

Time to Worry About Price Inflation?

The rate of price inflation has increased in recent months, prompting the Fed to continue pushing interest rates higher. But where is price inflation headed? The evidence suggests that the indicators that are widely used to predict consumer prices are not very useful. Either they are unreliable or their signals come too late to provide a timely warning to forecasters and policymakers.

Is price inflation poised to heat up again? The Federal Reserve thinks it might be. On May 16 the Fed raised the federal funds rate, a key short-term rate, by 50 basis points to 6.5 percent. It also increased the discount rate by 50 basis points to 6 percent. This is the sixth time the Fed has raised rates since last June, when the federal funds rate was 4.75 percent. According to a statement that accompanied the latest increase, Fed policymakers are concerned about potential “inflationary imbalances” in the economy, and they believe “the risks are weighted mainly toward conditions that may generate heightened inflation pressures in the foreseeable future.”

Ironically, the same day the Fed announced its latest rate hike, it was reported that the Consumer Price Index (CPI) was unchanged in April. However, the CPI increased at an annual rate of 8.7 percent in March, largely due to higher energy prices. During the first four months of 2000, the CPI rose at a 4.3 percent seasonally adjusted annual rate, compared with an increase of 2.7 percent for all of 1999 and just 1.6 percent in 1998.

Not too long ago, some analysts proclaimed that the era of price inflation was over and the United States was heading toward a new era of deflation, in which falling prices would become as common as rising prices were in the 1970s and 1980s. In 1998 the prices of many commodities and raw materials declined. The price of crude oil plummeted, and the prices of copper, aluminum, iron, cotton, wool, and other raw materials dropped sharply. Prices for computers and other electronic products continued their long-term decline, and even some new cars cost less than the models they were replacing.

In 1999, however, price trends re-

versed. Commodity prices increased, led by crude oil, and the CPI accelerated. Talk of deflation faded, and attention shifted to possible harbingers of further increases in the rate of price inflation. The most widely followed “leading indicators” of consumer prices are the prices of inputs to production — materials and labor — and the money supply. The price of gold is also considered by some to signal future price trends. In this report, we review the recent trends in these indicators and evaluate their usefulness in predicting prices.

Producer Prices

It is usually assumed that changes in wholesale prices lead to changes in consumer prices, because the prices producers pay for goods and materials presumably are passed along to consumers. The producer price index (PPI) for finished goods — that is, machinery, equipment, office furniture, trucks, etc. — increased 4.6 percent during the 12 months ended in March. As can be seen in the first panel of Chart 1, this was the highest rate of inflation since 1990. It was also a marked change from 18 months ago, when this index was falling at an annual rate of 1.5 percent. The reversal is mainly due to energy prices, which have been exceptionally volatile for the past couple years. In 1998, the gasoline component of the PPI for finished goods dropped 34 percent; during the 12 months ending in February, it soared 92 percent.

This does not indicate that consumer price inflation is likely to accelerate in the coming months, however. As can be seen in the chart, turns in the rate of change in the PPI for finished goods closely track those in the CPI. They tend to occur at roughly the same time, however, not before. If anything, this series is a coincident indicator of consumer prices, not a leader. Moreover, in the past decade sharp swings in it often have been accompanied by much milder fluctuations in the rate of consumer price inflation. Thus, the increase in price pressures at this level of production in recent months mainly confirms what the CPI already shows. It tells us next to nothing about the future trend of consumer prices.

