

## An Update on Emerging Issues in Banking

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### How Real is the Threat of Deflation to the Banking Industry?

February 27, 2003

#### Overview

The recession that began in March 2001 has had a generally benign effect on the banking industry, which remains highly profitable and well capitalized. The current financial strength of the industry is an important buffer against the effects of economic shocks. Nevertheless, the Federal Deposit Insurance Corporation (FDIC) routinely considers a number of economic scenarios that could develop over the next several quarters to evaluate factors that could result in the erosion in the financial health of individual banks or the industry. One such scenario that could present a major challenge to the banking industry involves deflation. This paper outlines the current debate over deflation, focusing on its potential effect on the banking industry.

#### What is Deflation and How Does It Affect the Economy?

Deflation refers to a decline in the general price level, usually caused by a sharp decline in money or credit supply or a severe contraction in the economy.<sup>1</sup> Although sometimes used interchangeably, *deflation* differs from *disinflation* -- a falling rate of inflation. Although there have been sector-specific downward price adjustments, the U.S. economy has not experienced an outright decline in the aggregate price level since World War II, except for a brief and mild deflation in 1949.<sup>2</sup> However, the inflation rate in the U.S. has fallen steadily since the early 1980s.

In order to fully understand the effect of deflation on economic output, it is important to differentiate the concept of a "real" value from a "nominal" value. A nominal value refers to a value of wages, incomes or interest rates in current prices. An increase in a nominal value over time partly reflects the rate of inflation. In comparison, a real value holds the actual purchasing power constant over time.

Since wages are set in nominal terms, deflation would raise real wages if businesses found it difficult to reduce nominal wages.<sup>3</sup> This would lead to lower profits, higher unemployment and deterioration in overall economic conditions. On the other hand, if businesses were able to reduce nominal wages, households would see incomes decline, leaving fewer financial resources to repay existing debts that are set in nominal terms. From the business side, as deflation reduces the price of goods sold, businesses would experience a profit squeeze and might be forced to trim payrolls.

Under normal circumstances, nominal interest rates tend to fluctuate up or down in response to expectations about future inflation.<sup>4</sup> Usually, a decline in expected inflation will lead to a decline in the nominal interest rate. However, once the nominal interest rate falls close to zero percent, a further decline in the expected inflation will cause the real interest rate to rise because the nominal interest rate has no room to fall further. Similar to the case of rising real wages, rising real

interest rates tend to depress economic activity by increasing the real cost of capital and discouraging borrowing among consumers and businesses.

Another way that deflation could depress economic activity and impair bank earnings is through "debt deflation". Deflation increases the real value of debt while decreasing the value of collateral for loans. The resulting deterioration in the corporate and household balance sheets, combined with a higher real interest rate, tends to weaken loan demand and could lead to a sharp increase in loan losses. As a result, deflation would have significant adverse effects on the banking industry, depending on its severity and duration.

### **What Were Previous Episodes of Deflation?**

In spite of potential damage deflation can bring upon the economy, not all deflation is harmful. For instance, China has experienced a steady decline in prices but also robust economic growth over the past five years.<sup>5</sup> But a number of deflationary episodes of the past coincided with prolonged recessions and banking crises, although there is no clear consensus among economists about a causal relationship between these events.<sup>6</sup> Examples of devastating deflationary experiences include a deflationary spiral during the Great Depression in the U.S. and a milder, but still damaging, deflation in Japan during the 1990s and early 2000s.

