

(Frankfurt October 29, 2015)

Monetary Policy and Financial Markets

Martin Feldstein*

Thank you. I am very pleased to be here in Frankfurt and honored by the invitation to talk to this important audience. Otmar Issing has told me about this institution and these lectures. So I look forward very much to your questions and comments after my prepared remarks.

When I think about Frankfurt I of course think about financial markets and about monetary policy. So that will be the subject of my remarks. I will focus on the experience in the United States but I believe our experience has implications for the Eurozone and for other countries as well.

Let me begin by summarizing what I will be saying.

The United States economy is in good shape, due primarily to the effectiveness of the Federal Reserve's unconventional monetary policies. But those policies and the resulting extremely low interest rates imply risks to financial stability that still lie in our future. Those risks bear on the Federal Reserve's decision on when to start normalizing short-term interest rates and how rapidly to raise rates after that process begins. Those decisions will affect not just the US economy but also other economies of the industrial and emerging nations.

More generally, the risks that result from unconventional monetary policy imply that discretionary counter-cyclical policy should not always depend on monetary policy alone. As I will explain, it is possible to supplement monetary policies with fiscal policies that do not add to the current budget deficits.

Although the monetary institutions and financial markets are different in Europe from those of the United States, I think the US experience has important implications for the conduct of monetary policy by the ECB and fiscal policy by the national governments here in Europe. I will comment on these implications during my remarks.

* Professor of Economics, Harvard University. These remarks were prepared for delivery at the Center for Financial Studies, Goethe University, Frankfurt on October 29, 2015.

The United States Economy is in Good Shape

Let me start with a brief picture of the current state of the U.S. economy. Although there is always room for improvement, I believe that the U.S. economy is in good shape and that the most likely outlook for the next year is also quite positive.

The economy is essentially at full employment with an unemployment rate of just 5.1 percent. Private sector demand is growing at a rate of more than three percent. After a terrible first quarter in which winter storms depressed activity, the economy grew at 3.9 percent in the second quarter. Final sales to domestic buyers continued to grow at a strong pace in the third quarter, rising at a rate of about 3.5 percent. Since we are essentially at full employment, growth has to slow to the rate at which potential GDP is rising, about 2.5 percent. And that is the pace that most forecasters are projecting for the next year.

The household sector is the key to demand growth in the United States since consumer spending accounts for about 70 percent of GDP. Consumer spending is encouraged by the employment situation as well as by rising real incomes and real wealth. More specifically, real disposable personal income rose at about 3.5 percent over the past three months and real personal consumer spending kept pace. The net worth of the household sector was 4.7 percent higher at the end of the second quarter than it had been a year earlier, implying a real gain of more than 3 percent. The price of homes rose at about the same rate over the past year. So it is not surprising that surveys of consumer sentiment and consumer expectations have also been positive.

Although slower growth in the rest of the world has a negative impact on the U.S. economy, that effect is relatively small because U.S. exports are only about 12 percent of our GDP. Exports to China are less than one percent of US GDP. Real exports actually rose at an annual rate of 5.1 percent in the second quarter and continued to increase in the third quarter. Since imports grew more rapidly than exports in the third quarter overall net exports declined, subtracting about one-half a percent from GDP growth.

While the growth of real demand is clear, the inflation situation is more confusing. The overall level of the consumer price index is held down by the sharp decline in energy prices. During the most recent twelve months, the energy component of the consumer price index fell 18 percent, causing the overall CPI inflation to remain unchanged over the past 12 months. But the core CPI inflation rate that excludes energy and food was up at 1.9 percent over the same 12 month period. And since lower energy costs also decrease the cost of transporting goods, if energy prices had not fallen the rate of inflation would be even higher than 1.9 percent. The importance of energy prices for the overall CPI also means that the overall price index will rise when energy prices stop falling, even if energy prices do not actually increase from the current low level.

The U.S. inflation rate has also been depressed by the rise in the value of the dollar relative to other major currencies. Although the trade-weighted dollar is up more than 13 percent over the past year, that had a relatively small impact on the price of imports to the U.S. because most firms that export to the United States price their exports in dollars and change those dollar prices very slowly. The index of import prices is down 11 percent over the past 12 months but only 3 percent if fuel imports are excluded. Since imports are only about 13 percent of US GDP, the impact of the decline in non-fuel import prices is relatively small.