The prices of intermediate materials and supplies, which are partially processed commodities that require further processing before they become finished goods, might be expected to provide a longer lead

Chart 1
**Change in Consumer Price Index
and Selected Producer Price Indexes**
(percent change from a year earlier)

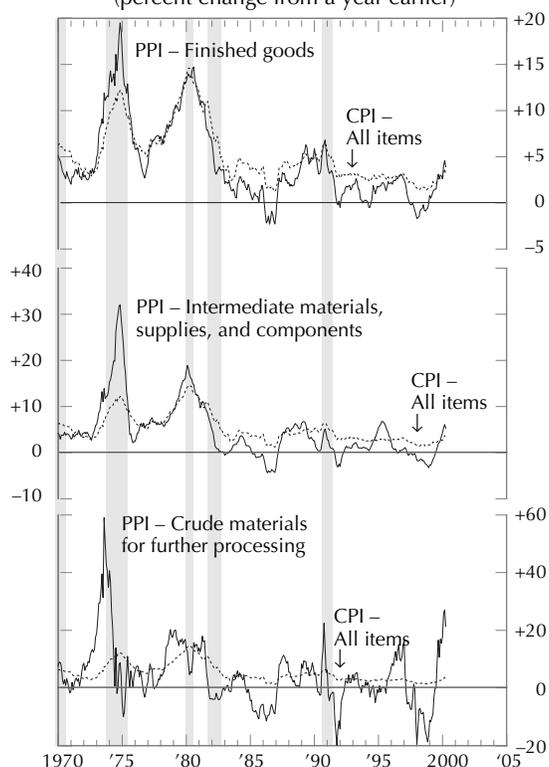
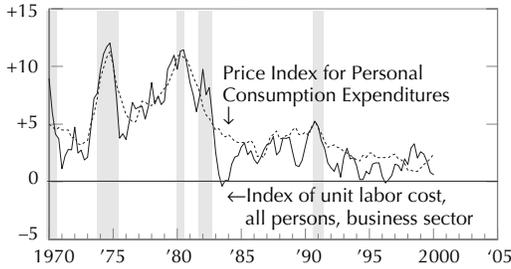


Chart 2
Change in Prices and Labor Costs
(percent change from a year earlier)



to consumer price inflation. As shown in the second panel, the 12-month rate of change in this price index surged to a 5-year high in March before dropping slightly in April. Again, energy prices were the chief culprit. Again, the implications for consumers are not clear. This series, too, tends to turn at about the same time as the CPI inflation rate, and the latest upturn accompanied, rather than preceded, the acceleration in the CPI since late 1998. In addition, the prices of intermediate materials are even more volatile than the prices of finished goods (although the different scale for this chart tends to obscure this). Even large fluctuations in it often have had little impact on the CPI.

The price index for producers' crude materials is even more erratic. As shown in the third panel, this index shot up 27 percent during the 12 months ended in March, after dropping 19 percent in 1998. The price of crude petroleum in February was 220 percent higher than its price a year earlier. In the past, however, large swings in the rate of price change for this PPI have translated into relatively minor changes in the CPI — and the changes have often occurred at the same time. Although the recent price increase was the largest for crude materials since 1974, the impact on consumer prices may already have occurred, and the effect on future prices is likely to be minimal.

In short, the evidence suggests that producer prices — at any stage of production — are not useful for forecasting the magnitude or timing of changes in the rate of consumer price inflation. They often provide confirmation of what the CPI is doing, but not much advance warning.

Labor Costs

Labor costs account for roughly two thirds of total production costs and therefore are widely cited as a leading indicator of consumer prices. The standard argument is that when the rate of unemployment drops below a certain threshold, the supply of qualified job seekers becomes so small relative to demand that employers will start bidding up wages faster and faster. Eventually, these wage increases will be larger

than warranted by the increase in production from each additional worker. Businesses will then pass along their increased labor costs by raising the prices of their products. Thus, higher wages lead to higher prices.

The problem with this theory is that it is not supported by the evidence. Chart 2 shows the growth rate of labor cost per unit of output among all businesses, a quarterly series, and the rate of change in the price index for personal consumption expenditures, an alternative measure of price inflation that also is published quarterly. The labor cost series is more volatile, but over the long term the two series generally move together. Their movements clearly are related, but it is not clear which way the causality runs. Do higher labor costs lead to higher prices, or do higher prices lead to increased labor costs?

