

# Monetary Policy Myths and Realities

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**MYTH: Monetary policy is about controlling interest rates.**

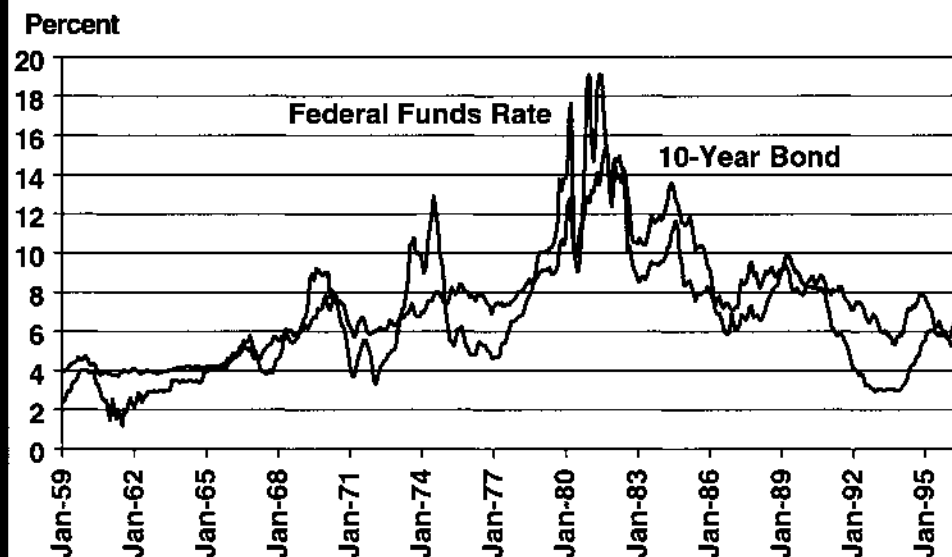
Because the Fed currently implements monetary policy by targeting the federal funds rate, many believe that monetary policy is about controlling interest rates.

The Fed exercises some influence over the federal funds rate, but much less over other interest rates.

The reality is, however, that long-term interest rates, which are important for long-term planning and investment decisions, are not directly controlled by the Fed.

To see this let's look at the behavior of the federal funds rate and the 10-year Treasury bond yield.

## Federal Funds Rate and 10-Year Treasury Bond Rate



**Monthly averages of the federal fund and 10-year T-Bond rates.**

### **Important Points:**

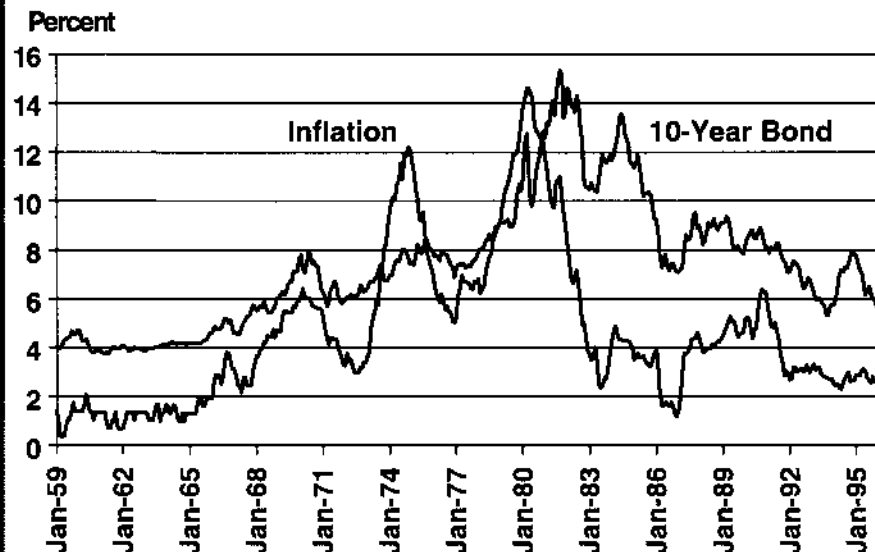
The two rates have similar long-run trends, but they frequently differ from each other considerably for periods of a year or more. Note the mid-1970s; more about the recent experience later.

The common long-run behavior suggests that they are driven by similar forces.

A particularly important force for the behavior of longer-term interest rates is inflation or, more precisely, inflation expectations.

To see this, let's consider the relationship between inflation and the 10-year T-bond yield.

## Inflation and 10-Year Treasury Bond Rate



This chart has the actual inflation rate and not an estimate of inflation expectations. But we know that there is a tendency of inflation expectations to respond to actual inflation experience with a lag.