The fact that so much of world trade is priced in dollars has implications for the Eurozone. Since a rise of the dollar does not depress the prices of imports to the US, the decline of the euro can have only a limited impact on Eurozone exports to the United States. But a lower Euro can stimulate Eurozone exports to countries other than the United States and can reduce imports from those countries.

Longer Term Problems

In stressing the favorable cyclical condition of the U.S. economy I don't mean to minimize or ignore some of the longer-term problems that need to be fixed. High on my list are the large national debt that has doubled relative to GDP in the past decade, an education system for most K through 12 students that falls short of global standards, and a failure to provide useful education and training for many high school graduates.

But the United States also has great advantages that have raised our standard of living in the past and will continue to do so in the future: an entrepreneurial spirit that generates new businesses and new products, a financial system that supports that entrepreneurship, great research universities that contribute to that process, and a labor market that does well at matching job seekers and jobs without the barriers of regulations, state owned enterprises, and labor unions that impede the labor markets in other countries.

But we could do better, especially relative to our recent performance. Looking ahead, the Congressional Budget Office predicts that the growth of output in the nonfarm business sector will slow from a growth rate of 3.5 percent during the past half century to just 2.5 percent in the next decade. The CBO attributes half of that decline to the slower growth of the potential labor supply (resulting from the aging population and the end of the surge of female labor force participation). The rest of the projected slowdown is attributed to lower capital accumulation and a slower increase of total factor productivity, perhaps a false distinction because greater capital accumulation would bring with it improvements in total factor productivity.

Although the officially measured pace of productivity has fallen sharply in recent years, I believe that these government statistics may be seriously misleading. I think the official statistics understate the growth of real incomes and therefore of productivity. The government statisticians have an impossibly difficult job. When I

think about the growth of real incomes and of productivity, I think about the introduction of new products and new services and about increases in the quality of existing products and services. These are impossibly difficult to measure with any confidence.

Since productivity is defined as output divided by the total number of hours worked by employees, it is significant that more than 80 percent of total private sector employees are in the service sector and less than 20 percent are engaged in making goods. Measuring the value of new services and quantifying the improvement of existing services is virtually impossible. Consider for example the improvements in what health care can now achieve relative to what was possible just a few decades ago. Or think about the difficulty of measuring the changing output of the financial sector or even of more mundane things like the quality of food in restaurants.

I don't disagree with Professor Robert Gordon of Northwestern that much of the innovation of the past gave unrepeatably large boosts to our standard of living. He writes about such things as indoor plumbing, electricity, and motor cars as providing these quantum leaps in real incomes. But those past improvements don't mean that we won't continue to have other changes that raise our standard of living in the future.

The difficulty of measuring the real gains in output may mean that the official estimate that real per capita income is rising at 1.5 percent a year understates the gains that we are enjoying. The true rate of increase of real income may be more like a 3 percent a year rise, implying a doubling of real incomes in 25 years.

Sources of the Economic Downturn

The relatively healthy cyclical condition of the American economy reflects the successful application of what the Federal Reserve called its unconventional monetary policies. Before introducing those policies, the Federal Reserve had responded to the downturn that began at the end of 2007 in the traditional way, lowering the short-term federal funds interest rate from 5.3 percent in September 2007 to less than one percent by October 2008.

That policy failed to reverse the economic downturn because the recession that began in 2007 was different in kind from the traditional business cycle downturn. Business cycle downturns generally occur when the Federal Reserve raises interest rates to reverse high inflation or to prevent an increase in inflation. The Fed is then able to reverse such a downturn by lowering interest rates. But the downturn of 2008 and 2009 was not caused by Federal Reserve tightening and therefore could not be reversed by lowering short term interest rates. That downturn was the result of a mispricing of assets, including both financial assets and real assets like owner-occupied housing.

Between 2000 and 2006, house prices had increased by more than 60 percent above the long-term trend, stimulated by very low mortgage interest rates and by lenders who were willing to make loans to borrowers with less than the usual ability to service those mortgage loans. Many of those mortgage loans were syndicated and the resulting securities were used to create separate tranches of varying degrees of risk. In this way loans to so-called “sub prime” borrowers with low credit scores and limited repayment capacity were used to create tranches of securitized loans that appeared very safe and were rated as AAA.