Two economists at the Federal Reserve Bank of Cleveland recently examined this relationship in detail. In their paper, "Does Wage Inflation Cause Price Inflation?", Gregory D. Hess and Mark E. Schweitzer report the results of extensive statistical tests of wage and price data. They conclude that "There is little systematic evidence that wages (either conventionally measured by compensation or adjusted through productivity and converted to unit labor costs) are helpful for predicting inflation. In fact, there is more evidence that inflation helps predict wages. The current emphasis on using changes in wage rates to forecast short-term inflation pressure would therefore appear to be unwarranted. The policy conclusion to be drawn is that inflation can appear regardless of recent wage trends."

Gold

Ever since currencies ceased to be redeemable in gold at a fixed rate, decreases in the purchasing power of the dollar (and other paper currencies) have been associated with increases in the nominal price of gold. However, the timing and magnitude of this relationship is unpredictable, especially in the short term. Chart 3 shows the price of gold and the change, a year later, in the CPI. For example in February 1996 the price of gold increased to \$405 and over the next 12 months the rate of price inflation increased to 3 percent. Changes in the gold price often have been followed by similar changes in the rate of price inflation. There have been false signals, however. Most recently, from late 1997 through

early 1999, the price of gold decreased from \$325 to \$285, but the rate of price inflation subsequently increased from an annual rate of 1.4 percent (in late 1998) to 3.7 percent (in early 2000). By this measure, gold failed to predict the recent upswing in price inflation.

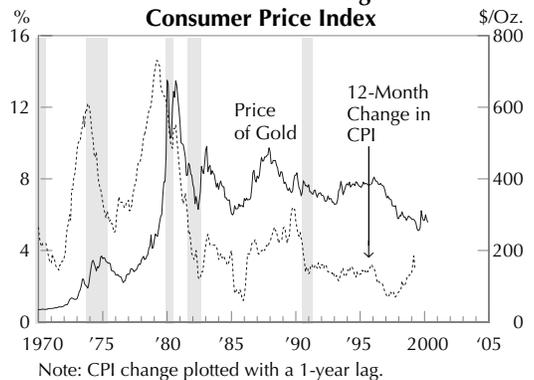
It should be remembered that the gold price reflects in part the expectations of gold traders with regard to economic and monetary developments here and abroad, and these expectations are based, in turn, on imperfect information. They are not always accurate, as demonstrated by the financial crises in Asia and Russia that surprised the world's financial markets in 1997 and 1998. If the "conventional wisdom" changes suddenly or turns out to be wrong — if the U.S. and European economies do not perform as expected, if the recovery in Asia falters, if the "new economy" stumbles, or if some other economic or political development, here or abroad, roils world markets — it is not clear how this might affect the price of gold, the buying power of the dollar at home and abroad, and monetary policy, or whether gold would give a reliable and timely warning of any change in U.S. price inflation.

Money and Prices

The officially reported money stock series M1 and M2 are widely cited as leading indicators of price inflation. M1 consists of currency, checkable deposits, and travelers' checks. M2 is M1 plus savings accounts, small time deposits, and retail money funds. A rule of thumb is that an acceleration in the growth rate of M1 or M2 above some "noninflationary" rate (such as the estimated potential growth rate of real economic output) will be followed roughly 2 years later by an increase in price inflation.

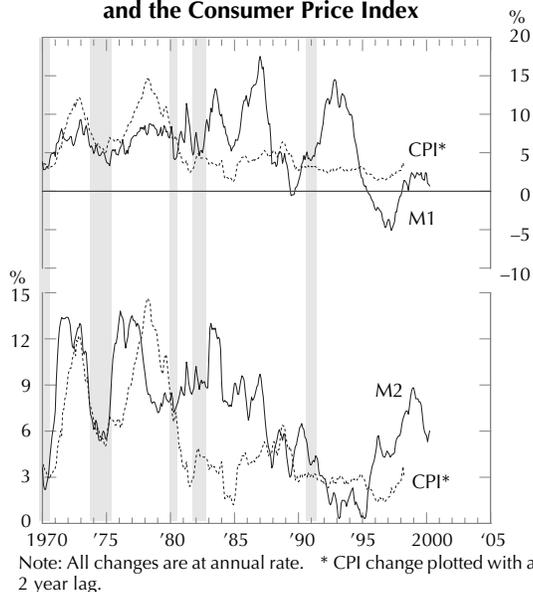
However, the relationship between the monetary aggregates and price inflation has been erratic since 1980, as can be seen in Chart 4. The growth trends of M1 and M2 have sometimes diverged sharply,

Chart 3
Price of Gold and Change in
Consumer Price Index



Note: CPI change plotted with a 1-year lag.