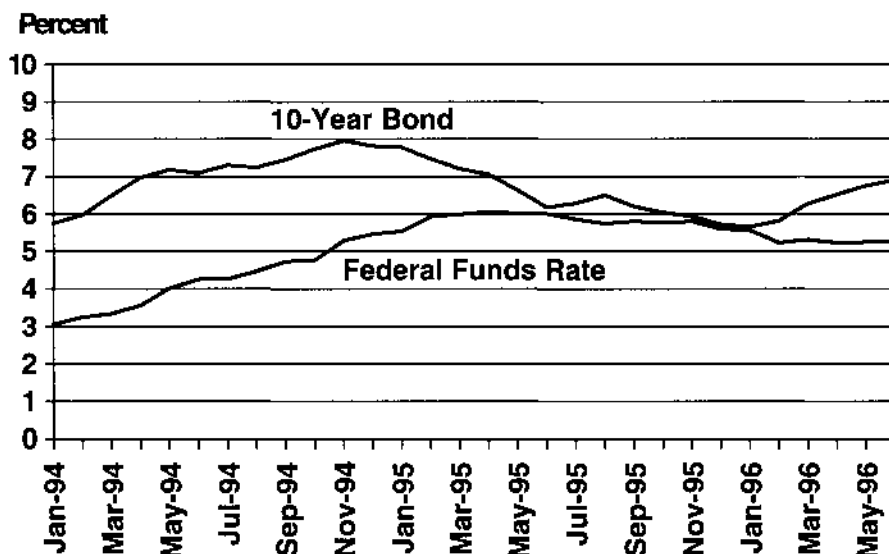
Inflation during the early part of the 1960s was low, so it is not surprising that long-term rate did not respond fully to the acceleration in inflation that began in the mid-1960s.

Also, the market tended to ignore the rapid accelerations and decelerations in inflation in the 1970s, but did trend up with the average inflation rate.

In the 1980s and 1990s, financial markets have remained cautious despite the improved inflation experience.

Attempts to reduce short-term interest rates can result in higher inflation expectations and higher long-term interest rates and vice versa. For example, let's take a close look at the experience since 1994.

## Federal Funds Rate and 10-Year Treasury Bond Rate



The funds rate target was raised in a number of steps starting in 1994. At first the long-term rate moved up with the funds rate. Later, when the market came to believe that the Fed was serious about resisting inflation pressures, the long rate moved down with further increases in the funds rate.

The most recent cut in the funds rate, however, engendered concerns about the Fed's resolve to fight inflationary pressures. As a result, the long-term rate rose on cuts in the funds rate target.

**REALITY: Monetary policy is about controlling the supply of money.**

The problem is that monetary policy cannot directly control the interest rates that are important to the economy.

Indeed, monetary policy isn't about controlling interest rates at all. Rather it is about controlling the supply of money.

Let me explain how this works.

The Fed implements monetary policy through open market operations-- buying or selling government securities.

While there are three tools of monetary policy: the discount rate, reserve requirements and open market operations, policy is implemented primarily through open market operations--buying or selling of government securities.




Purchases of government securities  
increase reserves and the monetary  
base.

Purchases of government securities increase reserves  
and the monetary base.

Sales of government securities  
decrease reserves and the monetary  
base.

Sales of government securities decrease reserves and  
the monetary base.



Changes in reserves or the monetary base are ultimately reflected in monetary aggregates.

Eventually changes in the monetary base are reflected in a wide variety of monetary aggregates.

The behavior of the monetary base and other monetary aggregates is important for inflation, which brings me to the next myth I would like to discuss.

**MYTH:** Inflation is caused by sudden increases in energy prices, wages or other raw material costs.

Some believe that inflation is caused by increases in energy prices, wages or raw material cost, so-called “cost-push” inflation.

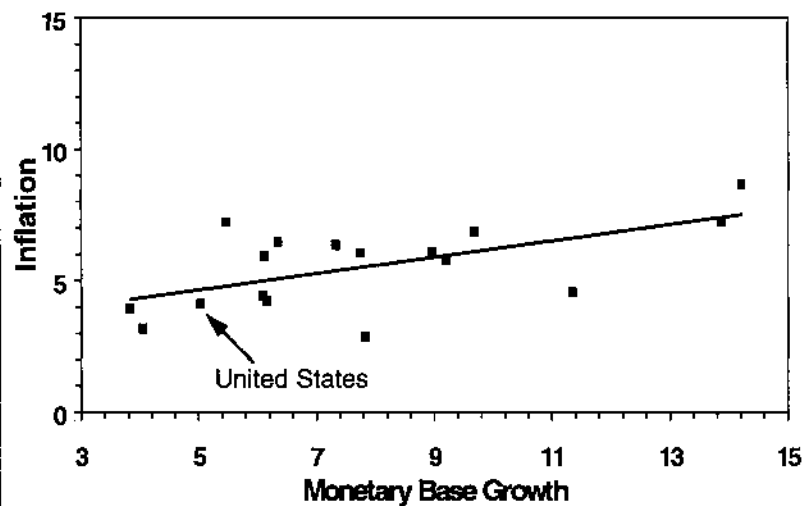
Sudden increases in the prices of important *raw materials*, such as petroleum, can have real consequences for the **level** of prices. But they are not responsible for sustained increases in the price level, that is, inflation.

Inflation is a monetary phenomena, caused by allowing money to expand more rapidly than the real economy for an extended period of time.

Sustained increased in wages, raw material costs and the like are the **result** of inflation, not the **cause** of inflation.

To illustrate the relationship between money growth and inflation, let’s consider the experience of 17 OECD countries, including the US.

## Money Growth and Inflation



Average growth rates of the monetary base and inflation for 17 countries, including the US. The averages are of available data. The shortest period is 38 years; the longest is 46 years.

