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## Maintaining Price Stability in a Global Economy

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Inflation has risen of late, reflecting higher prices for many commodities. The inflation rate is likely to peak around the middle of 2011 and then return to an annual level of about 1¼ to 1½%. A sustained period of high inflation is very unlikely and the Fed will act quickly and decisively to ensure price stability. The following is adapted from a presentation made by the president and CEO of the Federal Reserve Bank of San Francisco to Town Hall Los Angeles on May 4, 2011.

I became president and CEO of the Federal Reserve Bank of San Francisco just two months ago. In fact, this is my first opportunity to speak in a public forum about the economy and monetary policy since taking on this new role. For a central banker, communication is a critical part of the job. If we are to carry out our mission successfully, it's essential that the public understands our actions and strategies. Chairman Bernanke's press conference last Wednesday, the first ever by a Fed Chairman, was a major milestone in that respect.

One of the most important policy questions we are grappling with at the Fed has to do with inflation. This subject is on the minds these days of Americans from all walks of life. As anybody who's paying more than \$4 a gallon for gas knows, the prices of energy, food, and many other commodities have soared in recent months. This is painful for all of us—especially those with lower incomes and stretched budgets. But, despite the recent upturn, I don't think that inflation will remain stubbornly high. This afternoon I will explain why inflation has risen of late and why I expect it to recede. I will also talk about the prospects for the economic recovery. I'll close with some remarks about monetary policy and the Fed's unwavering commitment to price stability. Of course, this talk represents my own views and not necessarily those of my Federal Reserve colleagues.

### Slow economic recovery

I'll start with a status report on the economic recovery. It is now nearly two years since the economy started growing again. But, that doesn't mean we've regained all the ground lost during the recession. Not by a long shot. In fact, despite adding about 1½ million jobs over the past 13 months, there are still over 7 million fewer jobs in the United States than we had before the downturn. The recovery has sputtered at times and our forward progress has been disappointingly slow. That's actually not too surprising though, given the type of recession we've been through. Experience from around the world suggests that economic growth following banking and financial crises, like we've experienced here, is often weak and inconsistent (see Reinhart and Rogoff 2009).

Certainly, some recent economic data have been lackluster. Last week, the Commerce Department estimated that real gross domestic product—the broadest measure of U.S. economic activity—rose just 1.8% on an annual basis during the first three months of this year. This is quite a bit slower than the 2.8% growth we saw in 2010. Unusually severe winter weather earlier this year and a few other transitory factors held down first-quarter growth. But several more persistent forces have also been at work.

Higher gasoline prices are at the top of the list of factors that have been a drag on the economy and will continue to be so for some time. Over the past year, the price of gas at the pump has jumped by about a third. This takes money out of the pockets of consumers and reduces their ability to make other purchases. In addition, the jump in energy prices raises uncertainty, saps confidence, and makes both consumers and businesses more cautious about spending. Indeed, consumer confidence, as measured by surveys of households, remains mired near its recessionary lows.

The economy faces other persistent headwinds in addition to high gas prices. The housing market remains severely depressed. The large overhang of unsold homes and the shadow inventory of homes in delinquency or foreclosure offer scant hope for a significant rebound in construction or home prices in the near term. Meanwhile, government at all levels is cutting back, something we Californians know all too well. In addition, the horrific triple disaster in Japan was not just a human tragedy. It also created bottlenecks in global supply chains, especially in the auto and tech sectors, and these are affecting production in the United States as well as Japan.

Now, don't get me wrong. I am confident our economy has enough forward momentum to overcome these stiff headwinds. Indeed, we expect growth to rebound to over 3% in the current quarter, and that the pace of recovery will continue to build further strength over the remainder of this year and next year. In a reversal of the dynamic that we saw during the darkest days of the financial crisis and recession, we are now enjoying a virtuous circle of improving financial conditions, which support stronger spending. This, in turn, leads to more hiring and production, still stronger financial conditions, and so on.

This positive feedback loop is illustrated by the stock market. Broad measures of stock prices are up more than 10% over the past year, thanks in part to healthy corporate profits and a greater willingness of investors to take on risk. And with their investment portfolios growing again, households have been more willing to spend. That prompts businesses to hire more employees to meet customer demand.

A critical part of the recovery has been the improving labor market. In February and March, nonfarm payrolls grew by about 200,000 jobs per month, a solid pace that should pick up further as the year progresses. These job gains should push down the unemployment rate from its current level of 8.8% to about 8½% by the end of the year. Still, we face a long road ahead before we reach normal levels of unemployment.

To sum things up, despite some ups and downs, the underlying economic recovery continues at a moderate pace. Growth slowed in the first quarter, but should pick up during the rest of the year as transitory factors restraining the economy fade. I expect real GDP to increase about 3¼% this year. This rate of growth is sufficiently high to help bring the unemployment rate down gradually, but it will take a long time before we dig ourselves out of the deep hole we fell into during the recession. Though the economy is forging ahead, there is still an enormous amount of idle resources out there—a situation that will likely persist for several years.

