Prudential Financial

RESEARCH

IS DEFLATION A PROBLEM?

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Topical
Study
#61

All important disclosures can be found at the end of this report.

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I. Deflation & Earnings

How bearish should equity investors be about deflation? How bullish should bond investors be about the prospects for falling prices? In recent weeks, both bond and stock prices have been rising. This is quite a change from the typical pattern over the past year, when they tended to move in opposite directions. For example, during early October 2002, as the Dow Jones Industrials Average (DJIA) plunged to the year's low of 7286, the ten-year yield plunged to 3.61%. Now that the yield is back around this level again, the DJIA is over 8700.

Apparently, bond investors are still betting on deflation, while equity investors are more relaxed about this issue than they were last fall. So who is right? They both are, in my opinion. I have long argued that deflation is a long-term secular problem that might defy monetary policymakers (Figure A). I still believe it is. However, I also expect that over the short run—through the end of next year—there are at least five sources of cyclical economic stimulus that collectively should be sufficient to deflect, though not defeat, the forces of deflation:

1) Oil prices have dropped significantly since the winter. In effect, this is a tax cut for consumers of petroleum products.

2) Congress is likely to enact the most stimulative of the administration's tax-cut proposals, i.e., the reduction in marginal personal income tax rates.

3) The Fed continues to flood the economy with liquidity. Savings deposits are up to a record $3.0 trillion. Bank liquidity measures are improving. Homeowners continue to refinance their mortgages and cash out some of their home equity.

4) The weaker dollar is likely to boost exports and profits.

5) Credit quality spreads have narrowed dramatically since the start of the year.

While I expect a cyclical recovery in profits this year and next, deflation is likely to pose a challenge for long-term earnings growth over the next several years. By definition, profits are equal to revenues multiplied by the profit margin, i.e., profits divided by revenues. The first variable (a.k.a. sales) mostly determines the trend of earnings, since the second variable is very cyclical and trendless. Of course, revenues also have a cyclical component, which is coincident with the cycle in the profit margin. Inflation obviously directly influences revenues growth. It seems to have much less impact on the profit margin, as I demonstrate below.

Figure A: Can Monetary Policy Stop Deflation?

During the 1990s, I wrote a series of Topical Studies titled "The Economic Consequences Of The Peace." One of my themes has been that there are only two eras in human history, namely wars and peace. A glance at the Consumer Price Index in the United States since 1800 strongly suggests that wars are inflationary and peace times are deflationary. This makes sense to me. Power is concentrated in the government during wars. Markets tend to be monopolized, protected, subsidized, corrupted, and inflation-prone. Power shifts to business and consumers during peace times as governments negotiate free trade agreements to gain access to foreign markets. Markets around the world become more competitive and prone to deflation.

Since the end of the Cold War, deflationary forces have been offset by easy monetary policy. However, these forces were not defeated and were actually reinforced when China joined the World Trade Organization (WTO) at the end of last year. The Bank of Japan ran out of basis points to fight deflation when the official bank rate was dropped to near zero in the late 1990s. The Fed has only 125 basis points left. The European Central Bank still has 250 basis points left.

Deflation is a very unstable and potentially dangerous economic environment. Macroeconomists, particularly monetarists, believe it can be overcome by pumping up the money supply. I am not so sure. I believe that it is a consequence of increasingly competitive markets resulting from peace, free international trade, industrial deregulation, technology, and productivity. Therefore, deflation is inherently a microeconomic problem rooted in the competitive structure of markets and not easily eliminated using stimulative monetary and fiscal policies. It is also a political problem. As economist Joseph Schumpeter has observed, capitalism is a process of creative destruction. But what if uncompetitive companies remain in business even when market forces make them unprofitable? They can do so by gaining political support, either through corrupt means or by claiming that too many jobs will be lost if they are not protected by the government.

The result is zombies, the living-dead companies that should be buried but continue to produce, thus causing deflation in their industry. Japan is full of such zombies. The U.S. steel industry has zombies, and now so do airlines and telecommunications. WorldCom became a zombie a couple of years ago, although we only found out about it at the end of June 2002, when the company disclosed that its earnings had been fraudulently overstated for the past few years.

If deflation is a structural global problem that defies macroeconomic solutions, then there are two possible scenarios for the economic outlook, sweet and sour:

In the sweet version, companies offset the competitive pressure on their prices with productivity gains. The gains benefit mostly consumers as wages rise faster than prices. As long as consumers spend their real income, productivity continues to grow and the overall economy continues to prosper. Individual companies can prosper and be very profitable in this scenario, but they can also go out of business if they fail to stay ahead of their competitors.

In the sour version, competition is so intense that profits are depressed, forcing companies to slash their payrolls in desperate attempts to cut costs and boost productivity. Consumer confidence falls as the jobless rate rises. Consumer spending is depressed by the worsening employment situation and by perceptions that there is no rush to buy when prices are falling.

Inflation could make a comeback if political forces are marshaled to reduce competition by increasing trade protectionism and industrial regulation. The war against terrorists could become inflationary if they are successful in disrupting world trade.

Source: Prudential Securities.

Lower inflation, or outright deflation, depresses the growth in revenues and in profits. In this study, I use the nominal GDP of nonfinancial corporations to measure revenues. This measure is somewhat correlated with sales per share of the 400 industrial companies included in the S&P 500 (Figure 1, top panel). During the 1970s, when inflation was high, nominal GDP for nonfinancial corporations rose 10.5% per year, on average. The average growth rates were 7.4% and 7.2% during the less inflationary 1980s and 1990s, respectively. From 1994 through 1999, inflation—as measured by the GDP price deflator for nonfinancial corporations—averaged only 0.8% per year. However, real GDP growth was very robust, averaging 5.3% per year over this period (Figure 1, middle panel).

Over the next few years, real GDP growth is likely to be more normal, averaging about 3% per year, while inflation might be 1% or less. If so, then revenues aren't likely to grow faster than 4%. Last year, there was a hint of deflation when the price index for nonfinancial corporations fell 1.3% during the third quarter from a year ago (Figure 1, middle panel). I expect a cyclical upswing back into positive, though near zero, territory this year and next. The trendline, however, is still pointing to more deflationary challenges over the years ahead.

As mentioned above, inflation seems to have little impact on the profit margin. Profits and sales are both in current dollars. So the ratio tends to wash out the impact of prices. Also, productivity growth tends to be inversely correlated with inflation. Recently, weak pricing has been offset by strong productivity (Figure 1, bottom panel). A glance at the relationship between inflation and the profit margin shows that they sometimes move in opposite directions, especially at cyclical extremes (Figure 2). That's because the inflation peaks of the past four decades triggered Fed-led recessions, which depressed sales, productivity, and the profit margin.

Interestingly, the profit margin is very highly correlated with the total capacity utilization rate, which at 74.4% during April remained at a cyclical low (Figure 3). Given the significant efforts to cut costs and boost productivity in recent years, a normal cyclical recovery in capacity utilization could produce better-than-expected earnings even if pricing remains challenging. In other words, operating leverage could be surprisingly strong.[1]

II. The Dollar & Inflation

Of the five sources of economic stimulus that I expect should avert deflation, at least over the short run, the weak dollar is the one with the most immediate inflationary punch. There is a very strong inverse correlation between the trade-weighted dollar and nonpetroleum import prices in the U.S. (Figure 4, top panel). When the dollar is strong (weak), import prices tend to weaken (strengthen). The fall in the dollar over the past year means that Americans are paying more for imported goods and services.

[1] The bearish spin, of course, is that the "hollowing out" of the U.S. manufacturing sector means that there will never be a cyclical recovery in capacity utilization again. This extremely pessimistic viewpoint reminds me of the widely held view in 1999 that "New Economy" prosperity might last forever.