Chart 4
Change in Monetary Aggregates
and the Consumer Price Index



leaving economists disagreeing about which series provides the better approximation of “money.” Other monetary aggregates, such as the monetary base (currency and bank reserves) and MZM (financial assets with zero time to maturity) have been studied as potential guides to price inflation, but without success. Despite this, price forecasters still cite one or another money series to support their predictions. The burden of proof lies with the forecasters to show that the relationship between these series and the price level has stabilized following the 1980s breakdown. We have not seen any evidence of this.

Outlook

The above analysis suggests that, much as we would all like to know where prices are headed in the next year or so, the available data simply are not useful for short-term forecasting. Either they often give the wrong forecast or their warning comes too late.

It also suggests that we should be skeptical of the notion that the Federal Reserve can pilot the economy to a “soft landing,” a period of slower economic growth with low price inflation. Even under the chairmanship of the highly regarded Alan Greenspan, the Fed’s track record on trying to do this is mixed.

Since becoming chairman of the Fed in August 1987, Greenspan twice has led a policy effort to raise interest rates. The first time was in 1988, when the Fed was concerned that “the risks were on the side of faster-than-desired growth and more inflationary pressures”. Monetary policy was tightened, and in 1989 the rates of eco-

nommic growth and price inflation slowed. The Fed then eased up — but the economy continued to slow and price inflation accelerated. In 1990, the economy tipped into recession and the rate of price inflation increased to 6 percent. So much for a soft landing.

The second effort was in 1994, when the Fed was concerned that the accommodative policy it adopted in the wake of the recession (it pushed interest rates to their lowest level in 30 years) might be starting to fuel inflationary pressures. It raised short-term interest rates, and in early 1995 the rate of economic growth slowed sharply, to less than one percent. This prompted the Fed to switch policy yet again and reduce rates, and the pace of economic activity rebounded.

Were policymakers at the Fed smarter in 1995 than in 1990, or just luckier? For price inflation to return to a low level and the economy to continue growing, they will have to be as smart, or as lucky, in the future. Policymakers at the Fed rely

on the same entrails as everyone else. They cannot discern whether the recent upturn in inflation is an energy-led increase that will reverse if volatile oil prices decrease, or evidence that a broader acceleration in prices is taking hold. Moreover, the economy is too dynamic and complex, and the lags between policy actions and their economic impact too uncertain, for the Fed to control the business cycle. Policymakers can only influence it.

History suggests that sooner or later, imbalances in the economy will become severe enough to precipitate a recession. Whether the Fed’s monetary policy will be a contributing factor remains to be seen. Once the economy weakens, however, we expect the Fed to quickly shift gears. Alan Greenspan has made it clear that he believes in monetary restraint to limit price inflation — *until* a recession appears likely. The historical record shows that time and again the Fed has erred on the side of inflating. This is why the dollar has lost over 90 percent of its value since the Federal Reserve System was created in 1913. As long as the dollar is not linked to anything of tangible value, such as gold, and its value depends on the willingness and ability of Fed authorities to manage it soundly, the dollar’s long-term prospects remain dim. □

BUSINESS-CYCLE CONDITIONS

Nine leading indicators now are appraised as expanding, and the statistical indications favor continued economic expansion in the near term. Weakness has begun to develop in the base data, however, and the outlook could change markedly if the “minus signs” proliferate.

According to the latest data for our twelve primary leading indicators, the economy will continue to expand at least through the third quarter.

