

Deflation, Corrosive and Otherwise

Recently the Federal Open Market Committee (FOMC) mentioned deflation as a possible risk for the U.S. economy. In the statement released after the May policy meeting, the Committee stated that “the probability of an unwelcome substantial fall in inflation, though minor, exceeds that of a pickup in inflation from its already low level.” Later, Chairman Greenspan spoke about more than just a mild deflation. In comments to the International Monetary Conference in early June, Chairman Greenspan referred to the risk of “corrosive” deflation “that essentially feeds on itself, creates falling asset prices, which in turn brings down levels of economic activity...” What is the main evidence on deflation? Are there corrosive and benign forms? Does economic performance always suffer during periods of sustained deflation?

The accompanying table provides some evidence on deflation and lists periods in which the United States or Japan have experienced three or more years of a declining price level. There are three main episodes: the late 19th century in the United States, the Great Depression in the United States, and Japan since 1999. For each deflationary episode, the table lists the average real GDP growth rate and the average inflation rate based on two popular inflation measures, the GDP deflator and the consumer price index.

The table also lists a benchmark average growth rate of GDP for years surrounding the deflation experience, so we can consider whether deflation is associated with lower-than-average growth for the corresponding era or not.

Generally speaking, the United States experienced rapid growth during the late 19th century, with GDP growth averaging about 4.0 percent for the period 1876-1900,

despite an average deflation of about 1.0 percent. By itself, this suggests that a mild deflation is not necessarily associated with poor economic performance. However, averaging over a long period of time could mask severe distress that may accompany deflation. To address this issue, we examine the subperiods 1876-1879 and 1883-1885. During the former, GDP growth actually was greater than the benchmark value, despite a rather hefty 3.0 to 4.0 percent annual average decline in the price level. Evidently, this deflationary episode was rather benign. In contrast, the deflationary episode of 1883-1885 was not so benign. GDP growth fell well below the benchmark average for that time. The same is also true at the onset of the Great Depression (1930-1933) and the recent episode in Japan (1999-2002). During the Great Depression, GDP growth averaged a whopping -8.36 percent and inflation was around -6.5 percent. While not as severe, Japan also experienced slow growth during its deflationary episode.

As the table shows, U.S. experience with sustained deflation has been limited since the founding of the Federal Reserve in 1914. The results from 1930-1933 are uniformly bad, but deflation may simply have been a by-product of the economic collapse at that time. Japan’s experience is perhaps more relevant for today’s circumstances. Although sustained deflation is not everywhere and always “corrosive,” on balance the evidence suggests that deflationary episodes are marked by subpar growth.

—James B. Bullard and Charles M. Hokayem

Deflationary Episodes

Country/period	GDP deflator inflation	CPI inflation	Real GDP growth	Real GDP growth (benchmark years)
U.S. 1876-1900	-0.94%	-1.07%	4.03%	4.02% (1876-1913)
1876-1879	-3.82%	-3.96%	5.20%	4.02% (1876-1913)
1883-1885	-3.27%	-2.34%	1.68%	4.02% (1876-1913)
U.S. 1930-1933	-6.45%	-6.69%	-8.36%	2.73% (1919-1941)
Japan 1999-2002	-1.66%	-0.71%	0.90%	2.33% (1985-2002)

NOTE: GDP deflator and real GDP data: Robert J. Gordon, *Macroeconomics, 8th Ed.*, Addison-Wesley, 2000. CPI data: *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Ed. Part 1*, U.S. Bureau of the Census, 1975.