### Main Point:

There is a strong positive relationship between monetary policy and inflation in the long-run. This is true for all countries.

As further evidence that inflation is a monetary phenomena subject to control by the central bank, we know that some very rapid inflations, including our own experience in the late 1970s and early 1980s, are associated with rapid money growth.

There is also evidence, however, that monetary policy can be used to reduce what many would consider moderate inflation. To see this let's consider the experience of three countries that have recently adopted explicit inflation targets.

## Inflation Experience of Inflation Targeting Countries

Canada Average Inflation	Target Index
Pre-Target (1990 - 1992)	4.04
Target (1993 - 1995)	1.33
New Zealand Average Inflation	Target Index
Pre-Target (1990 - 1992Q3)	3.84
Target (1992Q4 - 1995)	1.77
United Kingdom Average Inflation	Target Index
Pre-Target (1990 - 1992Q3)	6.84
Target (1992Q4 - 1995)	2.94

UK and New Zealand began inflation targeting in second quarter 1992, Canada began in 1993.

Each country targets a price index that is slightly different than the CPI.

In every case, the decision to make inflation the sole objective of monetary policy and to set explicit inflation targets has reduced inflation from the pre-targeting levels.

Some people would point out that world-wide inflation rates have declined over that latter period relative to the former.

While this is true, the experience of these inflation targeting countries appears to be somewhat better than average. For example the US inflation in the former period, 4.1%, was nearly the same as Canada's and New Zealand's. Their inflation experience since then is somewhat better than our 2.7%.

**REALITY:** Inflation is caused by rapid money growth and can be cured by appropriate monetary policy.

Both economic theory and the experience of US and the rest of the world suggest that inflation is **caused** by rapid money growth and can be **cured** by appropriate monetary policy.

If this is true, why doesn't monetary policy simply focus on bringing inflation down?

One reason is the belief that if we reduce inflation, we necessarily raise unemployment and reduce output.

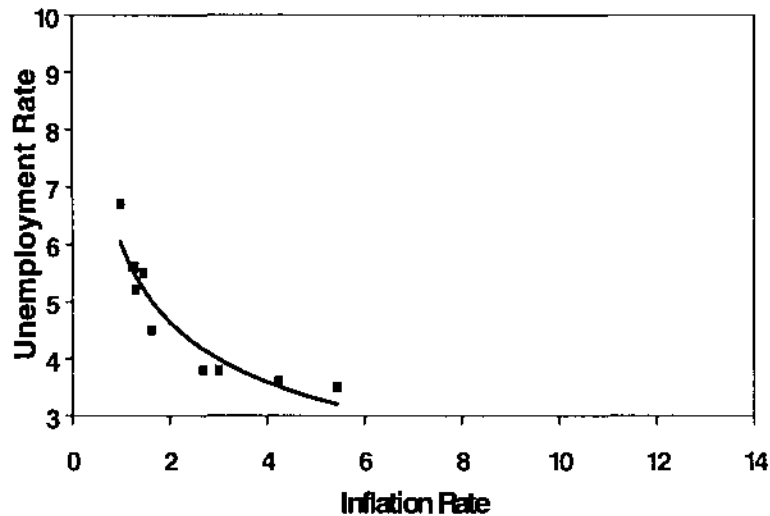
This is the next myth I would like to discuss.

**MYTH:** There is a reasonably  
stable, short-run tradeoff between  
unemployment and inflation.

This is the so-called Phillips curve tradeoff.



## Inflation/Unemployment Tradeoff: the 1960s



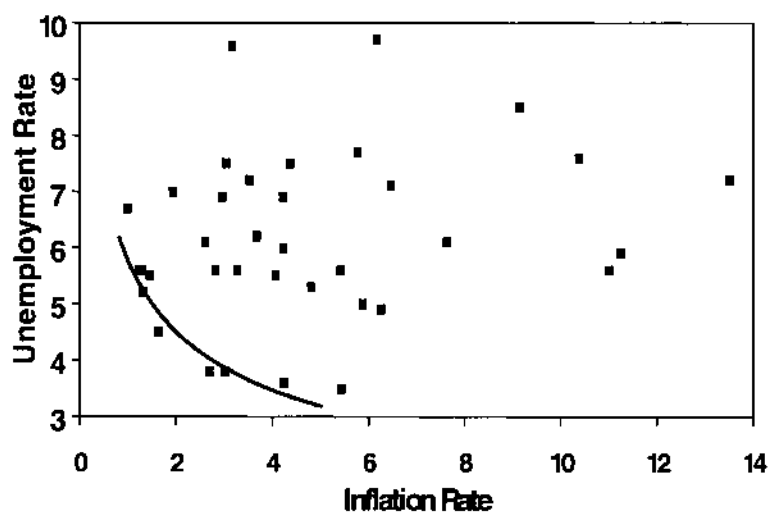
**Annual inflation and unemployment rates in the US from 1960 through 1969.**

The idea that there is a stable relationship between unemployment and inflation stems from the experience of the US prior to the 1970s.

The view is that the Fed can only reduce inflation by increasing the unemployment rate.

But this apparent relationship breaks down completely when the data for the 1970s 80s and 90s are considered.

