

Reflections on Monetary Policy

Remarks by

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1 Introduction

It is an honor and a pleasure to have such a distinguished audience; and I would like to take this opportunity to comment on what remains a critical topic in economic governance—managing the supply of money so as to eliminate inflation. After a recession that has been long and stubborn, the economy is showing some gains in output and employment. But these promising events have also been accompanied by signs that inflation remains a threat. As you may know, I have consistently argued during my tenure as a member of the Federal Reserve Board of Governors that inflation is the enemy of progress. Because it is the very poison that saps our confidence in the future, I promised at my confirmation hearings, that I would fight to eliminate it. It is a trust, I hope, I have not broken.

We have achieved much during the past decade in bringing down the rate of inflation, but we need to persevere; the successes of the past should not lull us into complacency, into the comfort of acquiescing to the status quo.

Especially in the case of inflation, monetary policy influences as much a state of mind as the state of affairs: if, by word and deed, the central bank instills confidence in its actions, and the public comes to believe that inflation will be conquered, our task will be easier. In practice, this means that one goal of monetary policy is to stabilize the public's expectation of future prices, and in order to do this, we need to acquire some measures of inflation expectations.

In a less complex world than we are faced with, a simple monetary growth rule might lend credibility to policy, so that expectations would move in the desired direction, without a need to have them monitored from time to time to assess the success of policy. In this real and complex world that lacks the consistent yardstick of an agreed-upon measure of money, reliance on the behavior of monetary aggregates are not likely to be sufficient for

stabilizing price expectations. To take a measure of public expectations of future inflation, policy makers may monitor several measures of public price expectations, including surveys of households and professional forecasters of inflation, or, as I have proposed on other occasions, spot commodity prices—especially the price of gold—because they reflect the expectations of agents participating in actual trading activities. I will discuss the importance of expectations a little later; but first, I want to look back a little.

2 Lessons from International Experience

Let me begin with some historical background to provide evidence of the importance that domestic and international communities have attached to reducing inflation. The experience of the past 25 years also establishes an unambiguous case for the central role played by monetary policy in controlling inflation. Inflation rose in most industrialized countries over the 1970s after the removal of the discipline on national monetary policies that had been imposed by the Bretton Woods system of fixed exchange rates. Although Federal Reserve accommodation of oil price escalation played an important role in price developments, the uptrend in inflation was evident in the late 1960s before the first OPEC price shock. By the late 1970s, many observers had become convinced that inflation was restraining economic growth; and the past 15 years have witnessed a widespread and concerted effort by central banks to reduce inflation.

The improvement has been impressive. Comparing CPIs in 1980 and 1993, the rate of inflation has fallen from 12 percent to 3 percent in the US. In eighteen industrialized economies, including Western Europe, the US, Canada, Australia, New Zealand, and Japan, the inflation rate dropped an average of 8 percentage points during that period to an average of less than 4 percent, a remarkable turnaround achievement!

3 The Current State of Inflation in the US

While it is tempting to say that the current rate of inflation is relatively harmless, the purchasing power of the dollar would fall by 50 percent in the next 20 years if prices were to continue to rise 3 1/2 percent per year. Do we know for sure that there will not be losers in this process?

Let me mention some salient recent events that lead to concerns—hopefully unnecessarily—that inflation is no longer falling.

A commonly cited measure of the core rate of inflation, the CPI excluding food and energy, has grown at a 3-1/2 percent annual rate during the first 9 months of this year, compared with with an identical increase of 3-1/2 percent over the 12 months ending in December 1992. The most recent Employment Cost Index reports are showing some firming of labor costs. Of course, prices are subject to transitory fluctuations, and so it is hard to say for sure that the core inflation has not just been temporarily stalled. Nonetheless, I think that there is cause for concern whenever an attitude of complacency toward a non-zero rate of inflation arises. At a minimum, these signs on the wage and price front indicate that we cannot ignore the potentially significant risk of losing much of the hard-earned, disinflationary momentum we have established during the past years.

On the positive side, some signs during the first half of this year suggesting a reemergence of worrisome inflation have faded as the price of gold has fallen back to \$350 after running from \$327 to \$403 per ounce. Likewise, the experimental Federal Reserve commodity price index, which is dominated by the price of oil, peaked in March at 116 percent of the 1986 first-quarter average and has recently dropped back to a range between 100 and 105 percent of that base. However, in 1991 and 1992, the core component of commodity prices, excluding food, fiber, and energy components, stayed in a range between 116 and 126 percent of the base in the first quarter of 1986.

It shot up to 148 in March of 1993 before falling back to 135 during the last week of September. Should we be complacent? While the annualized inflation rates of gold and energy-weighted commodities have been zero, the core commodity inflation rate has been 4 percent per annum over a 7 1/2 year period.

A second item on the positive side of continued disinflation has been the restoration of corporate profitability in the United States that took place through restructuring rather than a reliance on price increases.

Among the world's 100 largest public companies reported by the September 24, 1993 *Wall Street Journal* "World Business" supplement, eight of the top ten largest fiscal profit totals in 1992 were attained by US firms. A continuing, firm monetary policy assuring stable gold prices and, consequently, a stable exchange value of the dollar, will assure a path toward a stable general price level.

