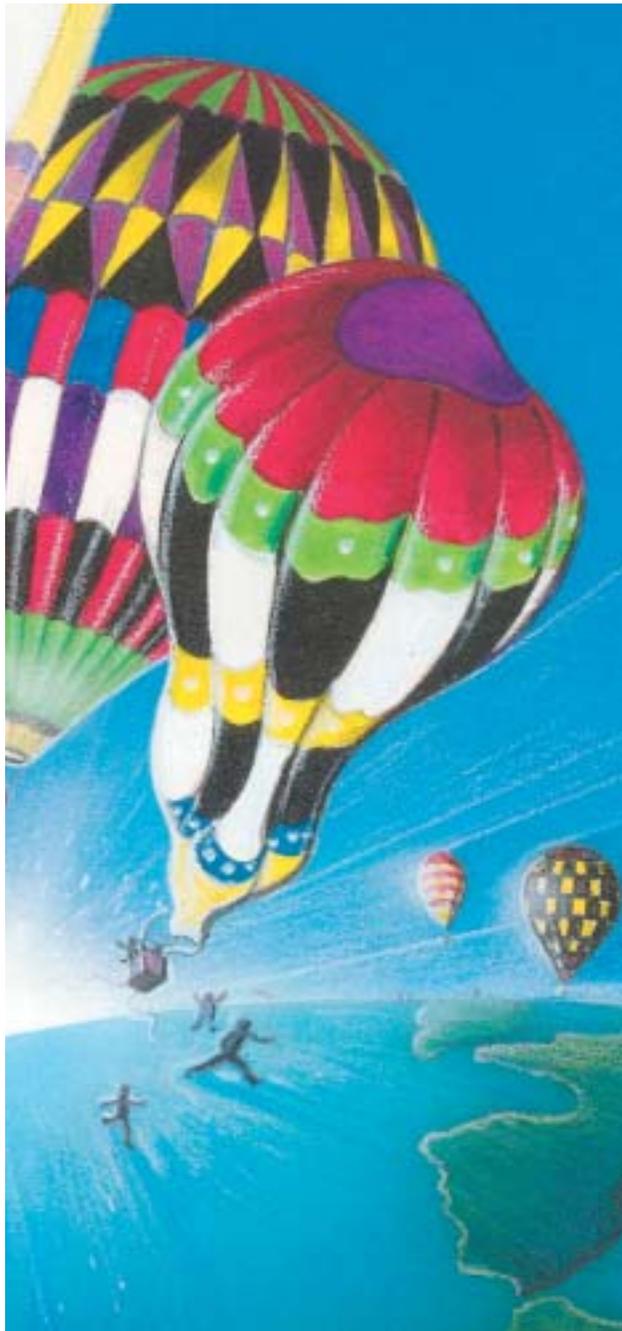


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# Deflation

## The new threat?

*Manmohan S. Kumar*



IN RECENT months, concerns about the risk of global deflation have increased. Market commentators like Stephen Roach have emphasized the vulnerabilities in the global economy, and, in a speech to the Economic Club of New York City in December 2002, Alan Greenspan, Chairman of the Board of Governors of the U.S. Federal Reserve System, noted that it was crucial to “ensure that any latent deflationary pressures are appropriately addressed well before they become a problem.” This is the second time in five years that concerns about deflation have surfaced—the first was in 1997 and 1998, in the wake of the Asian financial crisis—marking a radical shift in the post-World War II preoccupation with inflation.

This time, worries have been sparked by Japan’s ongoing deflation (see “Country Focus” on page 55), deflation in mainland China and several other Asian emerging markets, and the marked reduction of inflation rates in industrial countries. In the industrial countries, inflation, as measured by the consumer price index (CPI), has declined to an average of less than 2 percent, a level not seen since the 1950s (Chart 1), while inflation rates in emerging market economies are the lowest they have been since the late 1960s.

Low inflation brings substantial benefits, for example, more efficient resource allocation and a reduction in uncertainty. But, under today’s economic conditions—weak global activity, increasing excess capacity, and the lingering effects of the bursting of the equity price bubble, combined with ongoing structural changes in the world economy—low inflation (less than 2 percent or so) can increase the risk of deflation.