## Inflation/Unemployment Tradeoff: 1960-1995



Rapid inflation can occur with any unemployment rate. For example, our current inflation rate of about 3 percent is consistent with unemployment rates of less than 4 to over 9 percent.

Monetary policy aimed at reducing inflation does not necessarily mean higher unemployment.

These data show that this is clearly not the case in the short-run.

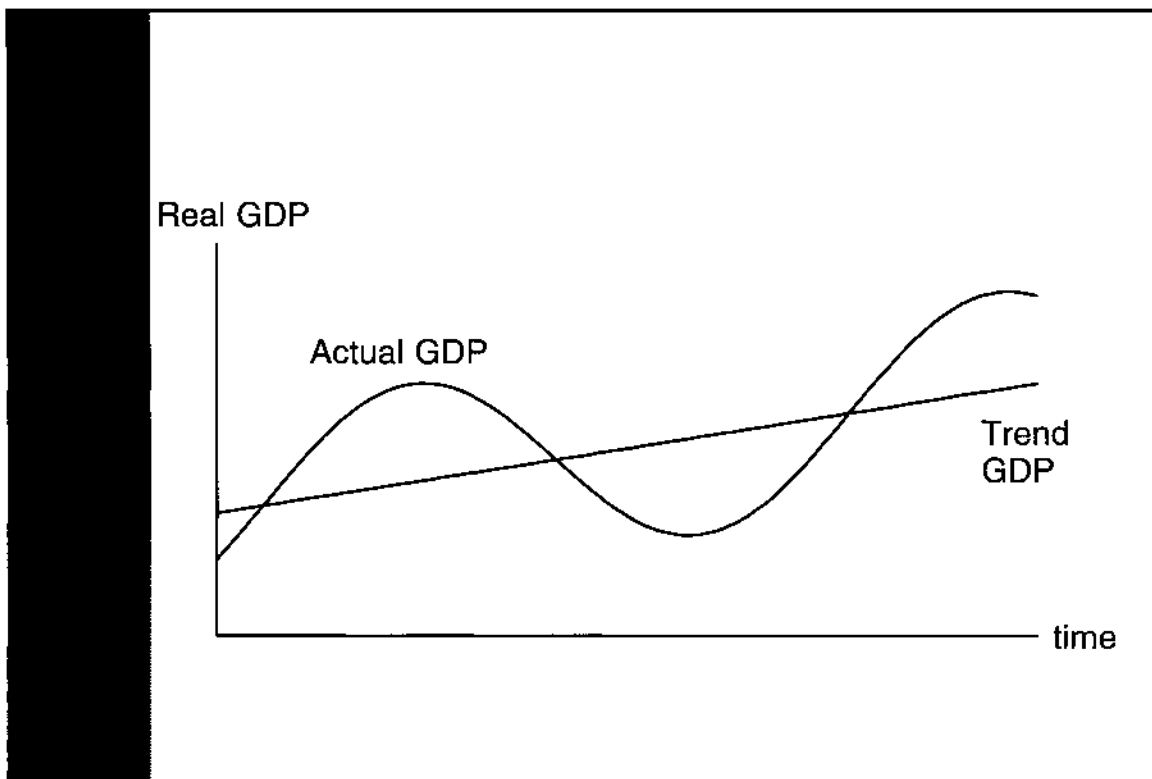
Moreover, economic theory and empirical evidence certainly suggest that this is not the case in the long-run either.

**REALITY:** There is no stable tradeoff between unemployment and inflation.

There is no stable relationship between inflation and employment. Consequently, those of us who believe that monetary policy should be focused on reducing inflation are not arguing for higher unemployment or slower economic growth. Although, many analysts try to make it sound as if we are.

While many acknowledge that focusing attention on inflation does not imply higher unemployment rates and slow growth in the long run, some argue that focusing monetary policy solely on inflation is a mistake because monetary policy can and should be used to stabilize output.