Import prices have a significant impact on the Producer Price Index (PPI), especially at the intermediate stage of production. The PPI includes only the prices charged by domestic producers for the goods they produce in the United States. They tend to rise (fall) when import prices are rising (falling), because domestic producers respond to pricing pressures from overseas competitors (Figure 4, middle panel).

The corporate earnings cycle coincides with the cycles in both the PPI and import prices (Figure 4, lower panel). This is mostly because better pricing boosts revenues and therefore earnings.

III. Long PPI & Short CPI

In an inflationary environment, companies face little resistance when they pass rising costs through to their customers by raising their prices. In a deflationary environment, prices paid for inputs might continue to rise even though prices received for output are falling. This seems to be happening now. To see this, let's compare the CPI and PPI. The ratio of the CPI and PPI—both excluding food and energy—has been falling at a faster and faster pace since 1997. Of course, the CPI includes the prices of services and imported goods, which are not included in the PPI. Nevertheless, if we take the ratio of the core CPI to the core PPI just for consumer goods, the drop in the ratio since 1997 actually has been somewhat greater (Figures 5 and 6). Investors who expect this trend to persist might want to find ways, in effect, to go long the PPI while shorting the CPI.

Over the past year, soaring energy prices have boosted both the CPI and the personal consumption expenditures deflator (PCED), which is Fed Chairman Alan Greenspan's preferred measure of consumer prices (Figure 7, top panel). The core PCED inflation rate has been hovering between 1% and 2% since 1998. The core CPI rate fell to only 1.5% during April, down from 2.5% a year ago and the lowest rate since 1966 (Figure 7, middle panel).

The recent drop in the core CPI inflation rate is contributing to rising concerns that the economy may be heading more rapidly toward deflation. Of course, several key CPI prices, including for new cars and clothing, are already in the deflationary zone (Figure 8). However, among the biggest contributors to the recent drop in the CPI inflation rate are the rent components. "Rent of Primary Residence" represents only 6.5% of the CPI index. However, "Owner's Equivalent Rent of Primary Residence"—which is the imputed rent that homeowners would pay themselves and is based on actual rental data—makes up 22.2% of the index. On a year-over-year basis, both of these rent indexes are down about 150 basis points to 3% (Figure 9). As mortgage rates have plunged, more people have decided to buy a home rather than to rent. Undoubtedly, actual rent inflation has declined as a result. Imputed rent inflation experienced by homeowners may also be down thanks to mortgage refinancing, more than offsetting rising home prices.

There is an interesting positive correlation between the inflation rate of the CPI's Rent of Primary Residence Index and the yearly percent change in wages as measured by Average Hourly Earnings (Figure 10). Apparently, employers tend to compensate their workers for the cost of housing. The significant drop in wage inflation over the past two years may be mostly a consequence of the weaker economy, but it may also reflect the fact that rents are rising at a slower pace. Concerns about soaring home prices and a housing bubble are exaggerated, in my opinion. Only in the Northeast are existing home prices rising at a double-digit pace—i.e., 14.3% over the past 12 months through March—and that's after very low single-digit gains during the 1990s. Home value appreciation rates remain very tame in the rest of the country: up 5.8%. 6.2%, and 5.9% in the North Central, South, and West, respectively (Figure 11). This is hardly a housing bubble; nor is it deflation.

IV. The Global Links

During the 1990s, it was widely believed that deflation was mostly Japan's problem. Japanese prices have been falling since the early 1990s. Today, the ten-year government bond yield in Japan is down to only 0.6% from over 8.0% at the beginning of the 1990s. In the United States, some prices have been falling over the past few years and the ten-year bond yield recently dropped to only 3.46%, its lowest reading in 45 years (Figure 12).[2]

In Figure A, I explain why deflation is actually a consequence of the globalization of markets following the end of the Cold War. So it isn't just Japan's problem. The impact of globalization on the United States is evident when we calculate U.S. merchandise imports as a percentage of manufacturing shipments plus merchandise imports. This measure of the import penetration of domestic demand for goods sold in the United States has soared to 24% recently from 14% during the late 1980s (Figure 13).

The widespread belief that China has been the major cause of deflation in the U.S. is not yet supported by the data. China's import penetration rate was only 2.5% during March (Figure 13). On the other hand, China is gaining share quickly. Imports from China now account for 11% of total merchandise imports, up from only 2% at the end of the 1980s.

V. Investment Conclusions

I think it is safe to assume that short-term interest rates will remain near zero in the major industrial economies for the foreseeable future. Consequently, returns on bank deposits and money market securities are likely to remain unrewarding. The Federal Open Market Committee (FOMC) mentioned the risk of deflation for the first time in a May 6, 2003, press release: "[Over the next few quarters,] the probability of an unwelcome substantial fall in

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[2] For example, April's finished goods PPI excluding food and energy fell 0.9% from the previous month and 0.2% from a year ago. Excluding autos and tobacco, the finished goods core PPI was up 0.2% during the month.

inflation, though minor, exceeds that of a pickup in inflation from its already low levels."[3] Even the European Central Bank (ECB) is worried. In a May 8, 2003, press release, the ECB announced that instead of defining "price stability" as a CPI inflation rate below 2%, the aim now is to achieve an inflation rate close to 2%: "This clarification underlines the ECB's commitment to provide a sufficient safety margin to guard against the risks of deflation."[4]

If central banks are likely to maintain near-zero interest rates in their effort to avoid deflation, then bond yields might continue to converge down toward short-term interests rates, as they have in Japan. As long as deflation is delayed and as long as the forces of cyclical economic stimulus are effective, credit-quality spreads might continue to narrow.

Equity investors should lower their expectations for sustainable long-term earnings growth. Look for companies that have a history of successfully competing in highly competitive businesses and are paying dividends. It may be harder to find companies that can boost their revenues and earnings by raising their prices. However, it is not impossible. Dick Rippe, our chief economist, recently identified several industries that still are raising prices.[5]

Nevertheless, most companies will continue to do what they've been forced to do in recent years, namely squeeze more profits growth out of relatively slow revenues growth. Here are a few more investment conclusions:

1) Companies that can generate earnings growth of 5% to 10% should be viewed as growth stocks rather than defensive stocks.

2) Housing-related businesses—including homebuilders and mortgage lenders—are likely to remain very profitable as long as the Fed is forced to keep interest rates low to offset deflation.

3) Healthcare services, medical equipment, and biotech companies may continue to have more pricing power and better earnings growth than can be found in other industries.

4) Media companies might do relatively well as companies are forced to spend more on advertising to boost their sales.