4 The Goals of Monetary Policy

Before we consider how price stabilization is to be achieved, it is perhaps well to reconsider why we would want stability in the first place. A monetary exchange mechanism, being an information-efficient substitute for the barter system it replaced, derives its strength from the trust people have in the currency. For this reason, stabilization of the purchasing power of a country's currency must be a primary goal of the central bank. Thanks to the foresight of the founding fathers, the constitution instructs the Congress, of which the Federal Reserve is an agency, to coin money and regulate its value—clearly a mandate for price stability. The Full Employment Act of 1948 and the Humphrey-Hawkins Act of 1978 expanded the set of Congressional monetary policy mandates to include annual goals for employment and the growth of income.

These goals are, in my view, not inconsistent. Growth and stable prices stand in symbiotic relationship; and if we maintain the latter, the better it will be for the former.

Evidence that output growth tends to be greater at low inflation in the United States, especially when viewed over longer horizons, can be adduced from correlations between output growth and inflation at varying horizons. Correlation is, of course, not causality. One cannot be entirely sure if episodic declines in productivity did not cause observed run-ups in inflation; but eventually, wages should have fallen, so that over longer periods, the observed negative relation would have weakened, contrary to our observation. Some observers believe the negative correlation to have been the joint outcome of the energy shocks in the seventies, whereas it is my view that it was monetary policy that permitted these shocks to increase the price level permanently. In the 1970s, the Federal Reserve was faced with the choice of either accommodating energy price increases or accepting a temporary cessation of growth. Choosing the former was, in my judgment, responsible for both a higher subsequent inflation and lagging growth.

Real activity may be inhibited for the simple reason that people are not perfectly informed or are committed to predetermined contracts, because in such instances, absolute price level changes can have effects on relative price changes. For example, real wages often fall during periods of price increases because indexation never truly catches up with inflation, even if well predicted, which it rarely is.

Indexation of contracts in goods and labor markets is one way that individuals and firms attempt to minimize the cost of inflation; however, the lack of perfect indexation schemes in labor and goods markets suggests that real costs prevent such contracts and implies that, even with indexing, inflation arbitrarily creates winners and losers. One obstacle to attaining satisfactory indexing schemes is the difficulty of writing simple indexing provisions that

distinguish between relative and nominal price changes. Taking labor contracts as an example, if output and consumption goods prices always moved together, firms and workers would be happy to agree on an indexing formula based on either price. This is not the case; the difference between product and consumer prices is neither certain nor stable over time. The choice of price on which to index in each instance will depend on relative bargaining powers, where firms prefer product prices and workers prefer consumption prices.

But even more important, although indexation has marginally protected labor costs, it has missed protecting the return to capital. The failure to index capital gains before applying marginal tax rates has, in many cases, been tantamount to the confiscation of capital. The adverse impact on savings and investment of these iniquitous tax provisions are doubtless reflected in the performance of equity markets during the disinflationary 1980s and 1990s as compared with market performance while inflation accelerated in the 1970s.

The variability of inflation, often associated with high inflation, is of equally important concern for the policy maker. Again, historical evidence points to a positive association between the variabilities of output growth and inflation over various horizons, suggesting that periods of volatile inflation are also periods of uncertain real growth, especially over extended horizons. High inflation volatility may in some sense reduce people's ability to make long-run plans. One plausible explanation for the positive correlation between the volatilities in inflation and output growth is based on a theory in economics according to which changes in the general price level mask changes in relative prices that people need to know to make intelligent decisions in the market place. If true, the theory suggests that highly variable inflation could act to limit people's ability to distinguish relative price changes and price level changes, possibly inhibiting decisions that foster economic growth.

Without exaggerating the import of the empirical findings to which I have

alluded, it seems evident that they cannot lead to the conclusion that high or volatile inflation has been good for the US economy.

5 The importance of credibility

How monetary policy plays itself out has as much to do with what the Fed does as with how its actions are perceived. For this reason, a steady hand in reducing inflation is of utmost importance. Let me elaborate a little here.

It is well known that output losses accompanying disinflation arise if wage and price setting behavior in the private sector does not fully reflect monetary policy. Rigidities in prices and wages, often institutionalized in contracts with varying durations, contribute to delays in the impact of monetary policy. A reduction in the growth of money will have greater negative employment consequences if it is not accompanied by a commensurate reduction in inflation expectations.

For this reason, the Fed's greatest asset is its credibility. The faith and trust a public has in the ability and willingness of the monetary authority to carry out policy can reduce the costs to society if a decision has been made to reduce inflation within a given period of time. The costs of incredulity are real. If the public does not believe that a policy of disinflation will be pursued, it will pay a higher price in unemployment for every point of inflation reduction.

Of course, credibility must be earned and takes time to build; and being intangible, credibility is easily squandered. From a current perspective, a short-term deviation from the disinflationary course may be well-intentioned. But if the public perceives such hesitation as a weakening of resolve, it will react by building its raised expectations of inflation into long-term wage and price contracts with effects that will take longer to undo, requiring future doses of anti-inflationary steps and output losses that may exceed current

gains.