The bubble in house prices burst in the summer of 2006 and house prices fell rapidly. Defaults on subprime mortgages caused sharp falls in the prices of mortgage tranches that had been assumed to be very safe. This acted as a signal to investors in other securities that risk had been underestimated and risky assets had been overpriced.

The prices of many assets fell rapidly. It was often impossible to obtain prices for mortgage-backed securities and other risky assets. Banks and other financial institutions did not know the value of their portfolios and could not judge the solvency and liquidity of other financial institutions. As a result, they were unwilling to lend to other financial institutions and the financial system became dysfunctional.

In this environment, a reduction in short term interest rates was ineffective. The Federal Reserve did a variety of things in partnership with the Treasury to prevent widespread failures and to protect money market mutual funds. But these actions were not sufficient to revive the economy.

The financial crisis in the United States spread to Europe. Banks in Europe suffered because of the fall in the value of the U.S. securities on their books. Europe also had its own real estate crisis as home prices in Spain and elsewhere fell. And the announcement by the Greek government that it had not told the truth about its fiscal condition triggered problems for the Eurozone banks and for the national governments that supported those banks.

The new Obama administration concluded in early 2009 that monetary policy was not working and that stimulating an economic recovery required a large fiscal stimulus. The president asked Congress for about \$300 billion a year for three years. I believe that policy was not enough to generate a healthy recovery. The collapse of consumer spending and of home building had created a hole in annual aggregate demand that was much larger than the \$300 billion of government spending that the Congress provided. Moreover, the package of programs that the Congress created was so poorly designed that it probably added more to the national debt than it did to aggregate demand.

Although economic downturns historically reverse after an average of just ten months, the economy continued to decline for 18 months and then began to increase only very slowly.

Unconventional Monetary Policy

It was in that context that the Federal Reserve introduced what it called its unconventional monetary policy, consisting of the large scale purchases of long-term bonds known as Quantitative Easing and a commitment to keep short rates low for a considerable period of time.

Ben Bernanke explained that the purpose of these policies was to depress interest rates at every maturity so that portfolio investors would increase their purchase of equities and other riskier assets. The Fed also hoped that the low interest rate on mortgages would accelerate the upturn in house prices. The Fed chairman referred to this as the asset substitution effect of the unconventional monetary policy.

The Fed hoped that the resulting increase in household net worth would lead to an increase in consumer spending that would accelerate the economic recovery.

The strategy worked well. House prices rose by 22 percent in the year from December 2012 to December 2013. The Standard and Poors measure of equity prices rose by 42 percent during those same twelve months. As a result, the net worth of households increased by \$10 trillion between the end of 2012 and the end of 2013.

Past experience implies that an increase in household wealth raises consumer spending by about \$4 for every \$100 increase in wealth. That implies that the \$10 trillion rise in wealth in 2013 would raise the annual level of consumer spending by about \$400 billion or 2.4 percent of GDP. That increase would continue in future years as well, if the increased level of wealth persisted.

The higher level of consumer spending would imply higher incomes for the producers of consumer goods and services. Those higher incomes would then imply more consumer spending and overall GDP would rise through the traditional Keynesian multiplier process.

In fact, GDP rose by 2.5 percent in 2013 and the unemployment rate fell from 8.0 percent to 6.7 percent in that year.

The asset substitution effect worked because investors acted as if the decline in interest rates was not just temporary but would last more or less indefinitely. That suspension of disbelief about interest rates was necessary to drive down the interest rate on very long-term bonds and to increase the prices of equities. If investors had believed that interest rates would return to normal levels after only a

few years, long term rates would not have been depressed and equity prices would not have risen.

The Fed kept the downward pressure on long-term interest rates by buying long-term securities, eventually at a pace of \$85 billion per month. It reinforced this effect by promising to keep short term rates low at least until economic recovery had been achieved.

The program of buying bonds from the commercial banks created deposits for those banks at the Federal Reserve. Because of a 2008 change in Federal Reserve legislation, the Fed was able to pay interest on those deposits. The commercial banks therefore did not use the reserves to back the massive increase in their lending that might otherwise have occurred. Without those loans there was not the increase in bank deposits and in the stock of money that would traditionally have followed from the Fed's large increase of reserves. That is why the large increase in reserves did not lead to faster inflation.