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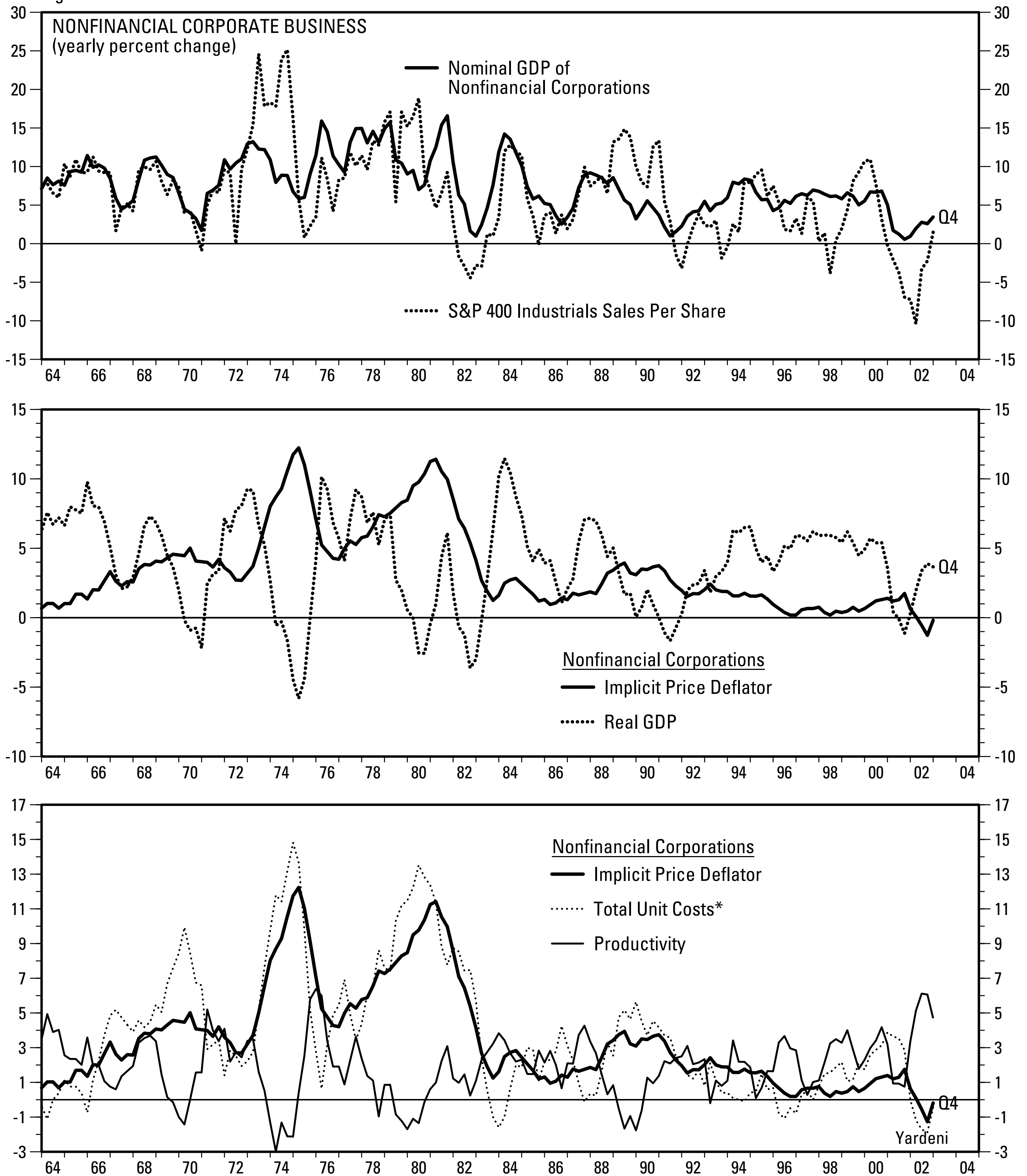
[3] http://www.federalreserve.gov/boarddocs/press/monetary/2003/20030506/default.htm
[4] http://www.ecb.int/
[5] "Economic Outlook: Focus On…Pockets Of Pricing Power," Prudential Financial, May 13, 2003.

Inflation & Revenues

Figure 1.

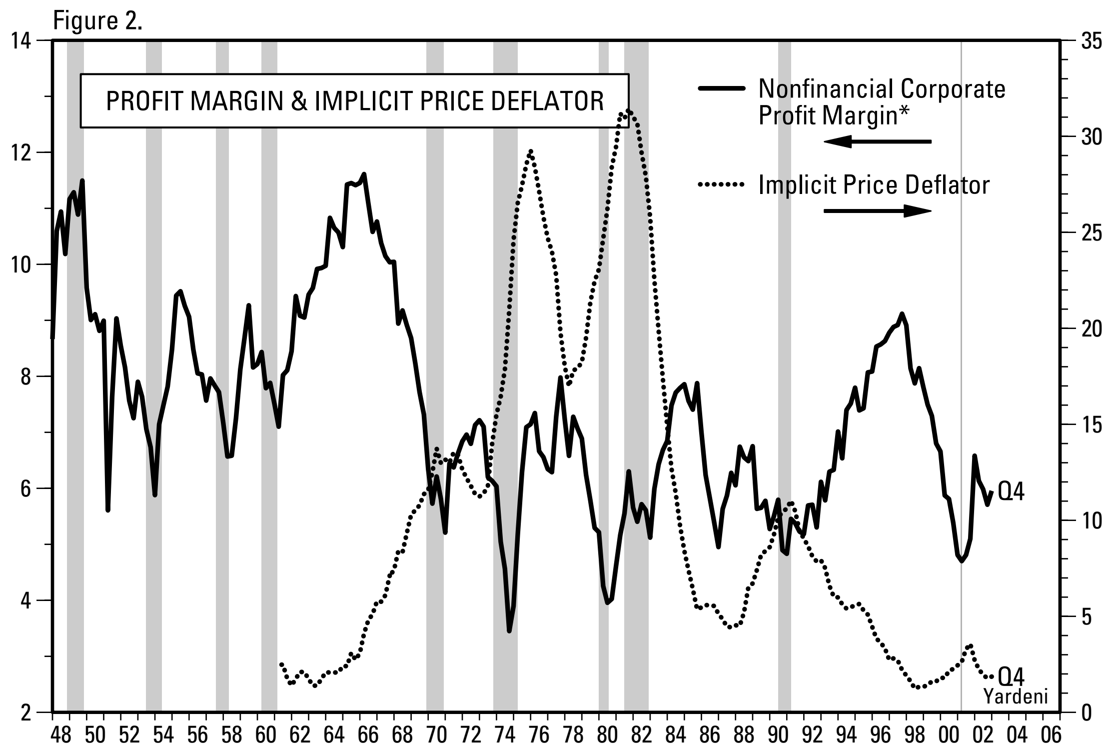


* Sum of unit labor and nonlabor costs.
Source: U.S. Department of Commerce, Bureau of Economic Analysis and Standard & Poor's Corporation.

Inflation & Profit Margins

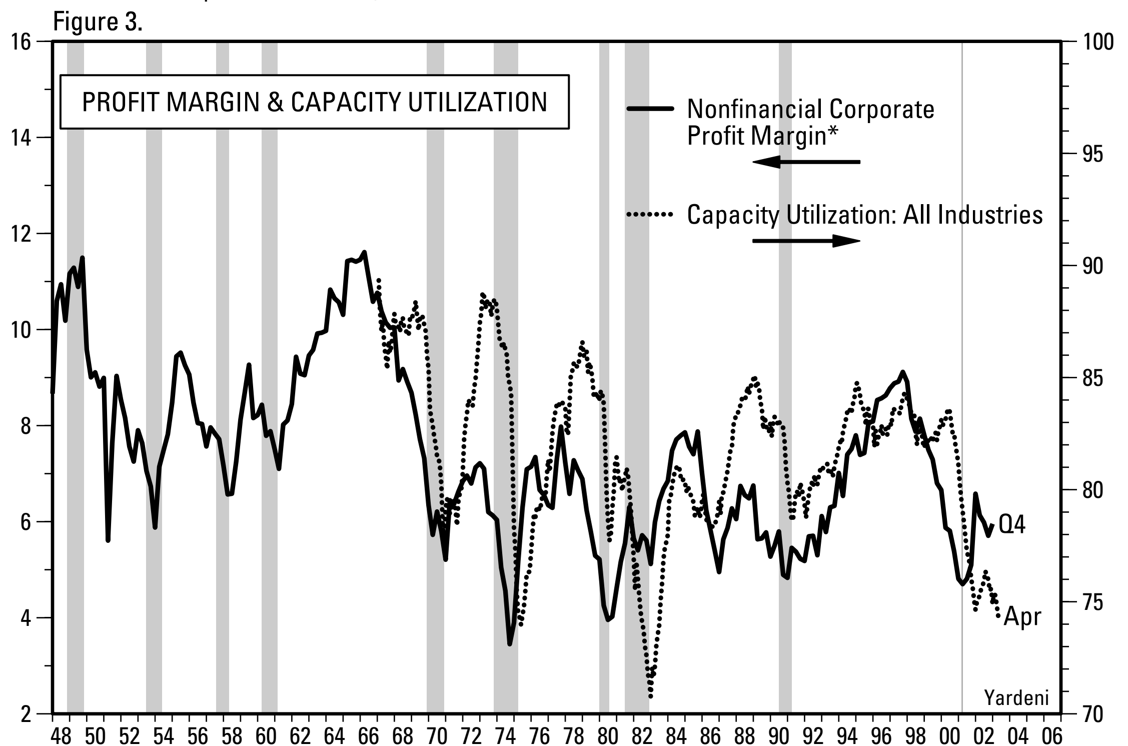
Profit margin and inflation cycles tend to move inversely. The profit margin is very positively correlated with capacity utilization.