## Prospects for inflation

Let me now turn to inflation. Here are some of the questions we need to ask at this juncture: What is the current inflation situation? What are the underlying forces driving prices? What are the prospects for inflation in the medium term? And what is the appropriate response of Federal Reserve monetary policy?

Regarding the first question, we've seen a very substantial pickup in prices for many energy, food, and industrial commodities. For example, in the past year copper prices have risen 26%, Brent crude oil 35%, and corn 75%. This is cause for serious concern. Sharply higher prices for many raw materials are driving up the prices of a range of consumer goods and services, including gas and food, and are pushing readings of overall inflation noticeably higher. The measure of prices that we at the Fed tend to watch most closely—the personal consumption expenditures price index—increased at a 3.8% annual rate in the first quarter of this year. This figure is well above the longer-term inflation objective of 2%, or a bit less, that most participants in our policymaking body, the Federal Open Market Committee, prefer (see Board of Governors 2011).

This brings me to the second question: What is driving inflation so high? Well, as I mentioned, rising commodity prices, especially for food and energy, have been the culprit. Indeed, so-called core inflation, which strips out food and energy prices, was only 1.5% in the first quarter and averaged only 0.9% over the past four quarters. Now I know that core inflation has come under a lot of criticism. After all, people need to put food on the table and fill the tanks of their cars. I totally agree. It is the price of the entire household consumption basket of goods and services that we at the Fed care about in terms of our inflation goal, and that certainly includes food and energy. But, we find it useful to look at various measures of underlying inflation, including core inflation, to help us disentangle the various elements in the overall inflation picture. And statistical analysis (Blinder and Reis 2005 and Rich and Steindel 2005) shows that, over recent decades, measures of underlying inflation, such as core inflation, have been helpful in predicting the future course of overall inflation.

That brings us back to the question of why commodity prices have risen so much. Some commentators have suggested that the Fed itself has contributed to the run-up by keeping in place excessive monetary stimulus. According to this argument, the Fed's policy of very low interest rates and sizable securities holdings are fueling speculation in commodities. Economic theory teaches us that lower interest rates will boost asset prices, including commodity prices, all else equal. But it is unlikely that this effect can explain more than a very small portion of the huge increase in commodity prices that we have witnessed (see Erceg, Guerrieri, and Kamin 2011 and Frankel and Rose 2009). Economists at the San Francisco Fed (Glick and Leduc 2011) recently looked at how commodity prices reacted when the Fed announced new policy actions to stimulate the economy. If Fed policies were responsible for the commodity price boom, then we should have seen those prices jump when the Fed announced more monetary stimulus. In fact, the researchers found that, if anything, commodity prices fell after new policy announcements and were not pushed higher by news about Fed policy. So, I don't see any convincing evidence that monetary policy has played a significant role in the huge surge in commodity prices.

I see the real culprit as being global supply and demand. Rising commodity prices can be traced to the rapid rebound in the global economy in the past year and a half, led by robust growth in emerging market economies, which display a ravenous appetite for raw materials. For example, Chinese automakers sold some 18 million vehicles last year, a third more than in 2009 and more than any other country in history, including the United States. At the same time, as demand is rising, we've seen

supplies of some commodities curtailed by weather or political disruptions. In recent months, turmoil in North Africa and the Middle East has reduced the global supply of oil and likely added a substantial risk premium to the price of a barrel of crude as well.

What do these fast-rising commodity prices mean for inflation for the rest of the year and beyond? I believe that the inflation rate will reach a peak around the middle of this year and then edge back downward. In other words, we are seeing a temporary bulge in inflation before we return to an underlying level of about 1¼ to 1½% annually. There are several reasons for thinking the inflation bulge will be short-lived. First, commodity prices are not likely to keep increasing indefinitely at a rapid rate. Indeed, in recent weeks, prices for a number of commodities, including sugar and cotton, have fallen sharply. In addition, the prices of contracts for certain key commodities in the futures markets, such as crude oil, indicate that traders believe these prices won't keep rising at double-digit rates. For example, the numerous supply disruptions that have pushed up prices of some foodstuffs, such as poor harvests in Russia and China, are not likely to be repeated. So even if commodity prices remain elevated, they won't keep pushing up inflation.

A second reason for believing that inflation will peak and then trend down is that higher commodity prices generally represent only a small proportion of the cost of the finished goods American consumers buy. For example, corn and sugar make up only a fraction of the cost of a box of Frosted Flakes. Most of the cost comes from the labor involved in manufacturing, distributing, and selling the breakfast cereal, including paying for air time for Tony the Tiger. This means that large percentage increases in commodity prices typically translate into relatively small percentage increases in consumer prices. Of course, some goods, such as gasoline, have very high commodity input shares. But, in today's economy, these are more the exception than the rule.