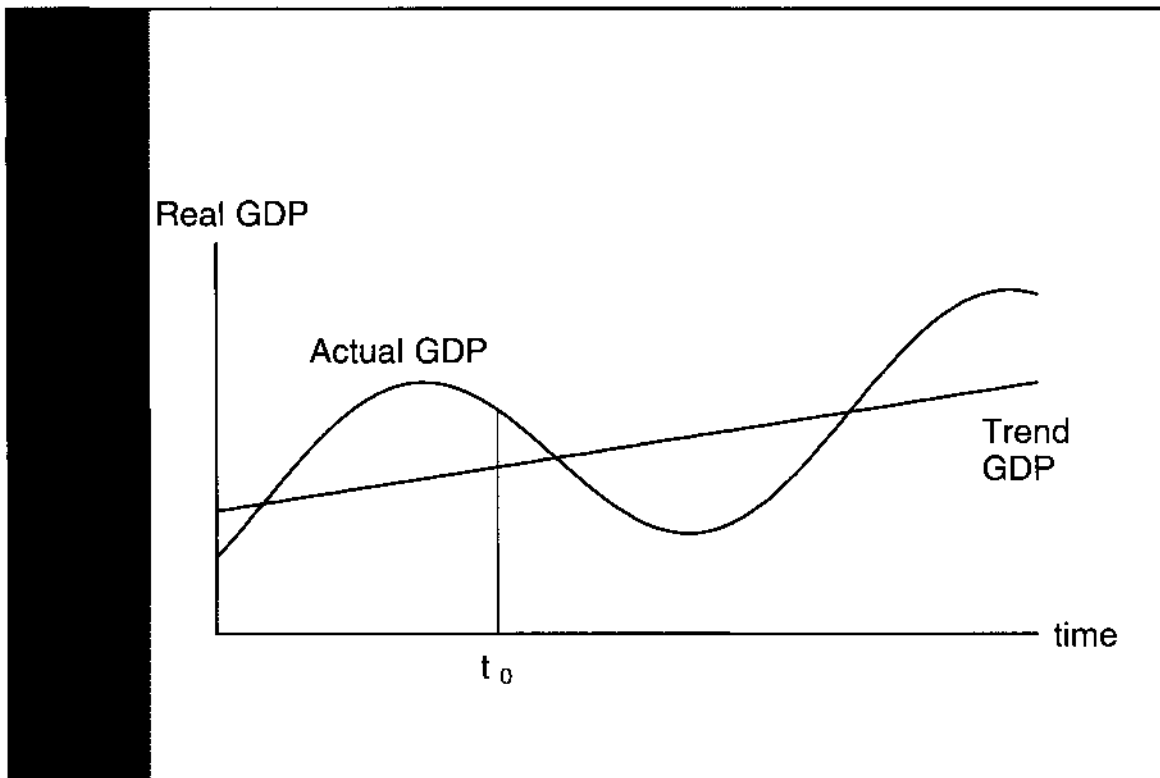
This is the next myth I would like to discuss.



Consider a hypothetical economy that moves through cyclical ups and downs.

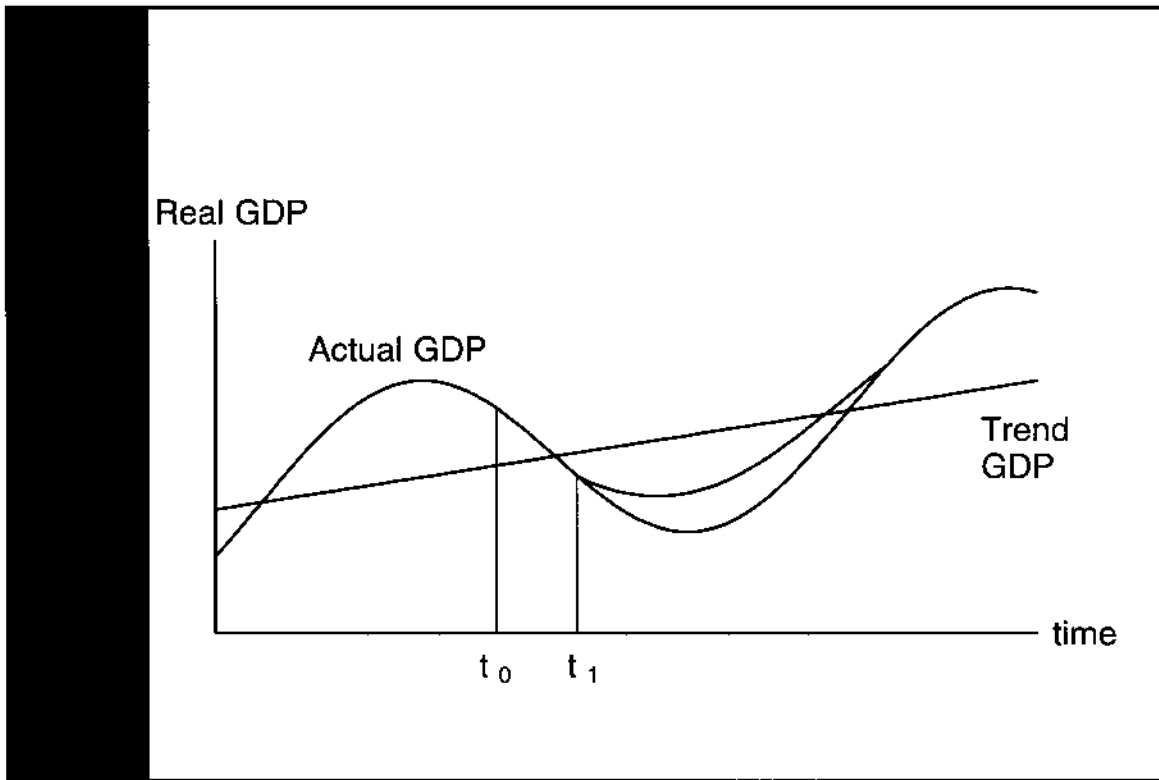
Trend GDP is the path that the economy would follow if there were no cyclical swings in output.

That is, trend GDP is what would occur if monetary policy could eliminate the business cycle completely.



To illustrate how stabilization policy would work, assume that we are at time  $t_0$  just after the cyclical peak in output. If monetary policy does nothing the economy will move through the contraction phase of the business cycle.

Assume that the objective of monetary policy is to stabilize output. Hence at time  $t_0$  the monetary authority eases policy to avoid, or at least mitigate, the cyclical contraction.



There are lags in the effect of monetary policy on the economy. Consequently, the economy does not respond immediately. Rather the economy begins to respond at time  $t_1$ .

