DEFLATION

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Thank you. I am pleased to be here and honored by the opportunity to talk to this distinguished group.

When Andrew Crockett called about 10 days ago and invited me to make these remarks, he suggested that I discuss the subject of price deflation and asked that I try to do so in a way that provokes discussion.

I'm very happy to do so. Deflation is certainly an important issue. It is a real problem in Japan. I'm frequently asked by people in business and in the general public whether the US is now experiencing deflation or is heading into deflation and, if so, what should be done about it. Similar concerns have been raised in Europe, especially with respect to Germany. And if deflation does occur in the US or Europe, and if that contributes to economic weakness in either region, that would have important consequences for every country here tonight.

I will deal briefly with four questions:

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First, is the US or Germany now experiencing deflation — a persistent decline in the overall price level – as some of my American business friends assert?

Second, would deflation be a bad thing?

And, if deflation is undesirable, what should be done to prevent it and, if it occurs, what can be done to reverse it?

I'll try to deal with all four questions in the 15 minutes that Andrew suggested I talk – so you know I won't examine any of these issues as fully as I might do or should do. That in itself should be enough to provoke discussion.

Let me begin by summarizing my overall conclusion.

Neither the United States nor Germany is now in deflation but deflation is a potential problem that should be avoided.

The best environment for household and business decision-makers is one of price stability. Deflation, as well as inflation, interferes with the smooth running of the economy.

In some ways, moderate deflation can be more damaging than moderate inflation, although moderate inflation is more likely to get out of hand and lead to rapid inflation.

Nevertheless I believe that it would be a mistake to allow a fear of deflation to provide a rationale for policies that could lead to unwanted price inflation or to asset price bubbles.

<u>Are the US and Germany experiencing deflation?</u>

I'll start with the question of whether the US or Germany is actually experiencing deflation. For the US the answer by any official statistical measure is no. The GDP price index has been increasing at 1.2 percent this year and the corresponding index for personal consumer expenditures is up at 1.9 percent. The consumer price index has been rising at a rate of 2.6 percent in the first 9 months of 2002 and the core CPI (excluding food and energy) is up at a 2.1 percent rate.

I believe the situation is roughly similar in Germany and in the Euro area more generally. Consumer prices in Germany are now rising at about 1.5 percent and in the wider Euro area the increase is faster.

The reason that so many American businessmen believe that we are in a period of deflation is that the prices of the products that they sell are in fact falling. The producer price index for finished goods in September was 1.9 percent lower than a year ago. And the prices of consumer <u>goods</u> and investment <u>goods</u> in the GDP index have fallen in each quarter this year.

This decline in the producer prices for finished goods is an inevitable consequence of the success that central banks have had in achieving virtual price stability. To see why, think about an economy in which there is literally no inflation. Since rising productivity translates into an equal rate of increase of real wages, such price stability implies that nominal wages must rise at the same rate as productivity. For a service like hair cutting, where there is no productivity gain, the price of the service must rise with the level of nominal wages. Achieving overall price stability therefore requires balancing the inflation of service prices with declines in the prices of goods.

Although the US has not achieved zero inflation, the general wage gains driven by productivity have caused service prices to rise at 3 percent this year while the overall consumer prices in GDP rose only 1.9 percent. Price declines for goods, especially at the producer level before distribution costs, balance the increase in the prices of services.

Some analysts argue that the current low inflation rates may continue to decline and eventually become negative because of the excess capacity in labor and product markets. While that cannot be ruled out for the future, there is no supporting evidence now. In spite of the U.S. recession that began in early 2001, the rate of wage and salary increase in the last 12 months is 3.2 percent, the same as it was in the corresponding period in 1999.

One further issue about whether the U.S. is experiencing deflation is the accuracy of measuring price movements. Although the U.S. price indices have been improved in the past few years, I believe that the official price indices still overstate inflation because of an inability to deal adequately with quality change and new products. Our measured inflation rate of 1.2 percent may correspond to a true inflation rate (if I may use that term) of zero or even minus one percent.

The significant fact, however, is that even if true inflation is zero or slightly negative, nominal wages are rising and nominal interest rates are positive. Thus deflation, if it exists, is too limited to cause problems in either wages or interest rates, a subject to which I turn next.