Figure 2.



* After-tax profits including Inventory Valuation Adjustment (IVA) and Capital Consumption Adjustment (CCAdj) divided by nominal GDP.
Note: Shaded areas are recessions according to the National Bureau of Economic Research, which determined that a peak in business activity occurred in the U.S. economy in March 2001.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Figure 3.



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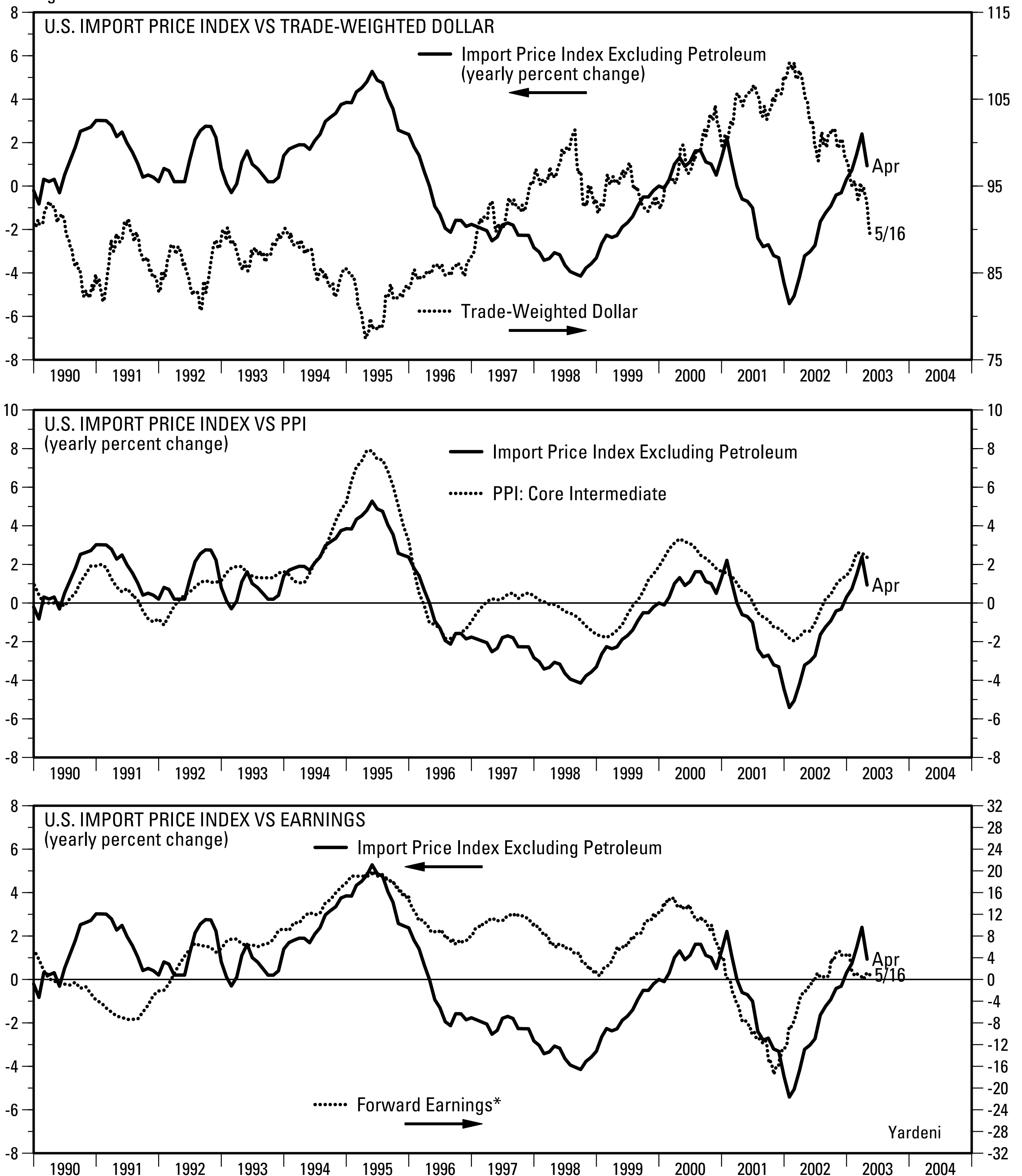
Note: Shaded areas are recessions according to the National Bureau of Economic Research, which determined that a peak in business activity occurred in the U.S. economy in March 2001.
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Inflation & Import Prices

Figure 4.

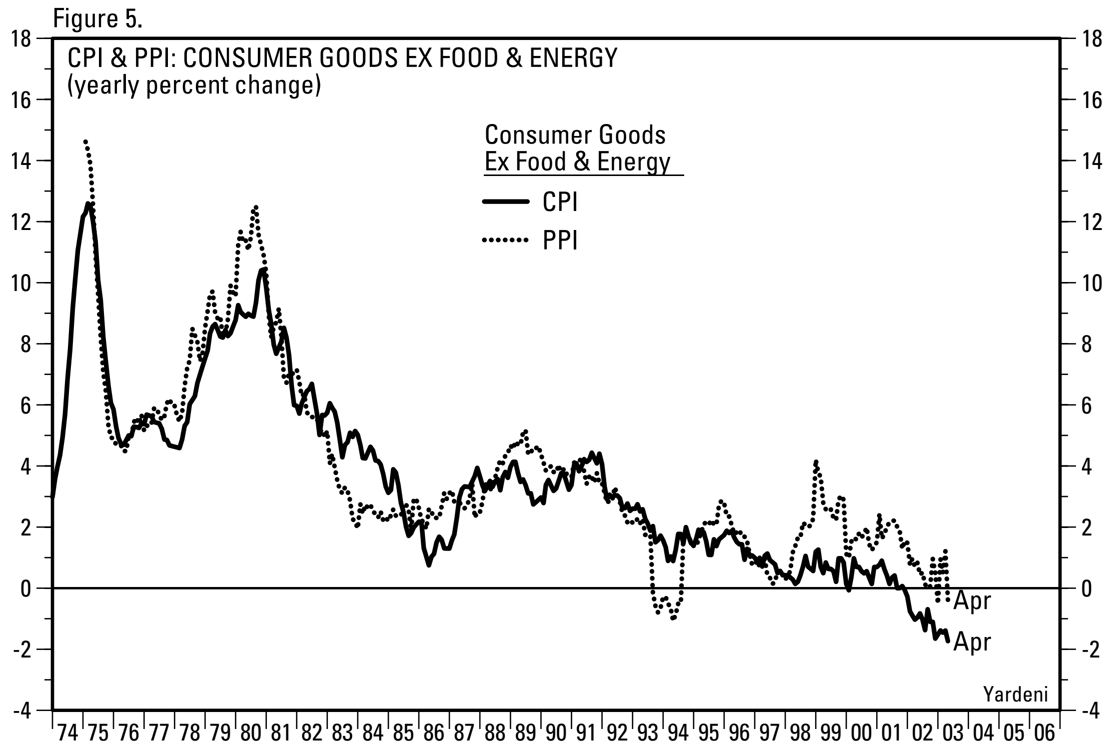


* 52-week forward consensus expected S&P 500 operating earnings per share. Time-weighted average of current-year and next-year consensus forecasts.
Source: Board of Governors of the Federal Reserve System, U.S. Department of Labor, Bureau of Labor Statistics and Thomson Financial.