### Why is deflation harmful?

There are different intensities of deflation. Deflation may be relatively mild, with aggregate price indices declining only by a percent or so, and temporary, lasting not more than a few quarters; or it may be mild but persist for several years; or it may be sustained and virulent, with economic stagnation and high unemployment accompanying falling prices and costs, as during the Great Depression of the 1930s, the most severe deflation of the twentieth century.

The first type, as seen, for instance, in Canada, Norway, and Sweden in the late 1980s, might result from a cyclical deficiency in demand or a demand-side shock—say, a drop in demand following the bursting of an asset price bubble. In this case, deflation is accompanied by a slowdown or even a decline

in aggregate activity, but the decline in activity and prices is temporary. A considerable number of developing countries have also experienced falling prices in recent years. But these declines, often brought about by severe declines in commodity exporters' terms of trade, have been short-lived or small.

A mild and temporary deflation may also result from major supply-side improvements, as seen recently in China, or decreases in import prices. Under such circumstances, economic activity may remain strong and asset prices may even go up.

Nonetheless, in both cases, especially if it is unanticipated, deflation leads to a redistribution of income from debtors to creditors—that is, from groups with a high propensity to spend to those with a low propensity—depressing demand. In the presence of rigid nominal wages and falling prices, it also increases real labor costs and reduces competitiveness. Given the natural floor of zero on nominal interest rates, real interest rates rise as prices decline, curtailing the effectiveness of monetary policy—of particular concern when output is weakening. The financial sector could suffer, with a decline in the creditworthiness of businesses and households as debt obligations increase in real terms.

### Recent experiences of deflation

At present, only Japan is experiencing sustained deflation and weak economic activity, although Hong Kong SAR, China, Singapore, and Taiwan Province of China have experienced periods of falling prices. Nonetheless, the percentage of industrial and large emerging market economies experiencing episodes of declining CPI has increased from around 1–3 percent in the first half of the 1990s to 10–15 percent in the past three years. The increase has been particularly pronounced in emerging markets (Chart 1, bottom panel). Given that the CPI may be subject to an upward bias (if substitution possibilities and new or improved products are ignored) of ½ to 1 percent, it is possible that measured inflation of 1 percent or less is close to price stability or even deflation. If so, mild deflation may already be affecting a higher proportion of industrial and emerging market economies than is indicated by the measured inflation rate.

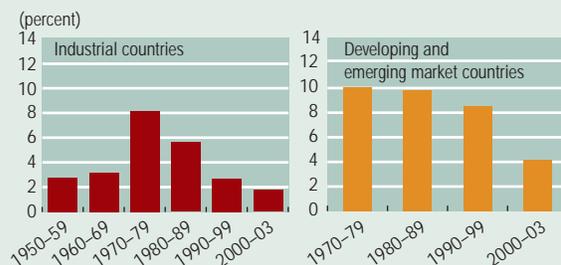
What is worrisome is that the adverse consequences of deflation can begin to accumulate, leading to a change in expectations and persistent, albeit still mild, deflation. This appears to be the case in Japan, where the decline in prices—now in its fifth year—both reflects and exacerbates weak activity and the effects of the bursting of the asset price bubble. Japan's subpar growth brings in its train adverse dynamics: corporate earnings continue to be hit; the financial sector is saddled with a growing proportion of nonperforming loans, in turn reducing intermediation; and consumption and investment are postponed.

### Historical episodes

Mild and persistent deflation was not uncommon in the nineteenth century and earlier, and it was often associated

Chart 1  
**Inflation and deflation**

The lowest inflation rates in decades have given rise to concerns about deflation.



A growing number of countries are experiencing declines in prices.



Source: IMF, *International Financial Statistics* (various years).  
 Note: Data are based on 35 of the largest industrial and emerging market economies.  
<sup>1</sup>Number of country months with year-over-year price declines, as a percent of total.  
<sup>2</sup>There were no cases of declining prices in industrial countries during 1980-84.