The ECB is following a similar strategy of large scale asset purchases and extremely low (indeed negative) short term interest rates. I wonder though whether this strategy can have the same favorable effect in the Eurozone that it had in the United States. Will an expansion of the ECB's QE program reverse the downturn in Eurozone share prices? With long term interest rates already very low in the Eurozone, will a further reduction have a significant effect on share prices? And even if it does, will higher share prices in Europe have a broad enough effect on household wealth to stimulate significant increases in consumer spending and investment?

The ECB stresses its goal of raising the Eurozone inflation rate. But the overall inflation rate in the Eurozone may be hard to raise as long as there is the massive amount of slack implied by a Eurozone unemployment rate of eleven percent. How far would unemployment have to fall to cause the inflation rate to start rising? Is it really possible for an expansion of the money supply to increase inflation without reducing unemployment to create price pressure in labor and product markets?

Collateral Risks

Although the Fed's unconventional monetary policy succeeded in boosting wealth and stimulating economic activity, it also caused a variety of increased risks in financial markets. Those risks are still with us and may create financial instability when interest rates return to normal levels.

I suspect that some of the same risks are created in the Eurozone by the very low and sometimes negative interest rates here. Moreover, if there is financial instability in the United States that is likely to spill over to the financial markets in Europe and elsewhere.

In the United States, the very low level of interest rates caused investors and lenders to reach for yield by taking increased risks in their investing and lending decisions. Some of that increased risk taking was what the Fed wanted when it sought to induce equity purchases and rising household wealth. But the increased risk taking implies a mispricing of assets that can cause problems when interest rates return to normal.

The price-earnings ratio of the Standard and Poors 500 stocks index is now about 25 percent higher than its historic average. A more sophisticated measure of share prices created by Professor Robert Shiller that takes into account cyclical conditions and inflation shows today's price-earnings ratio nearly 50 percent above its historic average.

These very high share prices might make sense if the level of interest rates would be permanently at today's low level. But when interest rates rise, the high price earnings ratios will no longer be justified.

The mispricing of long-term assets extends also to bonds and to commercial real estate. Ten-year Treasury bonds have in past decades had a yield that averaged two to three percent more than the CPI inflation rate. With the core inflation rate now at nearly two percent and overall inflation expected to rise to nearly 2 percent, the yield on ten year Treasury bonds should soon be over four percent. In fact it is only two percent. Anyone who buys bonds with today's yield will experience a loss of value when rates rise.

Commercial real estate prices are also very high relative to the rents and earnings on those properties. When interest rates rise, the present value of those rents will decline, causing the value of those properties to fall. And because these investments are financed with borrowed funds, the investors could lose a very large share of their net equity.

Investors are also being driven by their search for yield to invest in risky securities of shorter duration. We see this in the narrow spread between the yields on Treasury bills and the yields on low quality corporate debt and the debt of emerging market borrowers. Some of these spreads have begun to widen in anticipation of Federal Reserve action to raise rates but they still remain very low.

Reaching for yield in the current low interest environment also extends to banks and other lenders. Banks are making loans to lower quality borrowers and making loans with fewer restrictions on the borrowers, the so-called "covenant light loans." If there is an economic downturn, there will be losses on these high-risk loans.

The low interest rate environment also led to increased lending to borrowers in emerging markets. Companies in those countries were tempted by the opportunity to borrow in dollars at historically low rates. And lenders and investors in the United States were attracted by the higher yield available on loans to emerging

market borrowers. These loans are risky in two important ways. The prospect of rising interest rates in the United States is already causing U.S. creditors to raise interest rates on loans to emerging market borrowers. More important, the prospect of rising U.S. rates is causing an appreciation of the dollar relative to the currencies of those other countries, creating a repayment problem for emerging market companies whose earnings are denominated in their local currency.

There are also increased risks again in loans to home buyers. Fannie Mae and Freddy Mac, the Federal government's provider of mortgage credit, have returned to accepting mortgages with loan to value ratios of 97 percent. With such a high loan to value ratio, it takes only a relatively small fall in the value of a home to cause the mortgage debt to exceed the value of the property. In most states, mortgages are de facto non-recourse loans, implying that, if the borrower does not make payments of principal and interest, the lender can take the property but cannot or will not pursue the borrower's income and other assets. We learned in 2007 and 2008 that many borrowers took advantage of the nonrecourse feature to default on their mortgages.

When the lender takes the foreclosed property and sells it, this generally reduces its value substantially. That has a contagion effect, causing the value of other properties in the area to decline, triggering yet more defaults.