Four leading indicators reached new highs: the *ratio of manufacturing and trade sales to inventories*, *initial claims for state unemployment insurance* (inverted), the *3-month percent change in consumer debt*, and *M2 money supply* (to adjust for price inflation, the money supply and all other dollar-denominated series are reported in constant dollars). M2 money supply and the ratio of sales to inventories are among the only three leading indicators with increases in their most recent base data. All four series are appraised as clearly expanding.

Although not at new highs this month, both *contracts and orders for plant and equipment* and the *index of common stock prices* are only one month off their most recent highs and are clearly expanding as well.

New orders for consumer goods, ven-

dor performance, and the *average workweek in manufacturing* are all appraised as probably expanding. New orders for consumer goods was clearly expanding last month, but a large drop in the base data for April raised some concern that the upward trend may have peaked. The base data for the average workweek fell below 41.5 hours per week for the first time since March 1996, bringing the moving average down to 41.8 hours. In historical perspective, this is still a long workweek — but there is some doubt about the series’ overall trend.

There are no clear cyclical trends for either *M1 money supply* or the *3-month percent change in sensitive materials prices*, and the trends in both series are indeterminate. M1 has been indeterminate for several months, and even though its base data increased for a second consecutive month the slight change in its moving average was insufficient to establish a cyclical trend.

The change this month in sensitive

materials prices warranted downgrading the series from its previous appraisal as probably expanding. Steady declines in the base data have been pulling the moving average down for several months and because of the volatility of this series, changes in the direction of the data can quickly render the series' cyclical status uncertain.

The only series with a clearly contracting trend is *new housing permits*. This series has dropped steadily throughout the first part of the current year. Presumably, additional interest rate increases by the Federal Reserve could pressure the series further downward.

Although half of the leaders decreased this month, the percentage of leading indicators with apparent cyclical trends that are expanding remains a robust 90 percent (nine out of ten). The cyclical score, AIER's purely mathematical assessment of the leading indicators, fell again for the fourth consecutive month — but it remains at 81. Both of these diffusion indexes are still well above 50, the statistical threshold below which a recession is more probable than continued expansion.

The primary roughly coincident indicators remain strong with four of the six at new cyclical highs. These four new highs are *nonagricultural employment*, *the index of industrial production*, *manufacturing and trade sales*, and *gross domestic product* (quarterly). All are appraised as clearly expanding. Although not at a new high, *personal income in manufacturing* increased this month and also is appraised as clearly expanding.

Civilian employment as a percentage of the working-age population fell to 64.6 percent. This drop was enough to cast doubt on the series' upward trend and to warrant downgrading it from clearly expanding to probably expanding.

Overall 100 percent (6 out of 6) of the primary roughly coincident indicators with apparent cyclical trends are expanding.

The primary lagging indicators remain strong as well. Four reached new highs this month. They are the *average duration of unemployment* (inverted), *manufacturing and trade inventories*, *commercial and industrial loans*, and the *composite of short-term interest rates*. Short-term rates are up to 6.51 percent, the highest rate since January 1991. All four series are appraised as clearly expanding. Although not at an new high, the *ratio of consumer debt to personal income* is appraised as clearly expanding as well.

The only lagging indicator that is not appraised as clearly expanding this month is the *percent change from a year earlier in manufacturing labor cost per unit of output*. Labor costs fell, despite an increase