There is little question that a period of prolonged deflation would create severe consequences for the U.S. economy. During the Great Depression, between 1929 and 1933, the price level as measured by the GDP deflator fell by 22.5 percent.<sup>7</sup> During the same period, U.S. gross national product (GNP) fell by nearly 33 percent, while nominal wages and salaries fell by about 45 percent. More than 5,000 banks were closed for financial difficulties over the four-year period starting in 1929.<sup>8</sup>

Recent experience in Japan has proven that even gradual and prolonged deflation can have a debilitating effect on the economy and the banking sector. Between 1995 and 2001, the Japanese GDP deflator fell by 5.3 percent.<sup>9</sup> The real estate and stock prices have fallen further, which, in turn, has led to significant deterioration in the financial condition of Japanese banks. According to the Japanese Financial Services Agency, losses from nonperforming loan disposal for 13 major Japanese banks in fiscal year 2001 totaled 7.7 trillion yen (approximately \$65 billion), up nearly 80 percent from the previous year.<sup>10</sup>

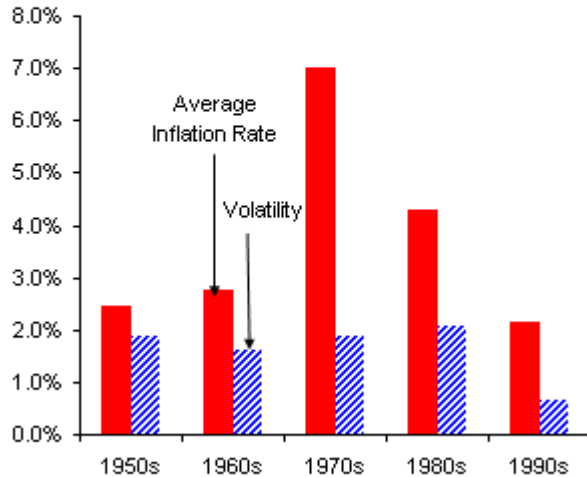
### **How Vulnerable Is the U.S. to Deflation?**

The inflation rate in the U.S. has been low and falling throughout the 1990s. Factors contributing to continued disinflation include global competition in many markets, robust gains in productivity, and a long-term monetary policy regime that has reduced inflationary expectations. The annual rate of price appreciation for the economy averaged about 2.1 percent in the 1990s compared with 7.0 percent and 4.3 percent, respectively, in the 1970s and the 1980s. Inflation rates were also less variable on a year-to-year basis in the 1990s compared to previous decades (see Chart 1). As was the case in the Japanese economy in the 1980s, this low and stable inflationary environment contributed to stable output growth in the U.S throughout most of the decade.<sup>11</sup>

Chart 1

**The U.S. Economy Enjoyed a Lower and More Stable Inflationary Environment in the 1990s**

Average and Standard Deviation of Annual Inflation Rates  
(GDP Deflator-Based)

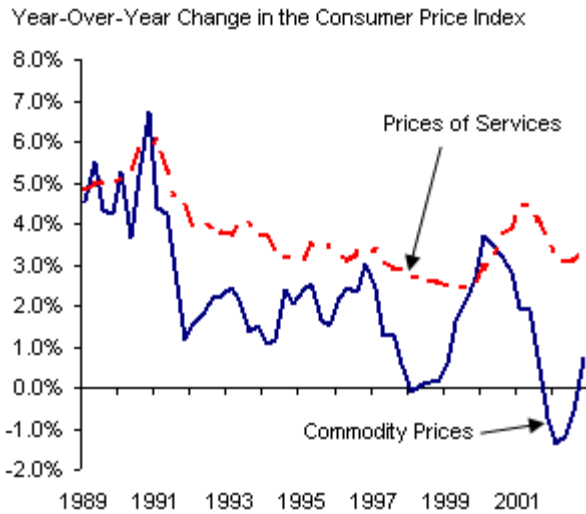


Source: Bureau of Economic Analysis

As U.S. inflation rates fell further during the recession that began in March 2001, some economists raised concerns about vulnerability of the U.S. economy to deflation. The GDP deflator increased by 1.1 percent in 2002, the smallest rise in this broad measure of inflation since 1961. Whether the current disinflationary trend is a precursor to outright deflation remains to be seen. In fact, not all prices for goods and services in the U.S. have experienced deflationary pressure. Some argue that the recent trend in aggregate prices is primarily driven by a decline in the price of goods and should not be viewed as the economy-wide trend. After declining through most of the year, consumer prices for commodities were up 0.8 percent in the fourth quarter of 2002 from the same quarter a year earlier, primarily due to a spike in energy prices (see Chart 2).<sup>12</sup> Consumer prices for durable goods continue to slide and they were down nearly 2.9 percent in the fourth quarter from the same quarter a year earlier. However, deflationary pressure on prices for nondurable goods may be easing somewhat. After falling five consecutive quarters, prices for nondurable goods, excluding foods and beverages, were up 3.4 percent in the fourth quarter.