Instead of continuing to fall along the solid red line the economy begins to expand and moves along the solid yellow line instead.

The result: Monetary policy has succeeded in reducing cyclical fluctuations in output.

What would we need to know to stabilize output?

While this example is plausible, many things that are required to stabilize the economy have been taken for granted.

Let's now consider some of the things that the monetary authority would have to know to successfully pursue economic stabilization policy.

1. We must know precisely where we are in the business cycle.

We need to know precisely where we are in the business cycle.

If we believe that we are at the start of a contraction [as in our little illustration], but in reality we are in a continuing expansion, policy may move in the wrong direction.

In our illustration, for example, we would have eased when we should have done nothing or tightened.

The 1990-91 recession had started well before policy makers were aware of it.

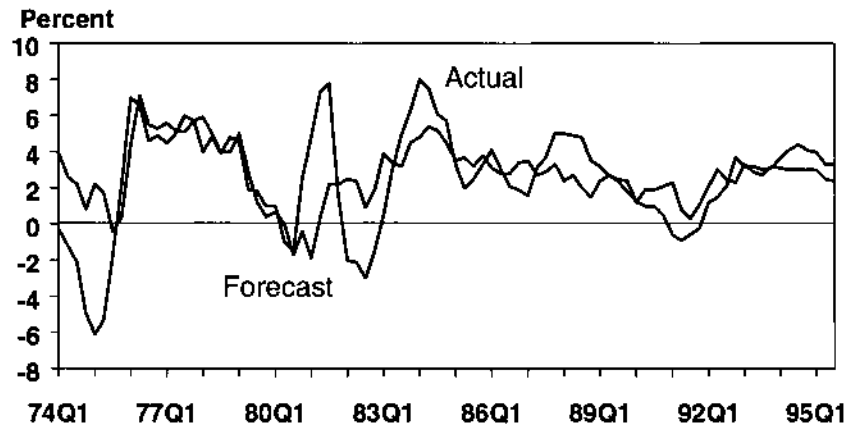


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2. We must be able to forecast economic activity one or two years out.

We must not only know where the economy is, but where it is going.

Hence, the important question is how well does the Fed or anyone else forecast real output?

## Actual and 4-Qtr Ahead Forecast Real Output Growth



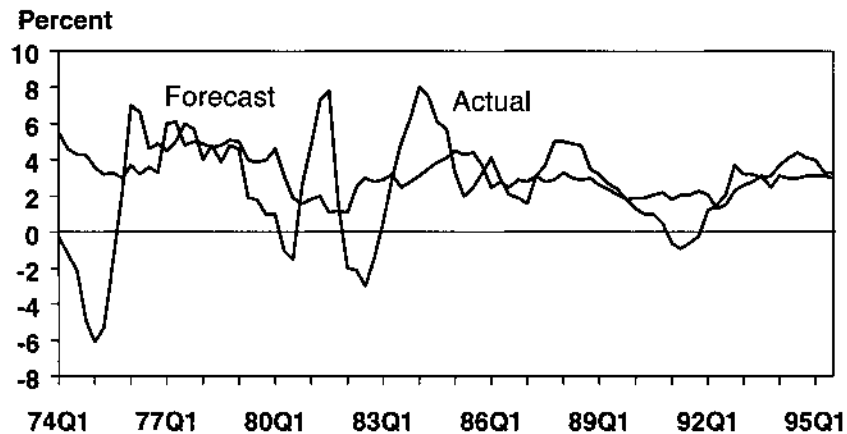
Actual GDP growth and Median forecast of what output growth was going to be from a year [four quarters] earlier.

These are the forecasts of some private forecasters, but economists who have looked into it say that the central bank or government forecasts are no better on average than private ones.

It's clear that we don't forecast a year ahead very well. Note the early 1980s.

Our ability to forecast is even worse two years ahead, which is a more relevant time frame if the ultimate concern is inflation.

## Actual and 8-Qtr Ahead Forecast Real Output Growth



Actual GDP growth and the median [5 forecasters] forecast 2-years [8 quarters] earlier.

**There is a particularly interesting aspect of these forecasts:**

Forecast errors are very large around turning points and, particularly, recessions.

Turning points are precisely what the Fed needs to forecast well to conduct counter cyclical monetary policy.

To stabilize output, however, we need to do more than simply forecast correctly.

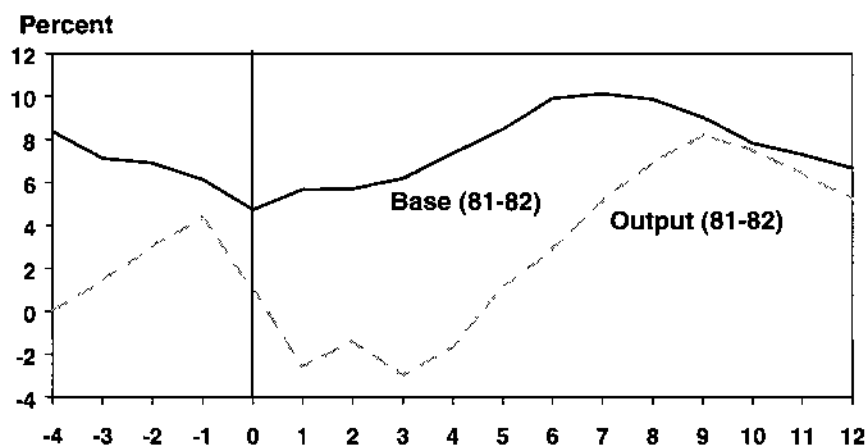
3. We need to know when and by how much the economy will respond to our actions.