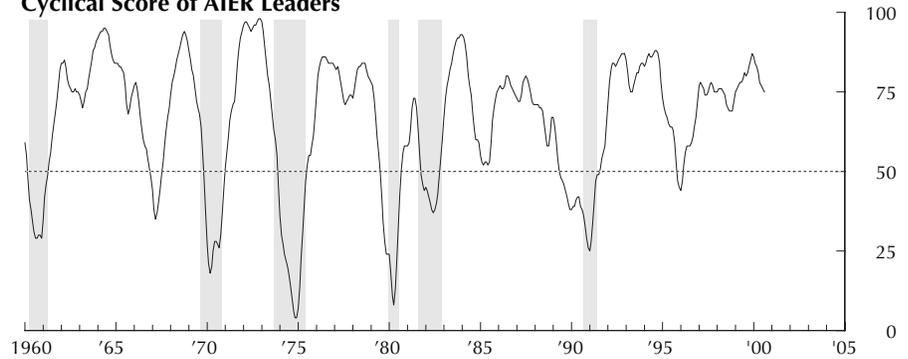
in the base data. Labor costs have fallen at a steady rate over the past several months — about 1.5 percent per month. As a result, the labor cost series has flattened — and its direction remains indeterminate.

Overall, 100 percent (five out of five) of the primary lagging indicators with ap-

parent cyclical trends are expanding.

Despite possible early signs of weakness in the leading indicators, there are few other indications in this round of data to suggest an end to the current expansion. If the base data for the leaders continue erode, of course, the outlook could change quickly. □

Cyclical Score of AIER Leaders



Statistical Indicators of Business-Cycle Changes

Change in Base Data				Primary Leading Indicators	Cyclical Status		
Feb.	Mar.	Apr.	May		Apr.	May	Jun.
-	+	+		M1 money supply	?	?	?
-	+	+		M2 money supply	+?	+	+
-	-	-		Change in sensitive materials prices	+?	+?	?
+	+	-		New orders for consumer goods	+	+	+?
-	+	-		Contracts and orders for plant and equipment	+	+	+
-	-	-	-	New housing permits	?	-	-
-	+			Ratio of manufacturing and trade sales to inventories	+	+	+
-	-	+	-	Vendor performance	+?	+?	+?
-	+	+	-	Index of common stock prices (constant purchasing power)	+?	+	+
+	-	+	-	Average workweek in manufacturing	?	+?	+?
-	+	-		Initial claims for unemployment insurance (inverted)	+	+	+
-	-	-		Change in consumer debt	+	+	+
				Percentage expanding cyclically	100	91	90
				Primary Roughly Coincident Indicators			
+	+	+	+	Nonagricultural employment	+	+	+
+	+	+	+	Index of industrial production	+	+	+
-	-	+		Personal income in manufacturing	+	+	+
-	+			Manufacturing and trade sales	+	+	+
+	-	+	-	Civilian employment to population ratio	+	+	+?
+	+			Gross domestic product (quarterly)	+	+	+
				Percentage expanding cyclically	100	100	100
				Primary Lagging Indicators			
+	-	+	-	Average duration of unemployment (inverted)	+	+	+
+	+			Manufacturing and trade inventories	+	+	+
+	+	+		Commercial and industrial loans	+	+	+
+	+ ^r	-		Ratio of consumer debt to personal income	+	+	+
+	- ^r	+		Change in labor cost per unit of output, manufacturing	?	?	?
+	+	+	+	Composite of short-term interest rates	+	+	+
				Percentage expanding cyclically	100	100	100

nc No change. ^r Revised.

Under "Change in Base Data," plus and minus signs indicate increases and decreases from the previous month or quarter and blank spaces indicate data not yet available. Under "Cyclical Status," plus and minus signs indicate expansions or contractions of each series as currently appraised; question marks indicate doubtful status when shown with another sign and indeterminate status when standing alone.

PRICE OF GOLD

	1998	1999	2000	
	Jun. 25	Jun. 24	Jun. 15	Jun. 22
Final fixing in London	\$293.15	\$260.15	\$287.40	\$287.65

Research Reports (ISSN 0034-5407) (USPS 311-190) is published twice a month at Great Barrington, Massachusetts 01230 by American Institute for Economic Research, a nonprofit, scientific, educational, and charitable organization. Periodical postage paid at Great Barrington, Massachusetts 01230. Sustaining memberships: \$16 per quarter or \$59 per year. POSTMASTER: Send address changes to **Research Reports**, American Institute for Economic Research, Great Barrington, Massachusetts 01230.