, 2001, and “The Curiously Different Inflation Perspectives of Men and Woman,” *Economic Commentary*, Federal Reserve Bank of Cleveland, November 2001.

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