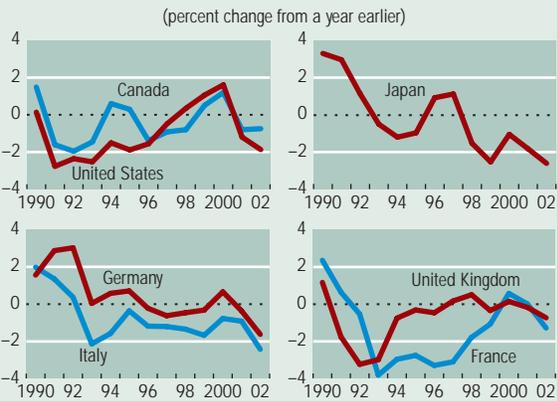
with positive supply shocks. However, the consensus is that, even when deflation was not severe, it was widely perceived to have a negative effect on economic activity and well-being, and this perception was, in turn, reflected in frequent labor strife and political turbulence. This has been documented in surveys of workers in the United States and the United Kingdom; workers did not view falling money wages as being offset by even more rapidly falling consumer prices. Growth was slower than what might have been expected given the significant technological changes under way, and the incidence of financial crises was high.

The risk is that a mild deflation will become more severe, with price declines and expectations of such declines gathering force. Such an outcome would likely reflect a variety of causes in addition to inadequate aggregate demand, including structural problems in the financial sector, rigidities in labor and product markets, large fixed nominal debts, and inappropriate policies. Pernicious deflation would typically entail rising real debt burdens as prices decline, widespread bankruptcies, and weak aggregate demand, all of which would increase the pressure on prices. In such an environment of debt-deflation, asset prices would come under renewed pressure as corporate profits and balance sheets deteriorated. A credit crunch could ensue, raising financing costs and exacerbating the downturn and deflation. Sticky

Chart 2

### Economic weakness raises concerns about deflation

Output gaps in G-7 countries suggest high excess capacity.



Equity prices have plunged for three consecutive years, dampening consumption and investment.



Source: IMF, *International Financial Statistics* (various years).

Note: An output gap is the difference between actual and potential output as a percent of potential output.

wages may initially help reduce the likelihood of a deflationary spiral. But they may also lead to even larger declines in output and employment as corporate profits decline. The extreme outcome would be a collapse of confidence, fueling a downward spiral in activity, employment, profits, and prices.

### Leading indicators of deflation

Japan's recent experience suggests that anticipating deflation can be difficult. An extensive study of the onset of deflation in Japan published by the U.S. Federal Reserve Board in 2002 concluded that household and business surveys as well as government and corporate bond yields in the mid-1990s showed an expectation of a continuation of moderate inflation, right up to the onset of deflation. This suggests that, in assessing conjunctural risks, it is not enough to focus on the behavior of prices alone or even financial market indicators incorporating expectations of prices such as bond yields. There is a need to consider a variety of underlying indicators to identify factors that are likely to increase an economy's vulnerability to deflationary pressures. These indicators include measures of activ-

ity and excess capacity, the state of financial intermediation and credit markets, and developments in asset markets.

Analysis using these indicators suggests that, beyond the behavior of prices to date, there are a number of factors that could exacerbate deflationary pressures. Global recovery has been weak and is expected to remain so, reflecting geopolitical concerns as well as the continued effects of equity price declines. Indeed, expectations for a recovery, especially of investment, have been repeatedly disappointed. Measures of the output gaps in the G-7 economies suggest increasing excess capacity, particularly in Japan but also in the other economies (Chart 2, top panel). The IMF's *World Economic Outlook, April 2003* projections suggest that the output gaps in the G-7 as well as in many emerging Asian economies will probably widen in the near term to levels that are likely to exacerbate the downward pressures on prices. Unemployment has also grown significantly in several major economies.

For three consecutive years, equity prices in the major industrial economies and in most of the emerging market economies have suffered exceptionally large and sustained declines (Chart 2, bottom panel). There is clear evidence that these declines have played an important role in dampening economic activity. They have severely constrained consumption, by reducing household wealth, and investment, by increasing the cost of capital. And their full impact may still not have been felt, particularly with respect to corporate balance sheets and financial institutions. House prices, which have increased substantially in several large economies (particularly the United States and the United Kingdom) following a sharp decline in mortgage rates, have helped mitigate the effect of equity price declines on consumption. However, there is a risk that they could experience a correction, further weakening household demand.

There has also been a notable decline in private sector credit in many countries, reflecting not only subdued demand but also, in several cases, difficulties in the banking sector. Corporate profits remain uncertain, and labor income growth has begun to slow. Investor risk appetite and financial markets remain volatile amidst increased risks and uncertainties.