<u>Would deflation be a bad thing?</u>

That brings me to the question of whether deflation – as evidenced by a decline in the measured price level – would be a bad thing. In my judgement, it would be. To repeat what I said before: price stability – rather than either inflation or deflation – is the best environment for households and businesses to make decisions.

The experience of price stability also creates confidence that it will persist. One of the problems with inflation or deflation is that it creates uncertainty about the future path of prices, an uncertainty that is itself harmful.

Before talking about the adverse effects of deflation, let me deal with the interaction of inflation and tax rules. Because taxes in the U.S. and most other countries are based on nominal capital income and expenses, a higher rate of inflation raises effective tax rates on capital income and thereby increases the distorting effect of capital taxation. Reducing inflation therefore reduces tax distortions and raises real national incomes. Although the logic of this analysis implies that a small negative inflation rate would reduce tax distortions even more than price stability, I believe that the uncertainty and other adverse effects of deflation would outweigh the gains from reduced tax distortion.

The adverse effect of deflation depends on whether it is anticipated or unanticipated and on whether it is small or large. A small, persistent and therefore anticipated deflation can be least damaging. But like any mild chronic disease, we'd rather not have it.

Before I talk about such an anticipated deflation, consider first an <u>unanticipated</u> shift from a low inflation rate of say 2 percent to a permanent deflation rate of minus two percent. The nominal interest rate on new bonds and new mortgages would eventually decline by about four percent, more or less maintaining the initial real rate on such obligations. But the unanticipated shift to deflation would cause the real interest rate on existing debt to rise by four percentage points. In the United States, this would not create a problem for home owners since they would generally be able to pay off their mortgages without penalty and refinance them at the new lower nominal interest rate.

The more serious problem would be for companies with long term debt. The real value of their annual debt service would rise over time and the ratio of their debt to real capital would also increase. For highly leveraged companies and for financial firms with a substantial mismatch of assets and liabilities, this unanticipated shift to deflation could be a serious problem. Obviously, the greater the unanticipated rate of deflation, the more damage that would be done.

What about the long-term effect of a mild permanent and fully anticipated deflation at, say, a two percent rate? In many ways, the economy could – at least in principle – adjust to this just as it does now to a two percent positive rate of inflation. Real interest rates on marketable securities and mortgages would remain unchanged with nominal mortgage rates and bond interest rates declining by the fall in anticipated inflation. If productivity growth is raising real wages at 2.5 percent year, nominal wages would rise at 0.5 percent.

There are however potential problems even with such a mild anticipated deflation. When inflation is positive, some individuals' real wages can be reduced without the difficulty of actually cutting their nominal wages. But with deflation of just two percent, wages that have to decline relative to the average would often have to be cut in nominal terms. If that cannot occur, the result would be a rise in unemployment until the market finally adjusts to the need for nominal wage cuts.

Deflation would also create a problem for implementing a traditional monetary policy based on the short-term rate of interest since with a zero nominal interest rate floor there would be no way to drive the real rate below zero to stimulate a weak economy. [1]

Deflation would pose special problems within the euro area. To the extent that the euro area is an

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[1]The real Federal Funds rate averaged 2.0 percent over the past decade. With two percent deflation, a 2 percent real Funds rate would require a nominal rate of zero. In practice, therefore, the average real rate would have to be above two percent and there would be no way to drive the real rate below zero to stimulate a weak economy.

integrated market for goods and services, different rates of inflation or deflation cannot persist indefinitely. But the combination of relative price level adjustments among countries and overall price stability for the euro area as a whole can cause a period of deflation in some countries. Moreover, since the interest rate on euro bonds must be the same in all countries, the real interest rates will rise in the deflating country. In this way, deflation within part of the euro area can cause a contractionary monetary environment in that part of the euro area that leads to even further deflation.

The problems caused by anticipated deflation – whether in the US or in Europe – are substantially worse if the sustained rate of deflation is greater than the rate of productivity growth and than the real rate of interest on risk free securities. Nominal wages would have to fall[2] and the real rate of return on riskless securities would be at least equal to the rate of deflation. Securities with greater risk or less liquidity would have to offer higher real returns. This upward shift in the yield on the entire range of private debt and equity instruments would raise the cost of capital to business, reducing investment and productivity.[3]

The problem is more acute for manufacturing firms since the rate of change of their output prices would be even more negative than the overall rate of deflation. There is now a gap of more than three percent between the overall GDP inflation rate and the rate of change of producer prices. If the GDP prices as

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[2]For example, the combination of deflation at 6 percent a year and productivity gains that raise real wages at 3 percent a year would require nominal wages to fall on average by three percent. While achieving such wage declines could in principle occur, it is hard to believe that it could be achieved without a long period of increased unemployment.