Chart 2

**Consumer Commodity Prices Have Experienced Significant Deflationary Pressure While Prices For Services Continue To Rise**



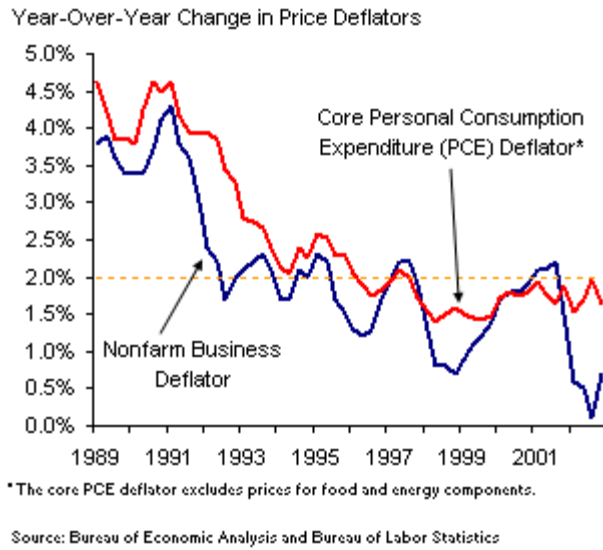
Source: Bureau of Labor Statistics

In comparison, year-over-year increases in consumer prices for services averaged above 3 percent throughout 2002.<sup>13</sup> In particular, prices for medical care and education rose by 5.0 percent and 6.5 percent, respectively, in December 2002 from a year earlier. The service sector has gained increasing importance in the U.S. economy over the past several decades, and now accounts for about 82 percent of total nonfarm employment. In addition, spending on services represents nearly 60 percent of all consumer spending. As a result, continuing service sector inflation may help the U.S. economy avoid general deflation.

While consumer price inflation seems to have stabilized somewhat in the second half of 2002, businesses continue to experience deflationary pressure on their output prices. The nonfarm business sector price deflator, a broad measure of output prices, increased by 0.1 percent in the third quarter of 2002 and 0.7 percent in the fourth quarter from year-ago levels (Chart 3). Output prices for the manufacturing sector showed more solid gains in the fourth quarter. Between the fourth quarter of 2001 and the fourth quarter of 2002, the producer price index for the manufacturing sector rose by 1.6 percent. But several industries, including textile, electrical and electronic equipment and transportation equipment, continue to experience significant deflationary pressure. The deflationary trend in output prices may partly explain weak corporate earnings and employment in the past few quarters.

Chart 3

**U.S. Businesses Have Experienced Significant  
Deflationary Pressure On Output Prices  
Since Late 2001**



### What Can Be Done?

Concerns about possible deflation in the U.S. are not new. In late 1997 and early 1998, many analysts expressed concerns about deflationary pressures resulting from the Asian currency crisis that helped drive the U.S. inflation rate to a 24-year low.<sup>14</sup> In fact, the consumer price inflation rate remained below two percent for six quarters starting in the fourth quarter of 1997. Several factors differentiate the current environment from that of the post-Asian crisis, and make deflationary concerns somewhat more relevant. First, unlike in 1998 when the economy was expanding rapidly, the U.S. economy is currently growing below its potential. Second, the U.S. economy has experienced large scale declines in major equity price indices since mid-2000, with concurrent excess capacity in certain industries. Finally, in response to weak economic conditions, the federal funds rate target has fallen to a 40-year low of 1.25 percent, limiting interest rate policy options.