PPI VS CPI

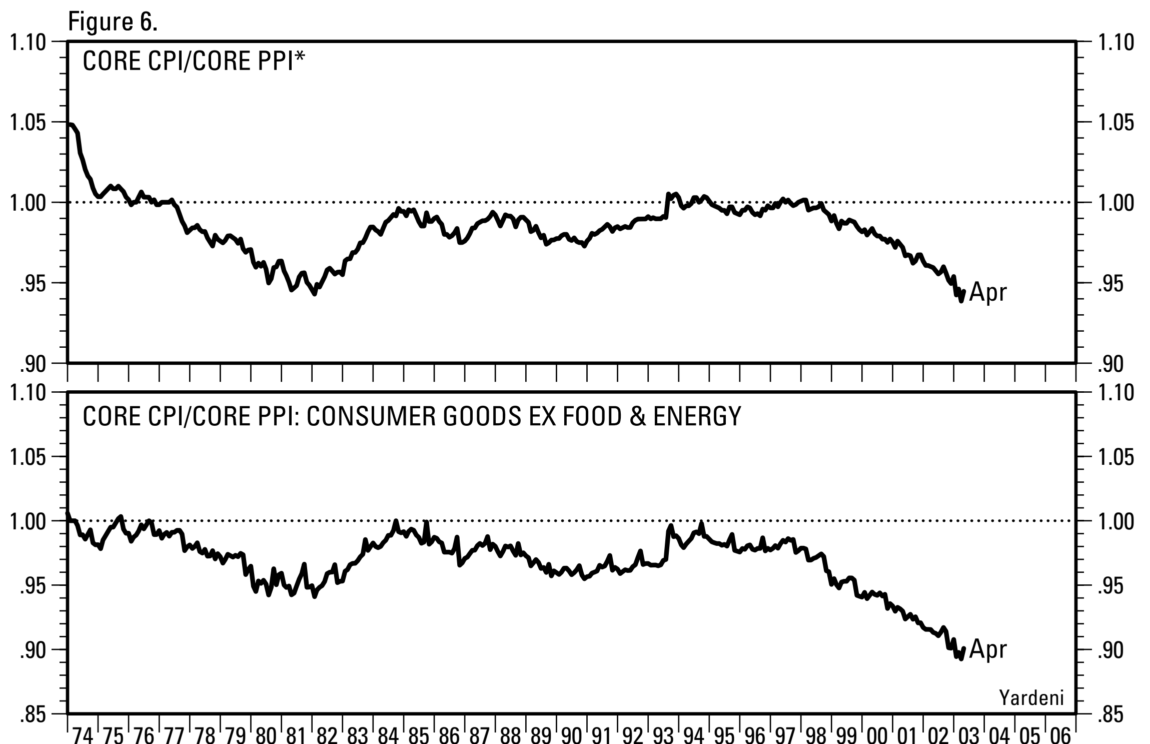
There is more pricing power at the producer level than at the consumer level.

Figure 5.



Source: U.S. Department of Labor, Bureau of Labor Statistics.

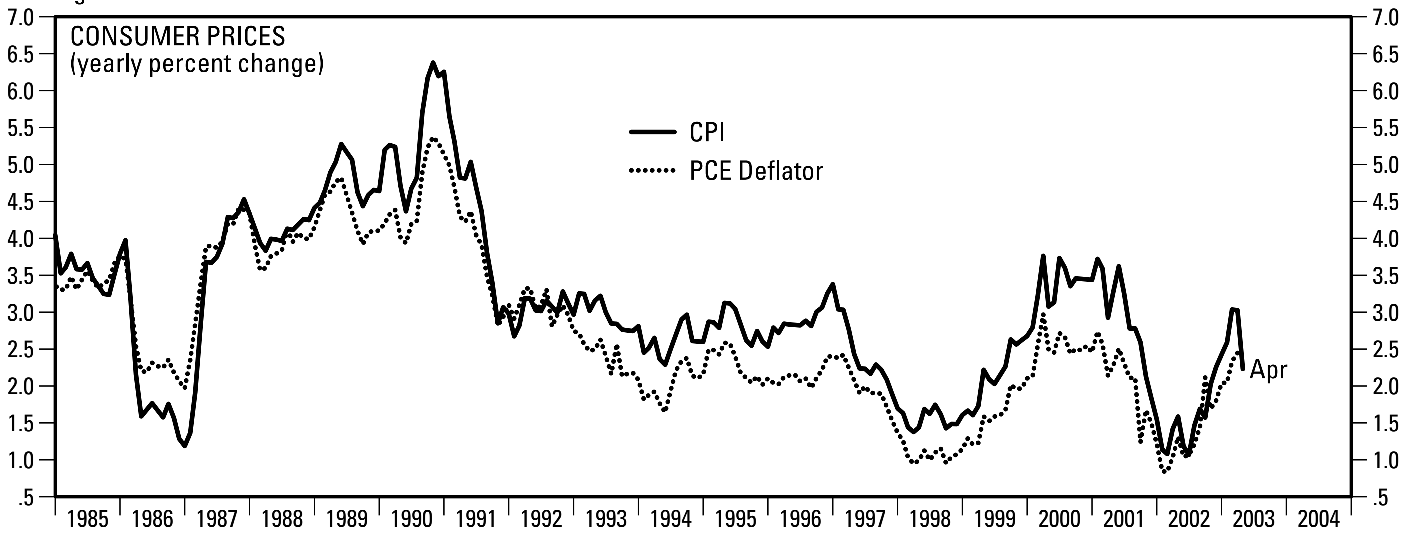
Figure 6.