If stabilization policy is to succeed, we also need to know how and when the economy will respond to our actions. Any gains will be temporary, however. In the long-run, real output growth is determined by real factors, such as, labor force growth, productivity growth and technology.

The problem is that the economy is affected by many things, so that the economy's response to changes in monetary policy can be very different at different times.

To see this, let's consider a couple of times when monetary policy eased substantially.

## Real Output and Base Growth: 1981-82 Recession



The first is during the 1981-82 recession. Solid line is year-over-year monetary base growth. The zero line denotes the quarter when there was a significant change in the growth rate of the monetary base. In this case it is the fourth quarter of 1981. The dashed line is year-over-year growth rate of real GDP.

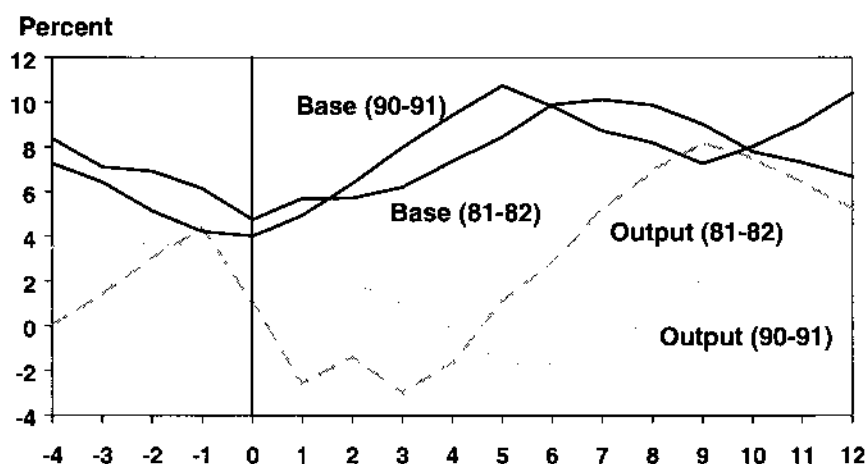
Monetary policy had been restrictive, as base growth was trending down.

After the peak in output growth, however, monetary policy reversed course and monetary base growth accelerated rapidly.

In this case, output growth continued to fall for the next three quarters before picking up, but the economy expanded rapidly [above a 4% rate] for the next two years.

Now let's consider a similar experience in the 1990-91 recession.

## Real Output and Base Growth: 1981-82 and 1990-91 Recessions



The zero line for the 1990-91 experience comes at the fourth quarter of 1991.

The experience of monetary base growth during the 1990-91 experience is similar to that of the early 1980s.

The behavior of output growth, however, was quite different. Output growth began to pick up about 5 quarters after the change in monetary policy.

Moreover, three years after the policy change output growth remained well below the rates achieved in the mid-1980s.

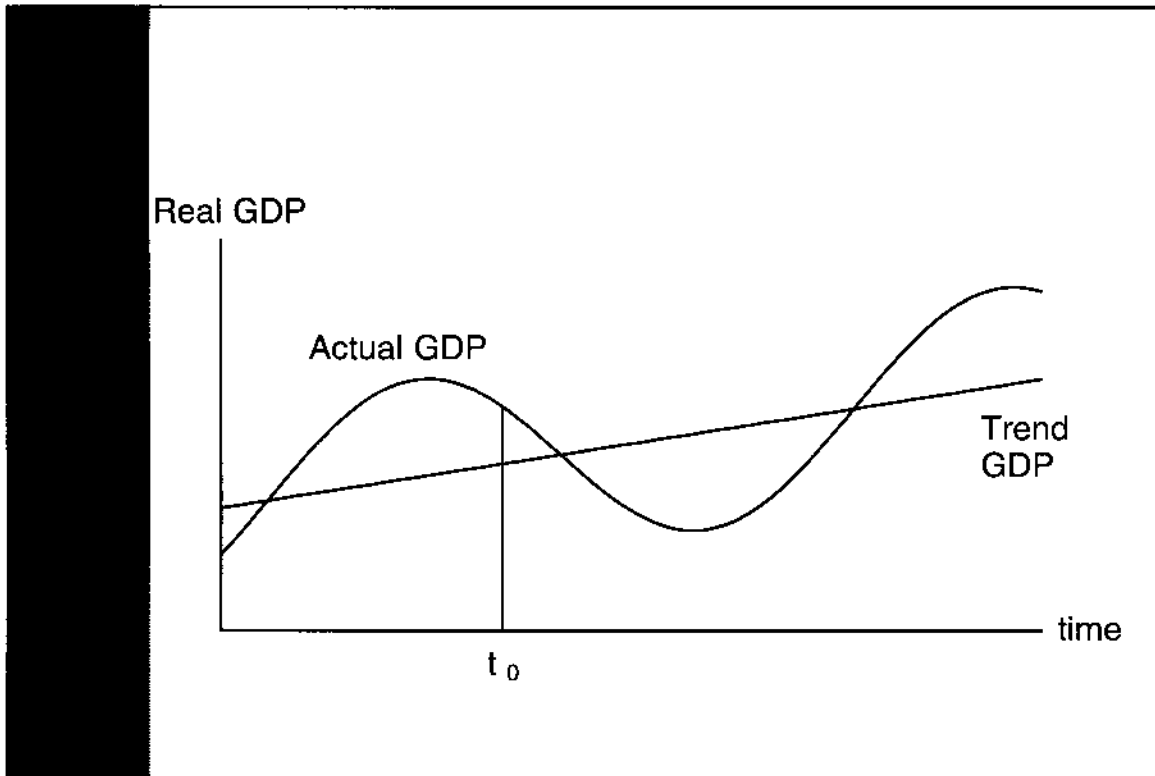
In order to conduct effective counter cyclical monetary policy, the timing and extent of effects of our policy actions on the economy would have to be much more predictable.