Since most high loan-to-value ratio mortgages are currently sold by the originators to Fannie Mae and Freddy Mac, the losses created by mortgage defaults will be borne by the government and the taxpayers rather than private lenders. But homeowners will also bear losses both directly and through contagion if prices begin to fall. These declines in house prices and losses of house values could cause an economic downturn as construction slows and consumers reduce their spending.

As I look at a wide range of equity and debt markets, I have no doubt that assets are mispriced and substantial risks are being taken by investors and lenders. What is not clear is whether this creates a risk to the financial system as a whole that could lead to an economic downturn as it did in 2007 and 2008. More specifically, it is not clear whether the normalizing of interest rates by the Fed will trigger a systemic downturn. But I have no doubt that the unconventional monetary policy has increased the risk of such systemic instability.

Macroprudential Policies

The Federal Reserve took the first step away from its unconventional monetary policy in December 2013 when it announced that it would gradually reduce the pace of buying long-term securities. In the Fed's language, this was a decision to "taper" the bond purchases that were a key part of the quantitative easing program.

The Fed made it clear, however, that even when it stopped its program of buying bonds it would retain its multi-trillion dollar bond portfolio. It would not sell any of those bonds and would replace Treasury bonds and mortgage-backed bonds as they matured. It would also continue its policy of keeping short rates low and would not start to reduce the size of its bond portfolio until it had raised short term rates.

The Fed's announcement of its decision to taper the bond buying program was initially met with a small rise in long-term rates but that increase quickly reversed. The Fed's promise to retain its large bond portfolio and to keep the overnight federal funds rate low for a long time was enough to keep the long-term rate at today's low level.

Over time, the Fed evolved its promise about keeping the fed funds rate low to a statement that it would start to raise the interest rate only when its two Congressionally mandated goals were met: first, that the economy had achieved "maximum employment," and second, "price stability," interpreted to mean that the members of the Federal Reserve's Open Market Committee were confident that the inflation rate would reach two percent.

There was no mention of dealing with the financial sector risks that I have described. Indeed, in a speech at the IMF in July 2014, Janet Yellen explicitly limited the goals of the Fed's monetary policy to the two Congressionally mandated targets, saying that the achievement of financial stability should be left to macro prudential policies.

The obvious problem with this approach is that it is not clear what those macro prudential policies are in the United States or what they should be. And what I will say about the lack of macro prudential policies in the United States applies in the Eurozone as well.

An exception is the commercial bank sector. The clearest example of a useful macro prudential policy is the increased capital requirements that have been imposed on the commercial banks. The greater quantity of bank capital means that the banks are capable of absorbing losses, i.e., of continuing to operate even if they lose money because of declines in the value of various investments and loans. This reduces the likelihood of a repetition of the 2007 and 2008 condition of a dysfunctional banking system. But the high capital ratios are also inducing banks to reduce their holding of bonds, a shift that will increase the potential volatility of interest rates when others want to sell their bonds.

Although the Federal Reserve has subjected the banks' portfolios to various stress tests to measure the effect of rising interest rates and investment losses, it is not clear whether the banks have enough capital to maintain solvency and liquidity if their risky loans and investments fail in large numbers. The same is true of the stress tests that have been performed in Europe, especially because of the doubts about the value of the sovereign bonds of some of the peripheral countries.

Moreover, in the United States the commercial banks are responsible for only about one-third of the credit creation. So even if the banking system were completely safe, substantial sources of vulnerability would remain. Nonbank private mortgage lenders are now creating a very large share of mortgage loans, often to high-risk borrowers. Hedge funds invest in a wide range of securities and are often highly leveraged. Money market mutual funds are vulnerable to runs because they promise to keep the value of each share at a dollar while holding assets that could default.

Stanley Fischer, vice chairman of the Federal Reserve, has responsibility for the Fed's policies dealing with financial stability. In his speeches he has referred to the possibility of macroprudential policies aimed at the owner-occupied housing sector that was central to the 2007 crisis. The level of risks in that sector could be reduced by changing mortgage rules, specifically limiting loan to value ratios and requiring higher ratios of monthly income to mortgage payments. But while other countries have used such limits on mortgage lending, the United States has not.