Economists believe that the U.S. will not experience the emergence of a deflationary spiral involving a significant decline in the price level.<sup>15</sup> One important reason for this is that a key defense against deflation is an aggressive easing of monetary policy. The Federal Reserve lowered interest rates a record 11 times in 2001 by a total of 450 basis points, and then added another 50 basis point reduction in the federal funds rate in November 2002. However, according to Federal Reserve research, as the inflation target falls below two percent and moves towards zero percent, severe contractions, which could lead to deflation, become more likely.<sup>16</sup> Moreover, as the federal funds rate approaches zero ("zero nominal bound"), the Federal Reserves ability to use monetary policy to stimulate the economy becomes more limited. Most non-traditional monetary policy options that have been suggested are untested and, as a result, it is difficult to predict the

effectiveness of such policies.<sup>17</sup>

In addition, recent Japanese experience has shown that deflation is difficult to predict. Neither policymakers nor financial market participants seemed to have anticipated deflation in Japan.<sup>18</sup> Historical experience shows that once deflation takes hold, the cost of deflation to the economy can be potentially very large. As a result, many economists have recently advocated even more aggressive monetary easing in order to prevent deflation in the U.S.<sup>19</sup> Others have called for aggressive fiscal policies to stimulate the economy as room for further interest rate reductions has diminished.<sup>20</sup> In spite of the low probability of deflation, many economists believe that aggressive preemptive policies involving both monetary and fiscal authorities may be warranted in order to boost domestic demand and prevent deflation.

### **Is Deflation a Concern for the U.S. Banking Industry?**

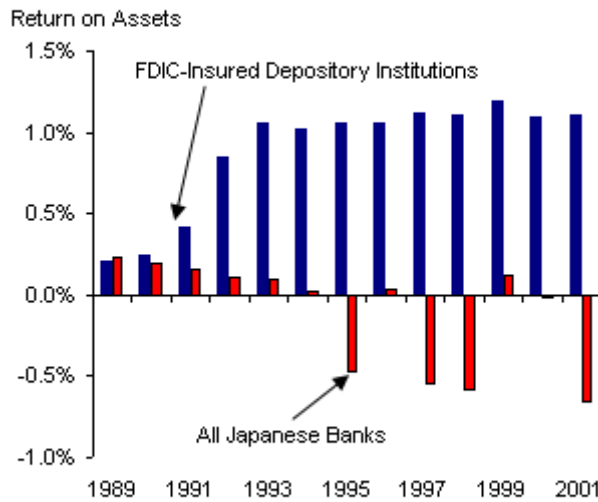
Depending on its structure and financial strength, the banking system plays an important role in either helping to avert or bring about deflation. Historical experience shows that banking systems that withstood the threat of deflation shared a few common characteristics. For instance, in comparing banking experience across countries during the Great Depression, Bernanke and James (1990) observed several structural differences between banking systems of countries that experienced a serious banking crisis and those that did not. The banking systems with greater diversification, limited equity participation, little short-term foreign deposits, strong balance sheet positions, or a previous history of fundamental reforms appeared to have weathered global deflation in the early 1930s better than others.

Based on these observations, U.S. banks would probably be able to withstand deflationary shocks better than Japanese banks. In light of recent U.S. banking history, various developments in the U.S. banking industry over the past decade likely have reduced its vulnerability to deflationary shocks. For instance, the U.S. banking industry has gone through significant geographic and product diversification over the past decade. This has helped the industry to better smooth out earnings throughout the national and regional business cycle. In addition, unlike Japanese banks, U.S. banks hold few corporate equities, limiting the industry's vulnerability to equity price declines.