These considerations suggest that there may well be an increase in the number of countries facing deflation or a worsening of deflation in countries already beset by it. It is true that inflationary expectations generally remain well anchored. But it should be emphasized that inflation forecasts tend to be joint forecasts of activity and inflation. If activity does not rebound, inflation expectations also lose validity. Moreover, a country's vulnerability to deflation appears to increase when it has limited room for policy maneuver on both the monetary and the fiscal sides. This essentially reflects the fact that policymakers may be unable to deal adequately with the incipient deflationary pressures, which can then mount.

However, the risks of a generalized global deflation seem relatively small: financial markets and institutions have remained broadly resilient so far; corporate and household debt burdens appear manageable; and there remains scope for policy

adjustment in most countries. What of the risks of imported deflation? The likelihood of this occurring also appears small, given the small trade shares of countries experiencing deflation. In China, high productivity combined with excess labor supply has led to sharp price declines in some sectors domestically and globally. But its overall trade shares are too small for it to cause a generalized deflation in its trading partners.

### What do we do about it?

Nevertheless, the potential for deflation to spread is cause for concern. Policymakers have the instruments to head it off and can do so, provided they act preemptively. Monetary policy should be able to avert deflationary expectations. However, as Paul Krugman has noted, central banks may underestimate the risks of deflation or be unable—for political economy reasons—to take the necessary steps to ward it off. When monetary policy is insufficient, fiscal policy and structural measures are required.

The challenge for monetary policy is highlighted by the experience of deflation in Japan. Monetary policy before the onset of deflation was judged to have been appropriate or even loose. But, *ex post*, it was too tight, reflecting the fact that inflation turned out to be substantially lower than forecast. In the presence of these expectations, the monetary policy regime can play a crucial role. For instance, a regime with an explicit inflation target should set the target floor to provide a buffer zone. The objective would be to reduce the risk of inflation falling so close to zero that the economy, if hit by a drop in demand, becomes susceptible to deflation. The size of the buffer would vary from country to country, depending on the severity and variability of shocks and the economy's flexibility.

In addition to a buffer zone, a more proactive stance may be desirable in the presence of downside risks to aggregate demand and the pace of activity. Monetary easing may need to be complemented by a more stimulatory fiscal stance. It is possible that beyond the operations of the automatic stabilizers, fiscal stimulus measures could end up being counterproductive or procyclical. Given these risks, as Kenneth Rogoff has suggested, it may be desirable to implement specific measures to boost returns on capital investment that would have dynamic gains while signaling authorities' commitment to preventing a generalized decline in prices.

Monetary policy faces additional challenges in a deflationary environment, especially when nominal interest rates have hit their floor. When the nominal interest rate is zero, policy cannot lower interest rates any further through the conventional channel. This is especially constraining given that, in such a situation of a liquidity trap, the economy's equilibrium real interest rate may well be negative.

The problem may be complicated if the banking system is undergoing difficulties, say, following the bursting of an asset price bubble, increasing the onus on structural reforms. With deflation, banks' bad debts increase and are likely to reinforce the banks' unwillingness to take risks, curtailing provision of credit. Nonetheless, as Ben S. Bernanke, a member of the U.S.

Federal Reserve Board, and others have argued, monetary authorities can use unconventional measures to affect expectations. Even at the zero bound and without printing and distributing money, the central bank can have an impact on the economy through other channels that come into play when a central bank lowers interest rates further along the yield curve—for example, it could promise to hold short-term rates at zero for a specified period or it could purchase longer-term bonds. The government could support its bond-purchase operations by announcing target yields, making a commitment to purchase securities in an amount that is consistent with those targets and lowering rates along the entire term structure. In addition, the range of assets deemed to be eligible collateral for banks borrowing from the central bank could be widened, reducing term and liquidity premiums and thus lowering the cost of capital.

In sum, there has been an increase in the vulnerability to deflation in several countries, while mild deflation has continued in others. Heightened vulnerability reflects weak growth, effects of the bursting of the equity price bubble, structural factors, and, in some cases, policy constraints. The risks of generalized global deflation appear small, however. Nonetheless, given the costs of deflation, it is important to implement preemptive policies to prevent deflation from setting in or, where it has already set in, to pursue aggressive policies to contain and eradicate deflation expectations. ■

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