Is it better to act slowly rather than quickly? Perhaps we cannot say for sure. Some tentative evidence from past experience as well as across industrialized economies suggests that the output losses per unit of reduced inflation tend to be smaller if disinflation is pursued quickly rather than slowly. If true, it suggests in part that a vigorous stance in monetary policy contributes to credibility which lowers the cost of disinflation. And, to the extent that lack of action, or stop-go action wears on credibility, the empirical lesson would seem to be that a steady pursuit of the goal of price stabilization presents the best hope for achieving such a goal.

In establishing and maintaining credibility, a purpose and focus of policy is tantamount. While circumstances sometimes dictate deliberation in action—for example, allowing the monetary instruments to adjust at a moderate pace—incrementalism for its own sake is to be avoided. In considering the appropriate actions for monetary policy in the near term, we must resist that human tendency in the face of uncertainty to take small steps for their own sake.

Historically, whenever the central bank appeared to be engaged in pegging the change in the Federal funds rate, this exclusive preoccupation with choosing the next increment left the public, especially holders of bonds, confused and apprehensive about the intentions of monetary policy. Without an anchor, without a clearly understood goal of where policy is going, a sequence of incremental changes can actually lead to a spiralling inflation if maintained for any lengthy period. And, referring back to my previous point, a policy of this kind would rattle public confidence.

6 An Appropriate Measure of Inflation

Unfortunately, and in contrast to the pure imaginings of economic theory, policy making is not endowed with the luxury of simplicity: we have not been favored with a single variable called “the price.” In its stead we must look at a set of price indexes, each serving a purpose, with possibly no clear-cut candidate having the perfect profile of “the price level.” The consumer price index (CPI), the producer price indexes (PPI) for finished goods and crude materials, and the gross domestic product (GDP) deflator have generally risen over the post-war period, but there are marked divergences, not all of which appear to have been predictable. All of these prices are important in the sense of determining the general climate of inflation. If they diverge from each other in the long run, a policy that focuses on any one of them alone may, at the very least, lead to problems of credibility, especially if the selected price index happens to be the one with the lowest trend. As a case in point, consider the GDP deflator which, in contrast to the CPI deflator, excludes prices of imported goods. As the economy opens, a focus on a stable GDP deflator may become less relevant; and the public would soon come to learn that the prices it pays for goods and services do not reflect the presumably stable price level.

To appreciate the problem further, consider, for example, that the Producer Price Index for crude materials, essentially measuring the prices manufacturers pay for the intermediate goods and commodities that become transformed into final consumption goods, rose less than 3/4 percent between 1982 and 1987. The PPI for finished goods rose by more, but not nearly as much as the CPI. While we made significant gains on inflation during that period, clearly no one viewed inflation as defeated, as one might have deduced from the behavior of the PPI for crude materials. One culprit is the cost of services—medical care stands out—that are not measured by the Producer

Price Index and that were not as well restrained as were the prices of finished goods and materials.

Given that various plausible measures of the price level have been observed to diverge from each other in the long run, the inherent danger of choosing an index that does not capture the purchasing power of the domestic currency for most people is that the error between the selected index and the “correct” measure may accumulate over time. From year to year, this may or may not be perceived as a problem. For example, for most of the post-War period, it would have made little difference if the Fed had chosen the GDP deflator when the CPI was the true measure of the general price level; the error—the incremental uncertainty about what next quarter’s CPI inflation rate will be—would have been small in the short as well as in the long term. Had the Fed, instead, targeted the PPI for crude materials, this uncertainty would have been 9 times as great after the first year; and after 10 years, the incremental uncertainty would have been nearly 30 times as high!

All this begs the question: what is the “right” index? Consumers presumably want consumer prices stabilized while firms prefer stable producer prices. Being a social, possibly zero-sum, issue to which there are no hard answers, its resolution may require the political forum.

7 The Art of Reading Inflation Expectations

Whatever measure of aggregate prices is chosen to be stabilized—and for the moment that seems to be the consumer price index—the public will, as a whole, react to policy and form attitudes and expectations that are influential in the outcome of policy. The public’s expectations of inflation can thus serve as an indicator of policy: if policy is stabilizing, inflationary expectations should be stable. In a sense, then, the primary goal of monetary policy is to stabilize expectations. The central bank has available two kinds of

information that, in principle, reveal something about the public's frame of mind. The first originates in surveys that ask people to say what they expect inflation to be a year ahead or later; the second derives from asset markets, such as commodity prices. Let me discuss their uses and limitations in turn.

7.1 Household inflation expectations

Consumers, that is, all of us, make decisions in the market place, implicitly expressing our expectations of future inflation that affect purchases in goods markets and wages in labor markets. A widely quoted survey of household inflation expectations is the the Michigan Survey of 500 households taken monthly by telephone. Because wages and prices together manifest the inflationary environment of the economy, there is an apparent presumption that this survey should perhaps not be ignored. Let us examine this question. For quarterly averages, Chart 1 shows how Michigan Survey expectations of CPI inflation one year ahead are related to actual inflation in the CPI. The picture shows two series that are highly coordinated. It also shows that households are myopic, believing that inflation in the coming year will be the same as inflation in the preceding quarter: household expectations more or less mimic the path of the inertial inflation rate itself. For this reason, they would not be useful as a guide for policy.