For all of the reasons that I have described, the long history of extremely low interest rates has created a wide range of risky loans and investments. They have in common that they are characterized by a mispricing of risk. If any of these investments gets into trouble, investors will question the pricing of other investments. That is the potential cost that the economy has paid, or will have to pay, for using unconventional monetary policies.

That brings me to the two final subjects that I want to discuss. First, how should the Federal Reserve achieve a normalization of interest rates? Second, what should be done in the future to avoid the risks that are created by unconventional monetary policies? That question is relevant not only to the United States but also to the countries of the Eurozone. And I believe that the answer to that question could help the countries of the Eurozone to increase economic activity now and, in doing so, could also raise the Eurozone inflation rate.

Normalizing Interest Rates

I turn first to the subject of normalizing interest rates in the United States.

I believe that the Federal Reserve should have started increasing the overnight interest rate earlier in 2015, perhaps as early as March. By then we were nearly at full employment and the core inflation rate was well above one percent.

Even after the Fed starts to raise the interest rate, monetary conditions will remain very easy for a long time. It is important to raise rates so that investors and lenders will begin to shift their behavior away from the current risk taking. If the Fed is successful, a gradual rise in rates will not trigger a sharp reaction to long-term rates and to the prices of equities and real estate.

Rising rates in the United States will also help the Eurozone economies. For several years I have argued that the European economies would benefit from a decline in the value of the euro. That would stimulate exports to markets outside the Eurozone and would shift demand from imports to domestically produced goods and services. A weaker euro would also increase the prices of imports, contributing directly to a higher Eurozone inflation rate. A widening gap between interest rates in the United States and in the Eurozone would cause a decline of the Euro relative to the dollar and other currencies. Some of that has occurred as rates here declined but there is little scope for further reduction in Eurozone interest rates. And the euro has reversed some of its decline as markets have become skeptical about when the Fed would start to raise U.S. rates.

Once the Fed begins the normalization process there is no way to be certain that the adjustment in U.S. rates will be smooth. A gradual and predictable rise in rates is likely to be more successful than a rapid and unanticipated rise. Since even the Federal Reserve recognizes that the federal funds rate has to go from the current near zero level to about four percent, that is a difficult challenge. Moreover, once the financial markets are convinced that rates will rise in that way over the next two or three years, longer term rates may reflect this by rising sooner and faster.

An increase in the rate of inflation that is significantly above the Federal Reserve's two percentage point target might force the Fed to raise the fed funds rate more rapidly. The combination of rising short rates and a perception of increasing inflation will cause the market-determined longer-term rates to rise more rapidly. Preventing a rapid rise in inflation above two percent is a further reason for the Fed to move soon to begin the process of tightening monetary conditions.

Although the core inflation rate is currently below two percent, the low rate of unemployment suggests that prices and wages may soon accelerate. Even if the Fed begins the tightening process, monetary conditions will remain easy, encouraging a fall in the unemployment rate below the current 5.1 percent level and therefore increasing the probability of rising inflation.

Although we cannot be certain about the level of the unemployment rate that will trigger rising inflation, the Fed previously said it was between 5.0 percent and 5.2 percent. The most recent outlook by the Federal Open Market Committee – the so-called Dot Plots reflecting views of individual FOMC members – indicates that they expect the unemployment rate to fall to 4.8 percent in 2016.

Moreover, the overall unemployment rate may be an inadequate measure of the unemployment condition that will trigger a faster increase in inflation. A number of studies by academic economists and by the Federal Reserve Bank of San Francisco indicate that what matters is the unemployment rate among those who have been out of work for less than six months. Unemployment among those who are out for a

longer time represents personal hardship but not pressure on wage setting. Those studies indicate that, in the past, inflation began to accelerate when the unemployment among those out of work for less than six months dropped below a range of 4.0 percent to 4.5 percent. It is significant that the most recent measure of the short-term unemployment rate is just 3.7 percent, implying that higher inflation should soon begin to appear.

The members of the Federal Open Market Committee have been sending mixed signals about Fed policy in recent months. Some of the Fed Governors and regional Federal Reserve presidents are calling for an initial rise in the Fed funds rate in 2015 followed by a gradual increase in the years ahead. At the same time, others indicated that they prefer to wait until 2016 to begin the process of normalizing rates.