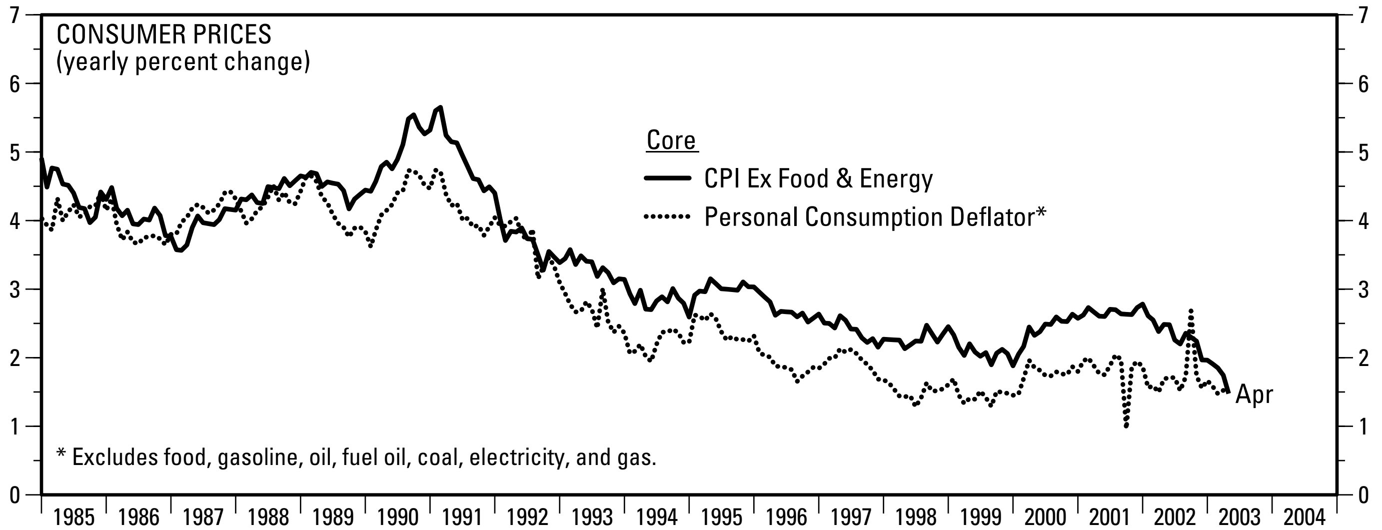


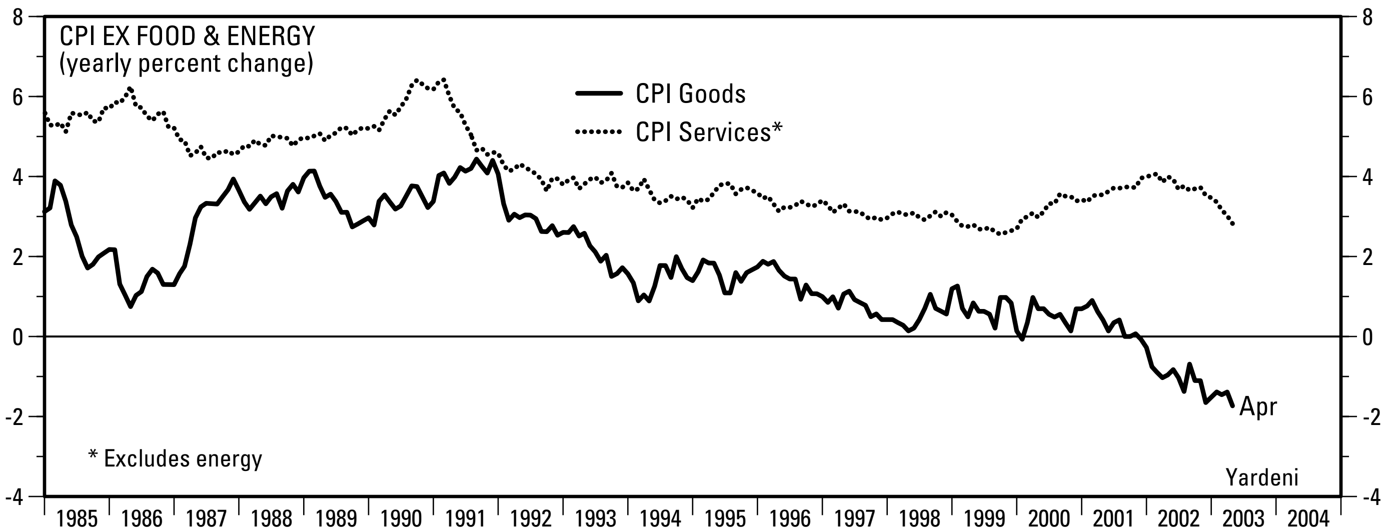
* Both exclude food and energy.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Consumer Prices

Figure 7.



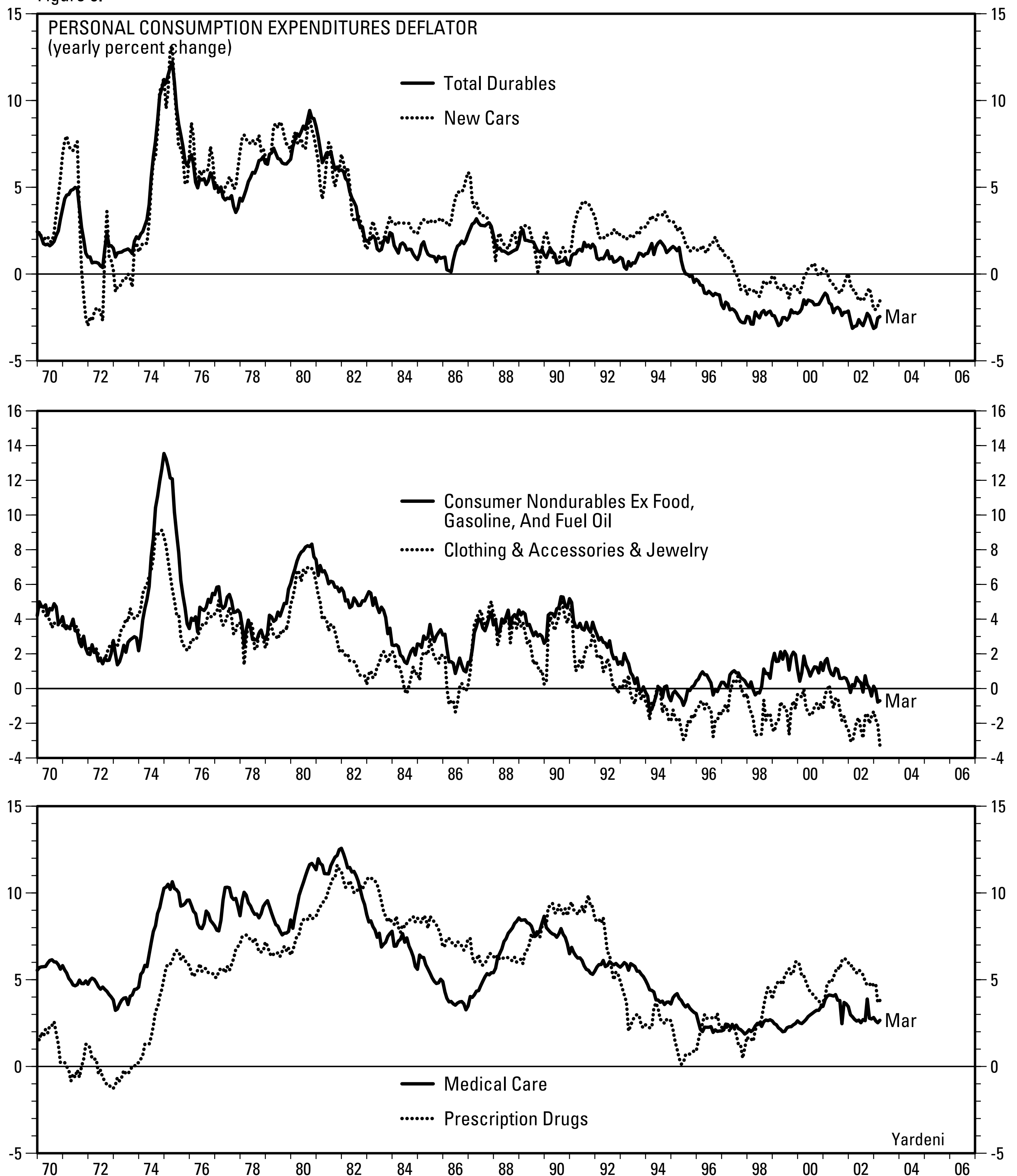




Source: U.S. Department of Commerce, Bureau of Economic Analysis and U.S. Department of Labor, Bureau of Labor Statistics.

Selected Consumer Prices

Figure 8.