7.2 Inflation expectations held by professional forecasters

A second potential source revealing inflationary expectations is based on a survey of 30 professional forecasters. Chart 2 shows the CPI inflation rate and the inflation rate professional forecasters predicted a year earlier. It appears that households and professional forecasters have very different views of monetary policy and the prospect of inflation. Between 1982 and 1993,

the professional forecast corresponds in its general pattern to the shape of CPI inflation over this period; however, unlike the household forecast, the professional forecast does not follow actual inflation myopically. I am not really sure how much the one-year inflation forecast by professionals really tells us. Its movements over the years seem to lag those of actual inflation, providing little advance warning even over periods longer than one year. It appears to be a fairly sluggish variable, like inflation itself, and thus lacks that characteristic property of a true expectations variable, which is to be instantaneously adaptable to new information, as we observe, for example, in the case of commodity prices. The deviations of professional forecasts from subsequent outcomes in inflation suggests that considerations like unemployment events enter the calculations, but in ways that are not readily discerned by the policy maker. My preferred indicators for market-oriented price expectations remain commodity prices, which, if judiciously interpreted, can tell us much about the prospective impact of monetary policy.

7.3 Expectations revealed in commodity prices

As you may know, I have long advocated using commodity prices as indicators in monetary policy. Indeed, in December 1987, I proposed in a speech to the Lehrman Institute that the Federal Reserve give commodity prices an expanded role as a price guide to adjust the target ranges for short-run money growth. A look at Charts 3-6 is revealing. They show that the cycles of CPI inflation and moving averages of the inflation rates of the commodity price indexes of industrial materials, industrial metals, food, and of an index combining prices from all three groups, except oil, are remarkably similar between 1962 and 1993. Especially interesting is the apparent fact that the turning points in commodity price inflation generally lead the turning points in CPI inflation by three quarters to a year. Commodity prices are telling us

something that we may want to exploit. Why is that the case?

Commodity spot prices are, by definition, the market-clearing prices of storable goods in speculative trade wherein players have indirectly revealed their attitudes towards economic opportunities that depend a great deal on future inflation. If commodity price inflation is rising, it is possible that it does so because trading agents predominantly expect higher inflation in the future, although other influences, such as excess demand, supply shocks, strained capacity, and so on, may play a role in such a process. Properly interpreted, movements in commodity prices may reveal the expectations that agents hold about future inflation. Since inflation expectations reflect expectations about monetary policy, commodity prices can tell us something about how well policy is doing.

Two examples of the usefulness of short-term commodity price guides may be helpful. First, consider a hypothetical event, an event that is presumably not observed or properly understood by the policy maker, and that will cause the price level to rise in the future. If goods prices are temporarily sticky, asset traders who expect future increases in the price level will demand more commodities. If goods prices could rise immediately, asset prices would not need to rise by as much. Given price-level inertia, the signal power of commodity prices is actually enhanced, because the latter can and will rise more than proportionately, overshooting to compensate for the lack of flexibility in goods markets. It is in this manner that commodity prices may be able to present clear and highly visible signals of future price events—essentially the future impact of current monetary policy.

The second example illustrates how commodity prices, including, very importantly, the price of gold, may serve as a handy thermometer of the Fed's credibility. Suppose the Fed has settled on a short-term indicator of policy, such as M2 money supply. A surprise increase in money growth may be followed by a decrease or an increase in short-term interest rates. Suppose

the latter happens. What are we to make of it? Are markets expecting the Fed to maintain its target and tighten by selling Treasury bills? Or is it that markets are beginning to believe the Fed is flagging in its resolve? One answer is provided by the behavior of commodity prices: if they fall, then surely one interpretation is that commodity markets expect the Fed to tighten; conversely, if commodity prices rise, markets expect the general price level to increase.

To those who are concerned that I propose a commodity price targeting rule, let me reiterate that I consider commodity prices as purely short-term indicators of the unobserved future price level, a signal that must be evaluated in light of other information. Commodity prices contain information about the price level, but they are not themselves the price level. Since commodity prices depend on the behavior of the real rate of interest, an observed change in a commodity price may signal either a change in the expected rate of inflation or in the interest rate. If the Fed were to target a commodity price, it would, in effect, constrain movements in the real rate. The true target of monetary policy is and always should be the behavior over the long term of prices the public understands and deals with every day.

8 Summary

I believe that adherence to the principles I have laid out should help us move toward price stability, higher labor productivity, a permanently higher savings rate, and a prolonged period of economic expansion.

I believe that most of us abhor inflation and what it can do to society. The concerted actions by central banks in the early and mid eighties to overcome inflation is testimony to the universality of this sentiment. Inflation is not the lubricant of progress, as some may claim. To the contrary, it is the enemy of sustained growth.