Since the early 1990s, U.S. banks have been, in general, highly profitable and well capitalized. The return on average assets for FDIC-insured depository institutions reached 1.34 percent as of September 2002 while the equity ratio rose to 9.2 percent of total assets. By comparison, Japanese banks were significantly less profitable and less well-capitalized before the collapse of asset bubbles and subsequent deflationary recession. For example, at the end of fiscal 1989, the return on assets for Japanese banks was only 0.2 percent while the equity ratio was 3.0 percent.<sup>21</sup> Once asset prices collapsed, large direct corporate equity holdings and high exposures to real estate led to severely impaired earnings for Japanese banks. Deflation that began in the mid-1990s further contributed to these losses (see Chart 4). The reluctance of Japanese banks to recognize and dispose of nonperforming loans in turn imposed additional costs to carry them at book value, further depressing bank earnings.<sup>22</sup>

Chart 4

**As Japanese Banks Have Experienced Earnings Difficulties, U.S. Banks Have Remained Highly Profitable**



\* Return on asset figures for Japanese banks are as of the end of the fiscal year, which ends in March.

Source: FDIC Research Information System and Bank of Japan

U.S. banks would likely experience significant earnings pressure with deflation if it resulted in weak loan demand and rising loan losses. In particular, banks with relatively weak capital positions, low profitability or borrowers with a higher risk profile may face significant difficulties if deflation took hold and unexpected loan losses mounted. However, the ability of borrowers to refinance obligations at lower rates could somewhat soften the adverse effect of debt deflation on bank borrowers and the banking industry. New risk management tools such as credit derivatives may also help banks maintain their balance sheet strength even if a deflationary scenario were to develop.<sup>23</sup> In addition, the current financial strength of most U.S. banks likely provides a buffer against a potential surge in loan losses resulting from deflation.

**Conclusion**

Although deflation remains a remote possibility in the U.S., its potential high economic costs warrant continued discussion and research of the issue, as well as vigilance on the part of policymakers. A deflationary scenario is of particular concern to the banking industry. If a deflationary scenario were to develop, it could depress loan demand, impair the ability of borrowers to repay loans, and sharply reduce bank earnings. Past episodes of asset and goods price deflation has often coincided with banking crises particularly when it occurred where banks were already in weak financial condition. However, the resilience and flexibility of the U.S. economy and financial markets, combined with proactive monetary and fiscal policy responses to weakening demand, appear to have greatly reduced the likelihood of this scenario for the foreseeable future.

<sup>1</sup> In the case of the Great Depression, some economists believe that the interwar

gold standard system triggered global deflation. See Ben Bernanke and Harold James, "The Gold Standard, Deflation, and Financial Crisis in the Great Depression: An International Approach," *NBER Working Paper* 3488, October 1990.

<sup>2</sup> Deflation during 1949 likely reflects a post-war adjustment in the output and prices. Both GDP growth and the GDP deflator inflation rate showed high volatility during this period.

<sup>3</sup> Evidence on the existence of "nominal wage stickiness" is somewhat mixed. See Charles T. Carlstrom and Timothy S. Fuerst, "Perils of Price Deflations: An Analysis of the Great Depression," Federal Reserve Bank of Cleveland *Economic Commentary*, February 15, 2001 and Ben Bernanke and Harold James, October 1990.

<sup>4</sup> This is a famous Fisher equation, which equates nominal interest rate to real interest rate plus the rate of expected inflation. Between 1960 and the third quarter of 2002, the correlation between the GDP deflator inflation rate and the nominal interest rate was about 72 percent.

<sup>5</sup> Bruce Kasman and Robert Mellman, "Distinguishing Deflation from a Deflationary Trap", JPMorgan Chase *Economic Research Note*, October 4, 2002.

<sup>6</sup> Ben Bernanke and Harold James, October 1990 and Barry Eichengreen and Richard Grossman, "Debt Deflation and Financial Instability," University of California at Berkeley *Economics Working Paper* 94-231, June 1994. In the recent Japanese experience, deflation followed a collapse of equity and real estate price bubbles, recession, and a banking crisis. In turn, deflation appears to have exacerbated economic deterioration already underway.