Many market participants expected that the Fed would act at its meeting on September 17th. The unemployment rate had reached 5.1 percent and the FOMC members recognized that the inflation rate was temporarily depressed by the sharp fall in energy prices. In short, the two conditions needed to start raising rates were met. Moreover, increasing the fed funds rate to 25 basis points would still leave monetary policy extremely easy. And that would continue to be true in 2016 if the Fed then raised the short rate gradually.

In the end, the Fed did not change the rate on September 17th and did not say anything in its statement about its intention to start later in the year. Instead the statement noted that there were some negative signs in recent economic statistics (e.g., the decline in industrial production) and that international conditions, especially in China, were a source of concern.

Although the Chinese economy had recently been in the news, I find it surprising that the events in China would deter the Fed from taking appropriate action. The Chinese GDP had slowed as a result of a deliberate Chinese policy to shift from an economy focused on heavy industry and exports to one focused on services. That has led to a sharp reduction in Chinese imports from countries that are producers of industrial raw materials like Australia and Chile and from countries that provide high-tech manufacturing equipment to China like Germany and Japan. But it would have at most a marginal effect on the US economy since total US exports to China are less than one percent of US GDP. The Chinese stock market had fallen sharply but was still about 50 percent higher than it had been a year ago. And the reduction of the Chinese yuan by about 2.5 percent only brought it back to the same dollar exchange rate that existed in 2012 and was much less than the currency declines relative to the dollar of U.S. trading partners in Europe, Japan and Latin America.

FOMC members no doubt hoped that postponing the process of interest rate normalization would drive the unemployment rate down further, leading not only to increased employment but also to higher inflation and higher real wages. But in doing that they perpetuated the risk-taking environment and ran the risk that

inflation would rise more rapidly in 2016, forcing the Fed to raise rates more strongly at that time.

I can also understand the reluctance of FOMC members to raise rates and risk being blamed if the economy turns down in the following months for reasons unrelated to Fed policy. Members knew they could not be blamed if they did nothing and the economy turned down. But this is a problem that they would eventually have to face whenever they start to raise rates.

The puzzle surrounding the Fed's decision not to act on September 17 was greatly increased just one week later when Janet Yellen gave a major speech about monetary policy at the University of Massachusetts. In that speech she said that she believed the Fed should start to raise rates in 2015 and that this was a view shared by most of her colleagues on the FOMC. It was a long and careful speech, including statistical simulations, that suggested it had been written even before the September 17 FOMC meeting.

Fed vice chairman Stanley Fischer repeated that same conclusion about the desirability of raising rates in 2015 when he spoke at the IMF meeting in Lima in early October, making explicit what seemed clear but implicit in his remarks at Jackson Hole in August. More recently, New York Fed President William Dudley indicated that he also expected a rate rise before the end of the year. So the leadership of the Fed is all in favor of moving this year. And yet the financial markets are not convinced, pricing the Fed funds futures in a way that implies a less than 50 percent chance of a rate increase until next March.

I hope the leadership prevails in December because I worry about the consequences of continued delay. I also worry about the market's lack of confidence in the statements by the Fed. I see nothing wrong with a vote in December to raise the rate with a few members of the FOMC voting against that policy. That would show that the committee tolerates differences of policy views and that Janet Yellen, although usually regarded as very dovish, understands the need to begin normalization.

I would emphasize again that, even after the interest rate begins to rise, monetary policy will remain very easy. What matters, as I have stressed in past writings, is not just the starting date for interest rate normalization but also the speed with which rates are increased.

The predictions of the FOMC members, as shown in the "dot plots" released after the September FOMC meeting, indicate that the real short-term interest rate would still be significantly negative at the end of 2016 and would only become positive sometime in 2017.

That may turn out to be too slow a pace of normalization, continuing to support excessive financial sector risk taking and allowing the inflation rate to rise above an acceptable level.

Reducing Financial Sector Risks

I want to conclude these remarks by asking what can be done in the future to avoid the financial sector risks caused by an unconventional monetary policy. This is of course relevant in the Eurozone as well as in the United States. Indeed, the policy that I will discuss could help the countries of Europe to stimulate demand now, raising employment and inflation.

I continue to believe that the traditional conventional monetary policy is the right way to deal with most business cycle downturns. Those downturns tend to be relatively short – the average time from peak to trough in the United States business cycles has been just ten months – and relatively shallow. Conventional open market operations can lower the short-term interest rate and temporarily lower some longer-term rates as well. Interest sensitive spending, especially housing construction, usually responds well to this policy. In that context, there is no need to drive down long rates by buying bonds and committing to a long period of low rates.