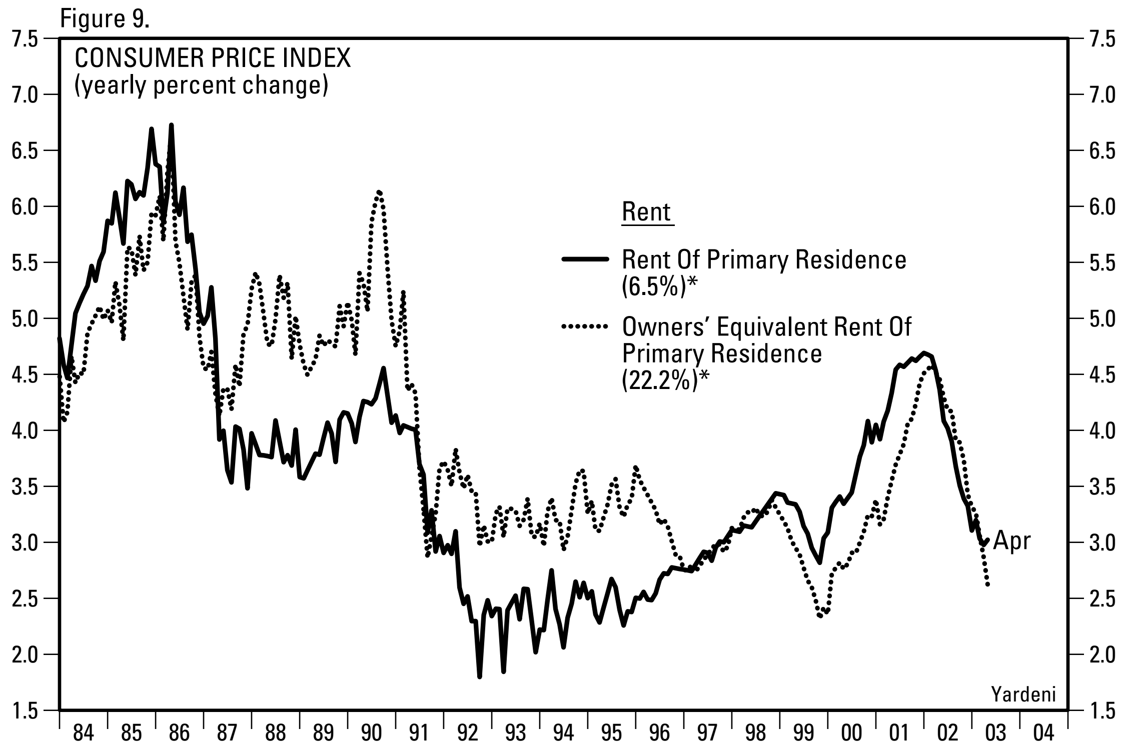


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Housing Costs

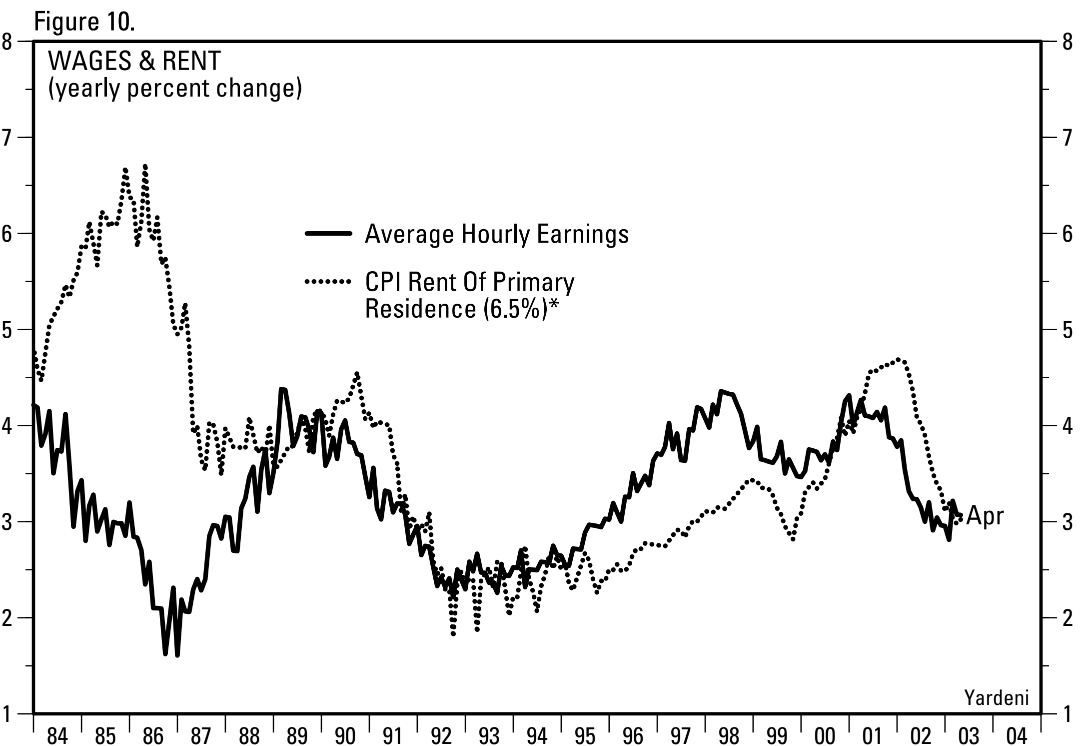
Rent components account for 29% of CPI and have been disinflating dramatically over the past year.

Figure 9.



* Numbers in parenthesis are CPI weights.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

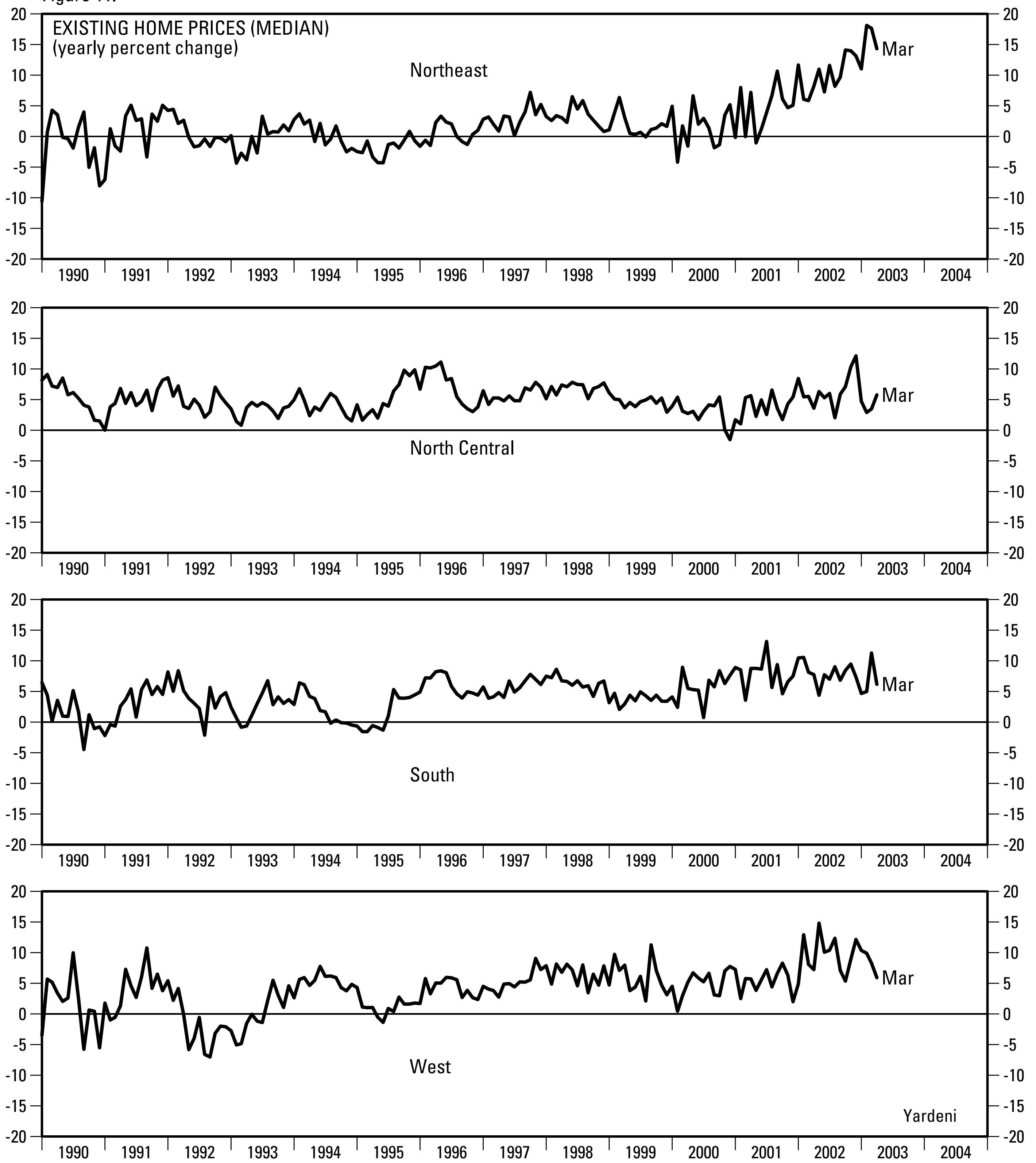
Figure 10.