In guiding the monetary ship through uncertain waters, we are not alone. There is a public that watches us and reacts. The outcome of monetary policy will depend on how it is perceived as reflected in the expectations that we foster. Unable to read minds, we can nonetheless gain indirect measures that may help us maintain the course. To reach the calm waters of stable and predictable prices, we would not be remiss in letting commodity prices be the sextant readings of the stars that guide us to our destination.

For the sake of the future of this great country and with clarity of purpose, let us recommit ourselves here and resolve to continue this good fight.

Chart 1

Household Inflation Expectations

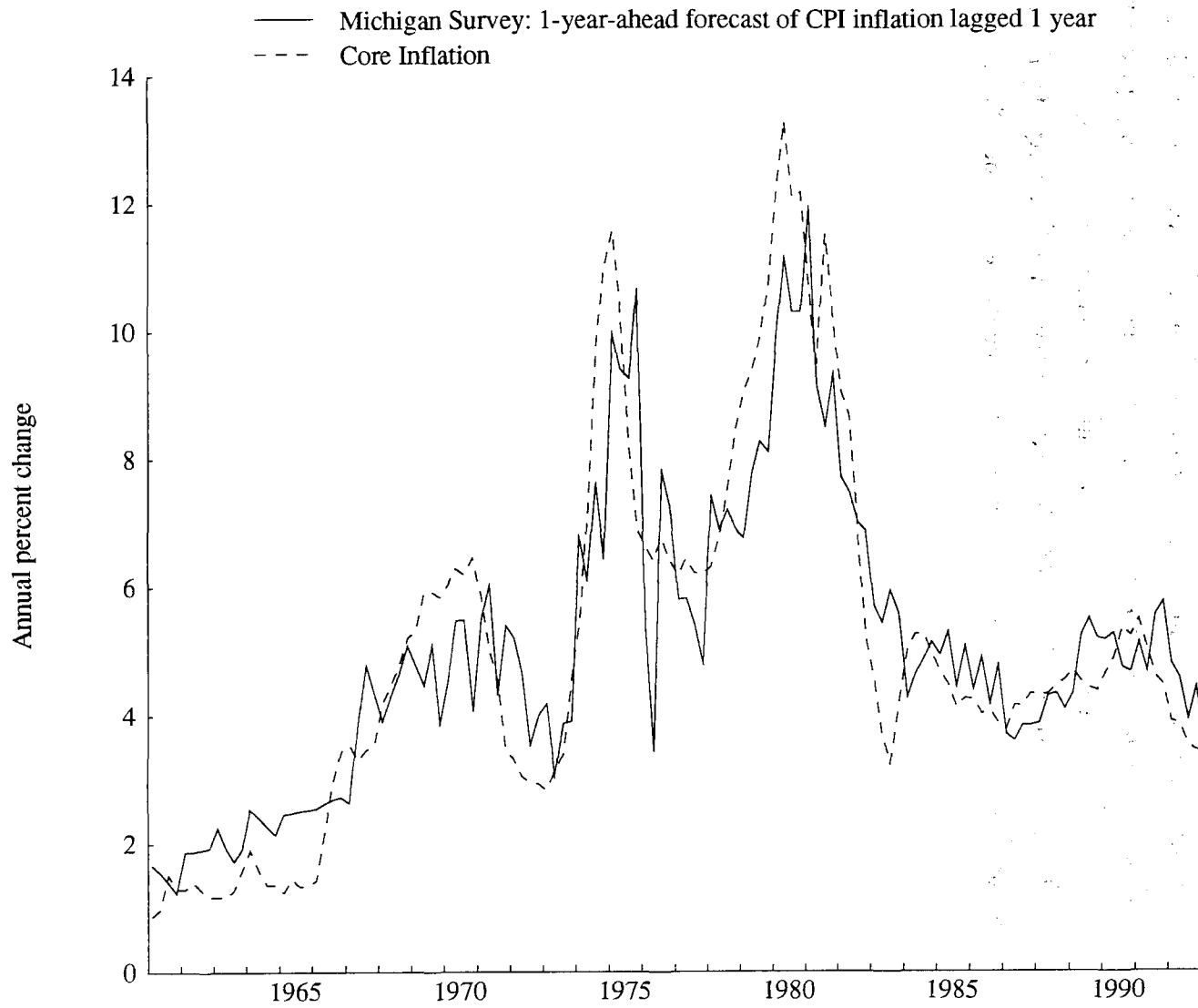


Chart 2

Professional Inflation Expectations