<sup>7</sup> Data from Harold L. Cole and Lee E. Ohanian, "Re-Examining the Contributions of Money and Banking Shocks to the U.S. Great Depression," *NBER Macroeconomics Annual 2000*, edited by Ben Bernanke and Julio Rotemberg, Cambridge, MA.: MIT Press, 2001.

<sup>8</sup> Data from NBER Macrohistory database.

<sup>9</sup> Data from Economic and Social Research Institute, Cabinet Office, Government of Japan.

<sup>10</sup> The Japanese fiscal year ends in March. The dollar figure is based on the average dollar-yen exchange rate in January 2003.

<sup>11</sup> John B. Taylor, "Low Inflation, Deflation, and Policies for Future Price Stability," Prepared for the Ninth International Conference, "The Role of Monetary Policy under Low Inflation: Deflationary Shocks and Their Policy Responses," sponsored by the Institute for Monetary and Economic Studies, Bank of Japan, July 3-4, 2000.

<sup>12</sup> Commodity prices excluding food and energy commodities remain depressed and they were down 1.5 percent in December 2002 from a year earlier.

<sup>13</sup> One of the possible factors behind the disparity in the inflation rates for goods



and services is the difference in labor productivity. Official figures show significant productivity gains in the goods-producing sector while labor productivity has declined steadily in the service sector. However, these figures may be somewhat misleading because of difficulties associated with measuring service sector productivity.

<sup>14</sup> J. Bradford DeLong, "Why We Should Fear Deflation," Post-meeting draft for the Brookings Panel on Economic Activity, March 25-26, 1999. DeLong states that over the six-month period in late 1997 and early 1998, 438 newspaper articles were classified under the keyword "deflation." Also see Paul Bishop, "How Will the Expansion End?" *FDIC Regional Outlook*, Second Quarter 1998.

<sup>15</sup> John Taylor, July 3, 2002, posits that it may require about 2.5 percent annual deflation to trigger the deflationary spiral. Using this definition, even the Japanese economy is not currently experiencing a deflationary spiral.

<sup>16</sup> David Reifschneider and John C. Williams, "Three Lessons for Monetary Policy in a Low Inflation Era," Federal Reserve Board *Finance and Economics Discussion Series*, September 1999.

<sup>17</sup> For further discussion on monetary policy options, see James Clouse, et al., "Monetary Policy When the Nominal Short-term Interest Rate is Zero," Federal Reserve Board *Finance and Economics Discussion Series*, November 27, 2000.

<sup>18</sup> Alan Ahearne, et.al, "Preventing Deflation: Lessons from Japan's Experience in the 1990s," Federal Reserve Board *International Finance Discussion Papers*, June 2002.

<sup>19</sup> Ibid; Reifschneider and Williams, September 1999; Athanasios Orphanides and Volker Wieland, "Efficient Monetary Policy Design Near Price Stability," Federal Reserve Board *Finance and Economics Discussion Series*, December 1999.

<sup>20</sup> For a discussion of the role of fiscal policy in a low interest rate environment, see Martin Feldstein, "The Role for Discretionary Fiscal Policy in a Low Interest Rate Environment," National Bureau of Economic Research *Working Paper*, September 2002. However, some economists have questioned the role of fiscal policy in preventing deflation. See Marvin Goodfriend, "Financial Stability, Deflation, and Monetary Policy," Federal Reserve Bank of Richmond Working Paper, January 2001.

<sup>21</sup> Calculated by the author based on the data from the Bank of Japan. Financial statements of Japanese banks can be downloaded from [http://www.boj.or.jp/en/stat/stat\\_f.htm](http://www.boj.or.jp/en/stat/stat_f.htm). The equity-to-assets ratio may not be strictly comparable between the U.S. and Japanese banking systems due to differences in the way equity capital is calculated and the existence of hidden reserves in the value of stock ownership among banks and nonbank companies.

<sup>22</sup> Thomas F. Cargill, Michael M. Hutchison and Takatoshi Ito, "Asset-Price Deflation: Nonperforming Loans, *Jusen* Companies, and Regulatory Inertia," *The Political Economy of Japanese Monetary Policy*, The MIT Press: Cambridge Massachusetts, 1997.