The stability of longer-term inflation expectations is a third factor that leads me to expect that inflation will start to ease later this year. It's true that surveys show that consumers expect moderately high inflation over the next year. Households see gasoline prices going up and up and up, and, not surprisingly, they get worried about near-term inflation prospects. But medium-term measures of inflation expectations have barely budged. In other words, ordinary Americans agree that we are seeing a transitory rise in inflation. Those survey results reflect the fact that inflation has remained low and relatively steady for several decades and that the public believes the Fed is committed to keeping inflation under control. As long as household, business, and investor inflation expectations remain stable, then it's unlikely that an inflationary dynamic will become established or that underlying inflation will jump sharply.

This leads directly to a fourth reason for thinking inflationary pressures will ease. The structural and institutional factors that led to a runaway inflationary spiral in the 1970s are largely absent today. Four decades ago, many labor contracts provided for automatic cost-of-living adjustments, or COLAs, which meant that higher prices fed into higher wages in a self-reinforcing feedback loop. Today, COLA clauses are mostly things of the past. Meanwhile, measures of wages and labor compensation, such as the employment cost index or average hourly earnings, have been increasing at an annual rate of only around 2%. When you factor in productivity gains, the unit labor cost of producing goods and services has been close to flat. These wage trends, which reflect the high level of unemployment in the economy, act as a powerful brake on inflation.

For all the reasons I've mentioned, I believe the risk of a sustained period of high inflation is low. At the San Francisco Fed, our forecast calls for a bulge in overall inflation this year, with inflation about 2¼% for the year as a whole. Then, as I noted earlier, inflation should return to its underlying level of around 1¼ to 1½% by next year, well below my preferred medium-term goal of 2% inflation.

I recognize that this forecast could prove wrong, and we will be paying very close attention to incoming information to watch for shifts in inflation trends. If inflation significantly exceeds our forecast, if commodity prices do not stabilize, if the pass-through of commodity and other import prices to consumer prices is higher than we expect, if long-term inflation expectations start rising significantly, or if a wage–price spiral starts to emerge, then I will modify my views accordingly.

### **Monetary policy response**

All these questions are on my mind when I consider monetary policy. In discussing Fed policy, I should first lay out for you the current state of things. Congress has assigned the Fed two goals in setting policy: maximum employment and price stability. The financial crisis and recession wreaked havoc with both of those. By a number of measures, the job market has been in worse shape than at any time since World War II. And, by last year, inflation had fallen to very low levels. That meant that we were falling short on both counts of our dual mandate—far from full employment and also at risk of deflation, a condition of generally falling prices. In that situation, we've kept the federal funds rate, our main short-term policy interest rate, close to zero to stimulate the economy.

But standard rules of thumb indicate that, with the economy in such a deep hole and underlying inflation low, the federal funds rate should be several percentage points below zero (see Chung et al. 2011 and Rudebusch 2010). A significantly negative interest rate is an obvious impossibility. In order to provide an appropriate level of stimulus, we've had to look to other means. So, since 2008, we have been actively buying longer-duration securities issued by the Treasury or government-sponsored enterprises with the goal of pushing down longer-term interest rates. Analysis of this program indicates that interest rates on longer-term Treasury securities are about half a percentage point below where they would be without this program (see Gagnon et al. 2010). Lower interest rates help support the recovery, reduce unemployment, and diminish the risk of sustained deflation (see Chung et al. for an estimate of the macroeconomic effects of this program).

In communicating our policy, we have said we would leave the fed funds rate very low for “an extended period.” The reasoning behind this is that unemployment is well above normal levels and underlying inflation is subdued, for the reasons I have explained. But we do expect the pace of growth to pick up and for the unemployment rate to continue its gradual decline. And the nature of monetary policy is that central bankers must stay ahead of the curve. Policy acts with a considerable lag, so we must make our decisions based on where we think the economy will be many months ahead. For that reason, we have been preparing a plan to start removing stimulus when conditions warrant—our so-called “exit strategy.”

I won't go into the technical details, but the elements of our exit strategy include draining bank reserves and reducing our holdings of longer-term securities, in addition to raising the federal funds rate. Importantly, the exact timing of the various stages of this plan will be dictated by the course of the recovery and, in particular, the paths of unemployment and inflation. And to give the public plenty of advance notice—that important communication that I stressed at the beginning of my talk—such steps are likely to be signaled in our regular policy statements.

## Conclusion

The economy today faces many pitfalls, but I don't believe that runaway inflation is one of them. That's because Fed policymakers, like the general public, are aware of the cost to society when prices get out of control. The experience of the 1970s was very traumatic and is indelibly etched in our minds. During those bad old days, inflation did get out of control and it took a very harsh recession in the early 1980s to purge inflation and to re-anchor inflation expectations. Everyone at the Fed has learned the lessons of the '70s and is absolutely committed to making sure nothing like that happens again.

I fully share this determination to maintain price stability. You can rest assured that the Federal Reserve is committed to low and stable inflation. As I said, I view a sustained period of high inflation as very unlikely. But if we see signs of it developing, then we will act quickly and we will act decisively to ensure price stability.

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