* Number in parenthesis is CPI weight.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Existing Home Prices

Figure 11.

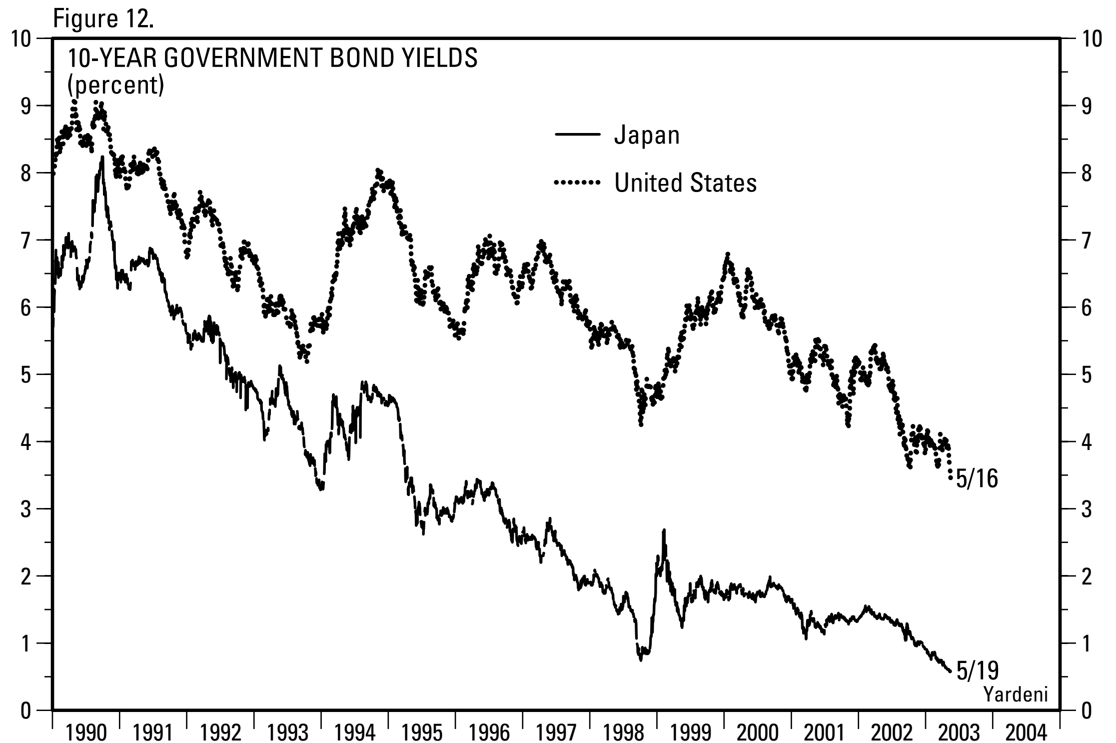


Source: National Association of Realtors.

Global Deflation

Deflationary pressures pull Japanese bond yield close to zero.

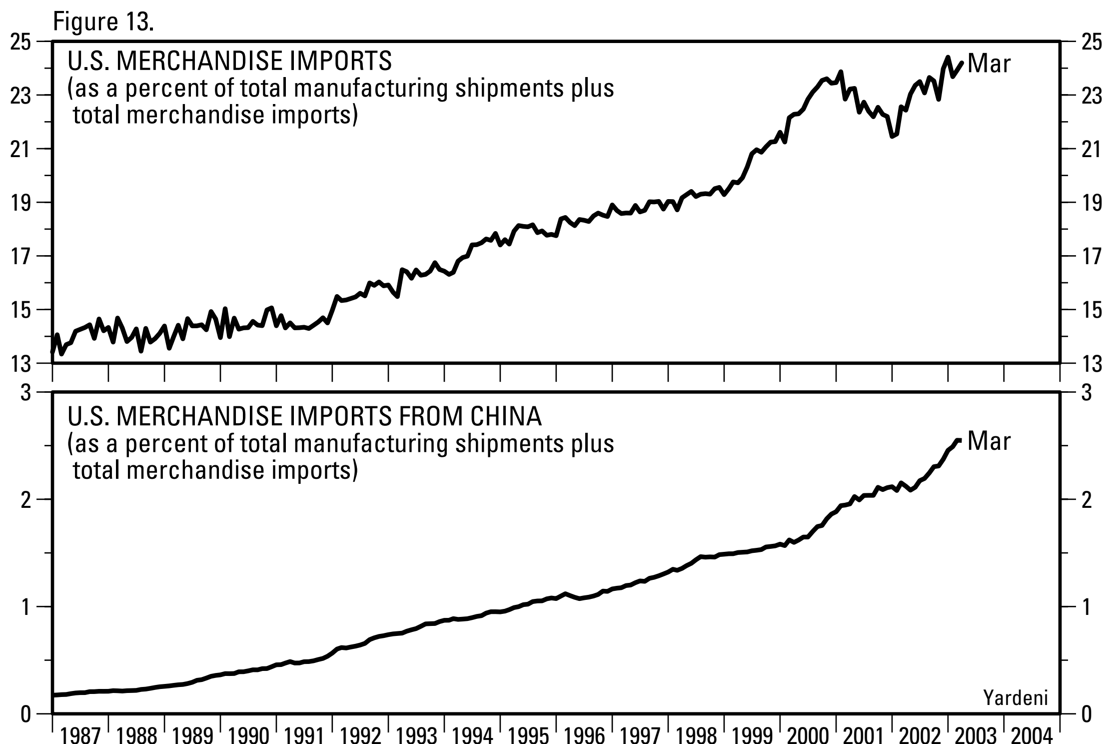
Figure 12.



Source: Board of Governors of the Federal Reserve System, MMS International.

Intense global competition is a major source of deflation in U.S. Imports now account for almost one quarter of goods transactions in the U.S. China's import pentration is still very low at 2.5%, but increasing rapidly.

Figure 13.



Source: U.S. Department of Commerce, Bureau of the Census.

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Excludes Closed End Funds		
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