In a typical downturn fiscal policy is also both unnecessary and likely to have destabilizing effects on the economy. Experience shows that there are long lags between the start of a cyclical downturn and the time that the political process puts in place an effective fiscal stimulus. Using discretionary fiscal policy to stimulate the economy in a short downturn can therefore result in adding excessive stimulus when the economy is already expanding.

I think these comments about relying exclusively on traditional monetary policy in dealing with typical business cycle downturns are equally relevant to the Eurozone and the United States.

But not all downturns are typical and the massive downturn that began at the end of 2007 couldn't be reversed by conventional open market operations. The collapse of house prices and the need for a period of low residential construction to offset the previous overbuilding contributed to the limited ability to rely on monetary policy alone.

Moreover it was clear that the downturn that began in December 2007 was going to be deeper and longer than the usual recession. That reduced the risk that using fiscal policy would be mistimed. So an expansionary fiscal policy was appropriate. Unfortunately, the fiscal policy that was enacted in 2009 was very badly designed and inadequate to deal with the magnitude of the demand shortfall.

A better designed fiscal stimulus would have been able to raise aggregate demand and launch a satisfactory economic recovery. The level of government debt in the United States before the recession began was relatively low, less than 40 percent of GDP -- allowing a large enough combination of tax cuts and spending increases to turn things around.

There is of course always the danger that a large fiscal stimulus would cause financial markets to fear sustained future deficits and a rising level of government debt. That could cause long-term rates to rise, offsetting some or all of the favorable effect of the fiscal package. That is why I have favored a fiscal policy that combines a short-term fiscal stimulus with changes in entitlement programs that would stabilize the long-term level of the debt.

Although that may be the economically desirable strategy, it may not be politically feasible. It is possible, however, to design a fiscal policy that provides a net stimulus to the economy without increasing even the near-term size of the national debt.

This possibility is particularly important here in the Eurozone where debt levels are already very high and it is important to avoid increasing current budget deficits.

The key to such a revenue neutral stimulus strategy is to recognize that there are two types of fiscal stimulus policies. The first includes tax cuts and increases in government purchases that do increase fiscal deficits. These increase demand through the traditional Keynesian channels. The second type of fiscal stimulus includes specific investment incentives, such as the investment tax credit or accelerated depreciation, that increase the profitability of new investment, thereby encouraging firms to invest.

It is possible to use the second type of fiscal stimulus to increase aggregate demand without raising the national debt. The key is to combine such an incentive based fiscal stimulus with a temporary increase in the corporate tax. The investment tax credit or other investment incentive would increase the profitability of new investment while the higher corporate tax rate would fall on the existing capital. Businesses would have an increased incentive to invest during the years when the investment tax credit was available.

A similar revenue neutral strategy could be used to stimulate consumer spending in countries like those of the Eurozone that have value added taxes. The government could enact a plan to raise the value added tax each year for the next several years, balancing the higher tax burden with reductions in the personal income tax. Individuals would have an incentive to spend earlier to avoid the higher future prices that would result from the increases in the value added tax.

Here in the Eurozone, the use of fiscal policy has the added advantage that it can be designed and scaled at the level of the individual country. While monetary policy is

constrained to be the same for the entire Eurozone, the combination of monetary and fiscal policy can be tailored to national conditions.

These revenue neutral fiscal policies might not be enough to deal with a downturn of the magnitude that occurred in the United States in 2008 or that has occurred in Europe. But revenue neutral fiscal policies would be a useful supplement to conventional monetary policy, limiting the need for unconventional monetary policies or the scale of such policies.

The key lesson in my remarks today is that both unconventional monetary policies and discretionary fiscal policies create risks of instability for the economies of the United States and the Eurozone. Traditional monetary policy alone is the best response to the usual economic downturn. But when there is a more severe downturn, a combination of fiscal policy and traditional monetary policy might be better than relying on the more extreme unconventional monetary policy.

It is possible to use a revenue neutral fiscal policy to stimulate the economy without increasing the concurrent budget deficit. Here in Europe it is particularly important that such fiscal policies can be designed and enacted by the individual countries. Doing so now could help Europe return to stronger growth and employment and a healthier rate of inflation.

Thank you.

October 2015

END