<sup>23</sup> Charles T. Carlstrom and Timothy S. Fuerst, February 15, 2001.

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## About FYI

*FYI* is an electronic bulletin summarizing current information about the trends that are driving change in the banking industry, plus links to the wide array of other FDIC publications and data tools.

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**Chart 1**  
**The U.S. Economy Enjoyed a Lower and More Stable Inflationary Environment in the 1990s**

<b>Average and Standard Deviation of Annual Inflation Rates (GDP Deflator-Based)</b>		
	<b>Average Inflation Rate</b>	<b>Volatility</b>
1950s	2.45%	1.9%
1960s	2.75%	1.6%
1970s	6.99%	1.9%
1980s	4.27%	2.1%
1990s	2.14%	0.7%

Source: Bureau of Economic Analysis

**Chart 2**  
**Consumer Commodity Prices Have Experienced Significant Deflationary Pressure While Prices For Services Continue To Rise**

<b>Year-Over-Year Changes in the Consumer Price Index</b>		
	<b>Commodity</b>	<b>Prices of</b>

	<b>Prices</b>	<b>Services</b>
1989:Q1	4.53%	4.83%
1989:Q2	5.54%	4.97%
1989:Q3	4.33%	5.04%
1989:Q4	4.27%	4.98%
1990:Q1	5.27%	5.12%
1990:Q2	3.65%	5.32%
1990:Q3	5.18%	5.80%
1990:Q4	6.72%	5.86%
1991:Q1	4.39%	6.03%
1991:Q2	4.26%	5.34%
1991:Q3	2.89%	4.68%
1991:Q4	1.16%	4.50%
1992:Q1	1.56%	3.95%
1992:Q2	1.82%	4.06%
1992:Q3	2.21%	3.79%
1992:Q4	2.22%	3.81%
1993:Q1	2.42%	3.78%
1993:Q2	2.15%	3.94%
1993:Q3	1.39%	3.93%
1993:Q4	1.53%	3.70%
1994:Q1	1.09%	3.71%
1994:Q2	1.19%	3.31%
1994:Q3	2.38%	3.22%
1994:Q4	2.07%	3.11%
1995:Q1	2.37%	3.18%
1995:Q2	2.56%	3.47%
1995:Q3	1.64%	3.44%
1995:Q4	1.53%	3.48%
1996:Q1	2.19%	3.26%
1996:Q2	2.42%	3.11%
1996:Q3	2.36%	3.31%
1996:Q4	3.04%	3.30%
1997:Q1	2.45%	3.30%
1997:Q2	1.29%	3.13%
1997:Q3	1.33%	2.92%
1997:Q4	0.59%	2.87%
1998:Q1	-0.09%	2.70%
1998:Q2	0.07%	2.74%
1998:Q3	0.14%	2.61%
1998:Q4	0.14%	2.59%

1999:Q1	0.59%	2.50%
1999:Q2	1.62%	2.43%
1999:Q3	2.11%	2.49%
1999:Q4	2.69%	2.56%
2000:Q1	3.69%	2.94%
2000:Q2	3.45%	3.21%
2000:Q3	3.22%	3.70%
2000:Q4	2.83%	3.90%
2001:Q1	1.94%	4.43%
2001:Q2	1.93%	4.43%
2001:Q3	0.78%	4.08%
2001:Q4	-0.71%	3.67%
2002:Q1	-1.37%	3.12%
2002:Q2	-1.19%	3.09%
2002:Q3	-0.57%	3.12%
2002:Q4	0.74%	3.34%

Source: Bureau of Labor Statistics

**Chart 3**  
**U.S. Businesses Have Experienced Significant**  
**Deflationary Pressure On Output Prices**  
**Since Late 2001**