[3]The 6 percent rate of deflation would imply a real return of 6 percent on cash. Riskier securities would require a higher real yield, thus raising the cost of capital.

a whole were deflating at two percent, the producer prices might be falling at five percent. For manufacturing firms, the real cost of funds (in terms of their own product prices) would exceed the nominal interest rate by five percentage points. Such high real interest rates in this part of the economy (where so much of the inventory and equipment investment is concentrated) could have a contractionary effect and a long-term adverse effect on investment and productivity.

Preventing Deflation and Reversing Deflation If It Occurs

Although neither the United States nor the countries of Europe are currently in deflation, the low inflation rates make a slip into deflation a clear possibility. Japan's persistent deflation shows that deflation can certainly happen in a modern industrial economy.

I'll conclude therefore by following Andrew's request that I be provocative by asking what should be done to reduce the risk of deflation and to deal with it if it occurs?

Some people argue that it would be better to abandon the goal of price stability and accept a low but significant inflation rate – say 4 percent – to provide a good margin of safety from actual deflation. I disagree with that suggestion but I would be interested to know whether anyone here thinks that is the right advice.

Some economists, including the authors of a widely cited Federal Reserve staff study, have suggested that an unusually vigorous expansionary policy – both monetary and fiscal – be pursued when the economy is in danger of slipping into deflation. I take it that would mean a more expansionary policy when measured inflation is one percent than when it is two percent – even if either inflation rate would be acceptable as such and even if the real economy shows no particular sign of weakness.

Such a strategy may be desirable but it also runs the risk of causing an unwanted increase in inflation and an unwarranted rise in the prices of financial assets and real estate.

It is also difficult to know just when such a policy should be pursued. The specific context suggested in the Federal Reserve staff study was Japan in the years just before 1995. With the benefit of hindsight that looks like desirable policy. But at the time Japan appeared to be experiencing accelerating real GDP and a positive inflation rate. How would one know whether an expansionary monetary policy in such a context would prevent deflation or would lead to unwanted inflation and a return of the Japanese asset bubble?

The recent easing by the Federal Reserve seems to me to be an appropriate action because of the weakness and uncertainty of the real economy. I believe it would have been appropriate even if the inflation rate were one percent higher, especially given the Fed's well deserved anti-inflation reputation.

The extent to which risks should be taken to avoid deflation depends in part on how difficult it is to reverse deflationary price movements. The obvious problem in doing so, to which I already referred, is that the combination of deflation and a zero floor on nominal interest rates makes it impossible to reduce real short term interest rates as a countercyclical strategy. Would increasing the stock of money or of the monetary base provide a way of reversing deflation even if short term nominal interest rates are already at zero? Would other more unusual monetary policies – including purchasing longer term financial assets or even equities be effective and suitable?

My own inclination would be to look also to fiscal policy. Although substantial experience indicates that discretionary fiscal policy is not useful in dealing with the typical short recession downturn, a discretionary fiscal stimulus may be appropriate when faced with a long-term weakness of the type experienced now in Japan or with anticipated deflation. Contrary to the usual assumption, a fiscal stimulus need not involve increased budget deficits, an especially important point in countries like Japan where an even larger national debt would be a very serious long-term problem and possibly would outweigh the direct expansionary effect of the fiscal stimulus. A structural tax change that stimulates incentives to spend by changing relative prices – for example a temporary investment tax credit financed with a temporary corporate tax surcharge – could stimulate spending without raising the budget deficit and national debt. An analogous structural tax policy could be used to stimulate consumer spending in Japan or in any other country with a value added tax.[4]

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[4]See my "The Role for Discretionary Fiscal Policy in a Low Interest Rate Environment," NBER Working Paper 9203 (www.nber.org/papers/w9203), forthcoming in the Federal Reserve Bank of Kansas City annual Jackson Hole conference volume for 2002.

Great progress has been made in recent years in bringing inflation down and achieving essential price stability. It is important in my judgement not to allow price stability to deteriorate into deflation. But it is also important that the fear of deflation not lead central banks to give up the progress against inflation.

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