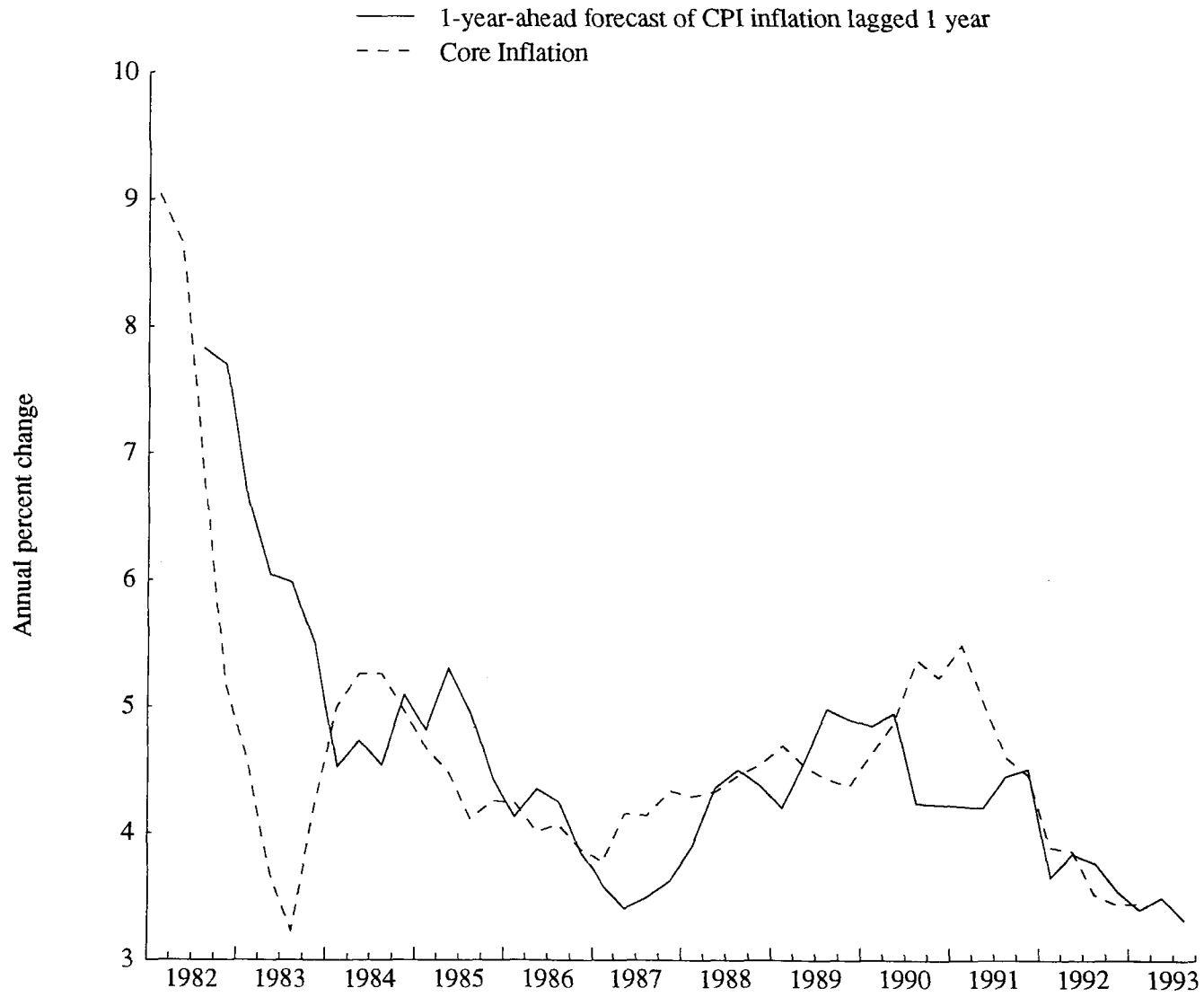


Chart 3

Commodity Prices

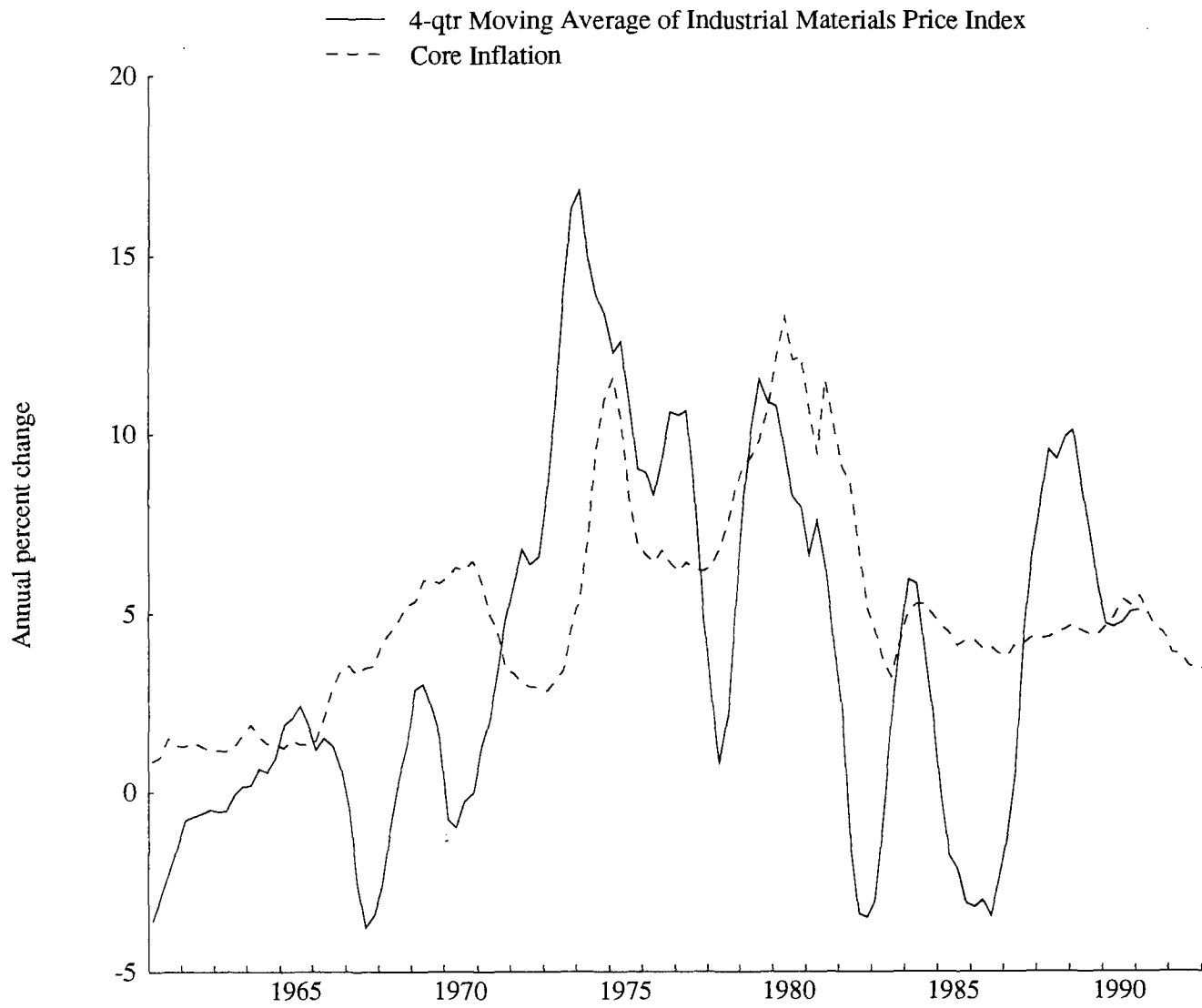


Chart 4

Commodity Prices

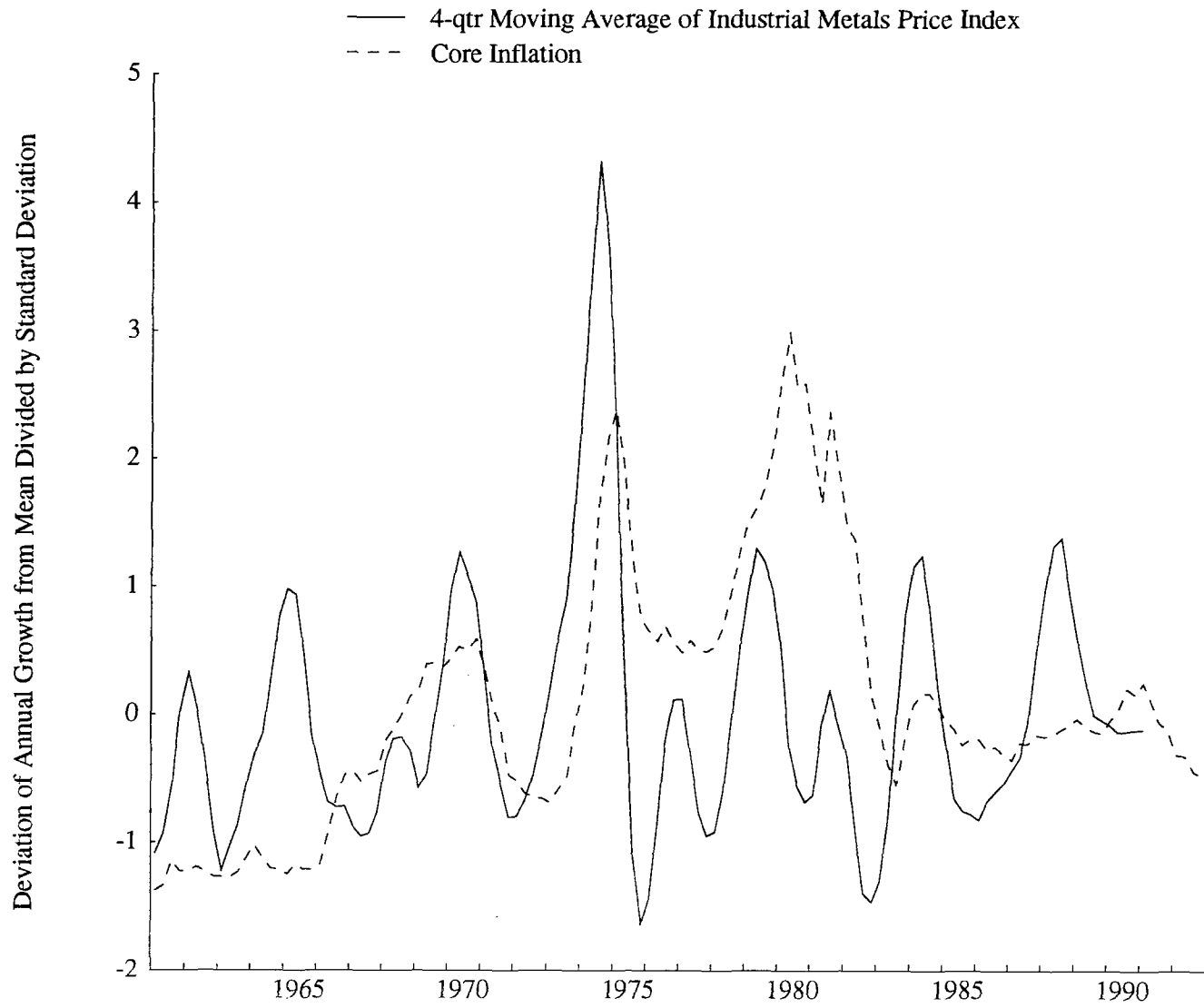


Chart 5

Commodity Prices

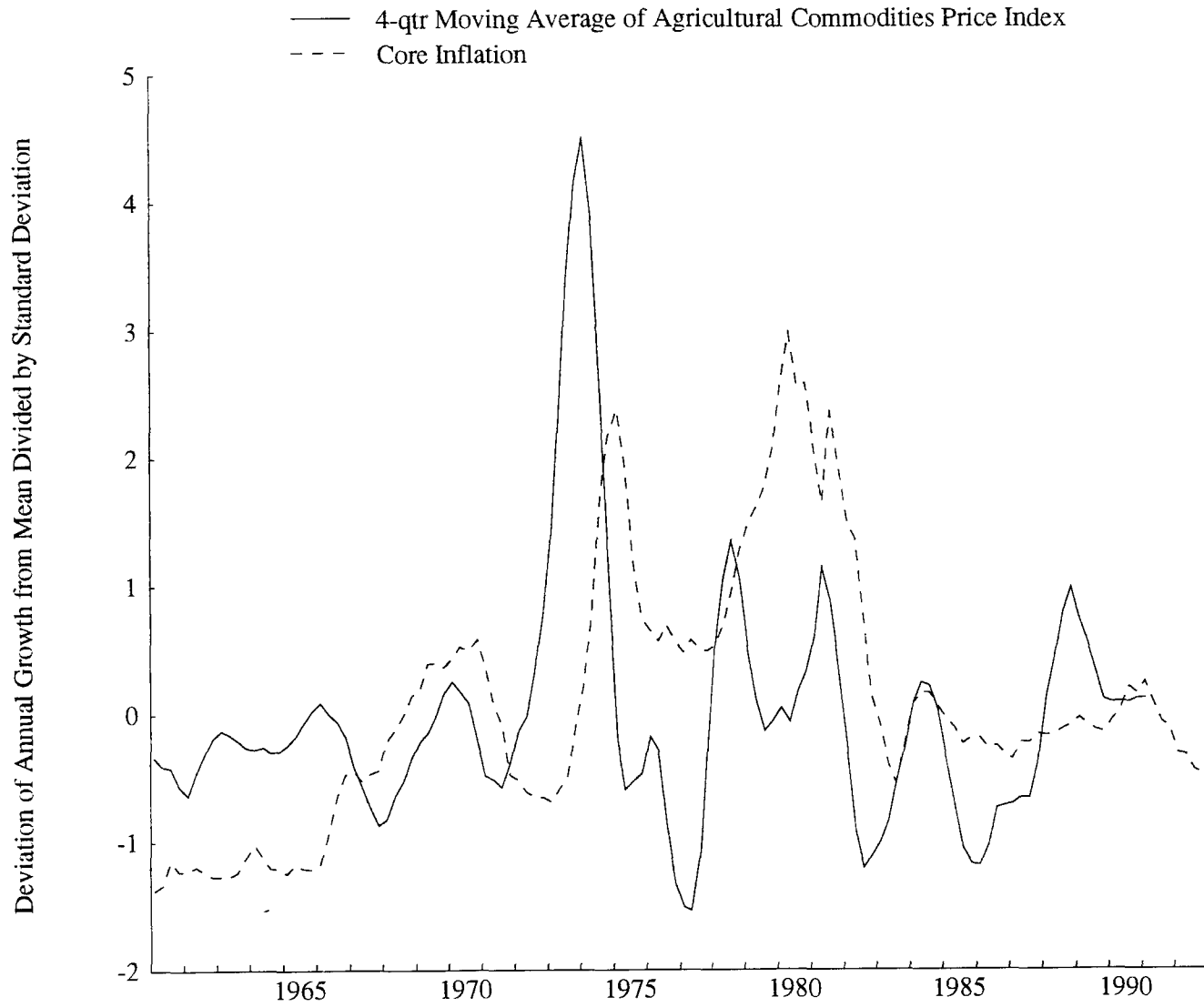


Chart 6

Commodity Prices