<b>Year-Over-Year Change in Price Deflators</b>		
	<b>Nonfarm Business Deflator</b>	<b>Core Personal Consumption Expenditure (PCE) Deflator*</b>
1989:Q2	3.9	4.21%
1989:Q3	3.6	3.84%
1989:Q4	3.4	3.88%
1990:Q1	3.4	3.80%
1990:Q2	3.4	4.25%
1990:Q3	3.7	4.63%
1990:Q4	4.1	4.50%
1991:Q1	4.3	4.62%
1991:Q2	3.8	4.17%
1991:Q3	3.6	3.94%
1991:Q4	3	3.92%
1992:Q1	2.4	3.94%
1992:Q2	2.2	3.83%
1992:Q3	1.7	3.44%

1992:Q4	2	3.29%
1993:Q1	2.1	2.79%
1993:Q2	2.2	2.73%
1993:Q3	2.3	2.66%
1993:Q4	2.1	2.40%
1994:Q1	1.7	2.12%
1994:Q2	1.7	2.05%
1994:Q3	2.1	2.38%
1994:Q4	2	2.26%
1995:Q1	2.3	2.59%
1995:Q2	2.2	2.53%
1995:Q3	1.7	2.28%
1995:Q4	1.5	2.27%
1996:Q1	1.3	2.04%
1996:Q2	1.2	1.87%
1996:Q3	1.3	1.74%
1996:Q4	1.7	1.83%
1997:Q1	2	1.97%
1997:Q2	2.2	2.11%
1997:Q3	2.2	1.98%
1997:Q4	1.9	1.73%
1998:Q1	1.3	1.54%
1998:Q2	0.8	1.39%
1998:Q3	0.8	1.52%
1998:Q4	0.7	1.57%
1999:Q1	0.9	1.50%
1999:Q2	1.1	1.45%
1999:Q3	1.2	1.42%
1999:Q4	1.4	1.48%
2000:Q1	1.7	1.71%
2000:Q2	1.8	1.80%
2000:Q3	1.8	1.76%
2000:Q4	1.9	1.79%
2001:Q1	2.1	1.94%
2001:Q2	2.1	1.78%
2001:Q3	2.2	1.65%
2001:Q4	1.5	1.88%
2002:Q1	0.6	1.52%
2002:Q2	0.5	1.70%
2002:Q3	0.1	1.96%
2002:Q4	0.7	1.65%

\* The core PCE deflator excludes prices for food and energy components.

Source: Bureau of Economic Analysis and Bureau of Labor Statistics

**Chart 4**  
**As Japanese Banks Have Experienced Earnings Difficulties, U.S. Banks Have Remained Highly Profitable**

Return on Assets		
	FDIC-Insured Depository Institutions	All Japanese Banks
1989	0.2%	0.2%
1990	0.2%	0.2%
1991	0.4%	0.2%
1992	0.9%	0.1%
1993	1.1%	0.1%
1994	1.0%	0.0%
1995	1.1%	-0.5%
1996	1.1%	0.0%
1997	1.1%	-0.5%
1998	1.1%	-0.6%
1999	1.2%	0.1%
2000	1.1%	0.0%
2001	1.1%	-0.7%

\* Return on asset figures for Japanese banks are as of the end of the fiscal year, which ends in March.

Source: FDIC Research Information System and Bank of Japan

**Chart 4**  
**As Japanese Banks Have Experienced Earnings Difficulties, U.S. Banks Have Remained Highly Profitable**

Return on Assets		
	FDIC-Insured Depository Institutions	All Japanese Banks
1989	0.2%	0.2%
1990	0.2%	0.2%
1991	0.4%	0.2%

1992	0.9%	0.1%
1993	1.1%	0.1%
1994	1.0%	0.0%
1995	1.1%	-0.5%
1996	1.1%	0.0%
1997	1.1%	-0.5%
1998	1.1%	-0.6%
1999	1.2%	0.1%
2000	1.1%	0.0%
2001	1.1%	-0.7%

\* Return on asset figures for Japanese banks are as of the end of the fiscal year, which ends in March.

Source: FDIC Research Information System and Bank of Japan