**REALITY:** Conducting counter cyclical monetary policy is difficult, if not impossible.

Conducting counter cyclical monetary policy is difficult, if not impossible.

Moreover, it is dangerous because mistakes lead to more, not less, cyclical instability.

Let's see what can happen if the Fed makes a mistake.

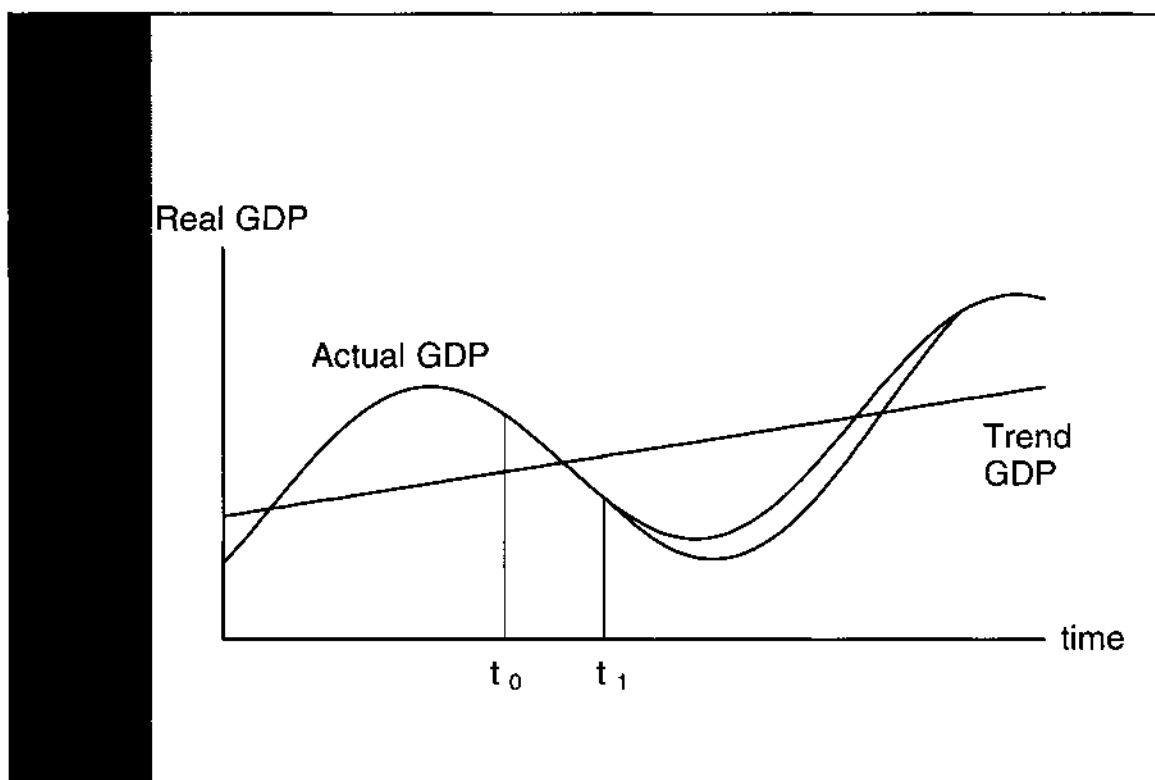


Consider the situation that we considered earlier, where we are at time  $t_0$ . Assume this time, however, that we mistakenly believe that if we do nothing output will expand rather than contract. That is, we have incorrectly forecast the cyclical turning point!

Our mistaken belief would cause us to pursue a more restrictive monetary policy rather than a more expansionary policy.

What would the result be?





The result would be that output actually declines by more than it would have had we done nothing.

Now some will argue that as new information about the economy comes in, it will become increasingly clear that we have made a mistake. At some point, we will reverse policy. But remember that GDP data for current quarter are not available until half way through the next. Furthermore, the first-released data are frequently revised substantially.

In any event, by the time we realized that we had made a mistake, the impact of our policy on the economy would begin to appear.

**Conclusion:** Inappropriate counter cyclical monetary policy, even though well intentioned, can exacerbate cyclical swings in economic activity.

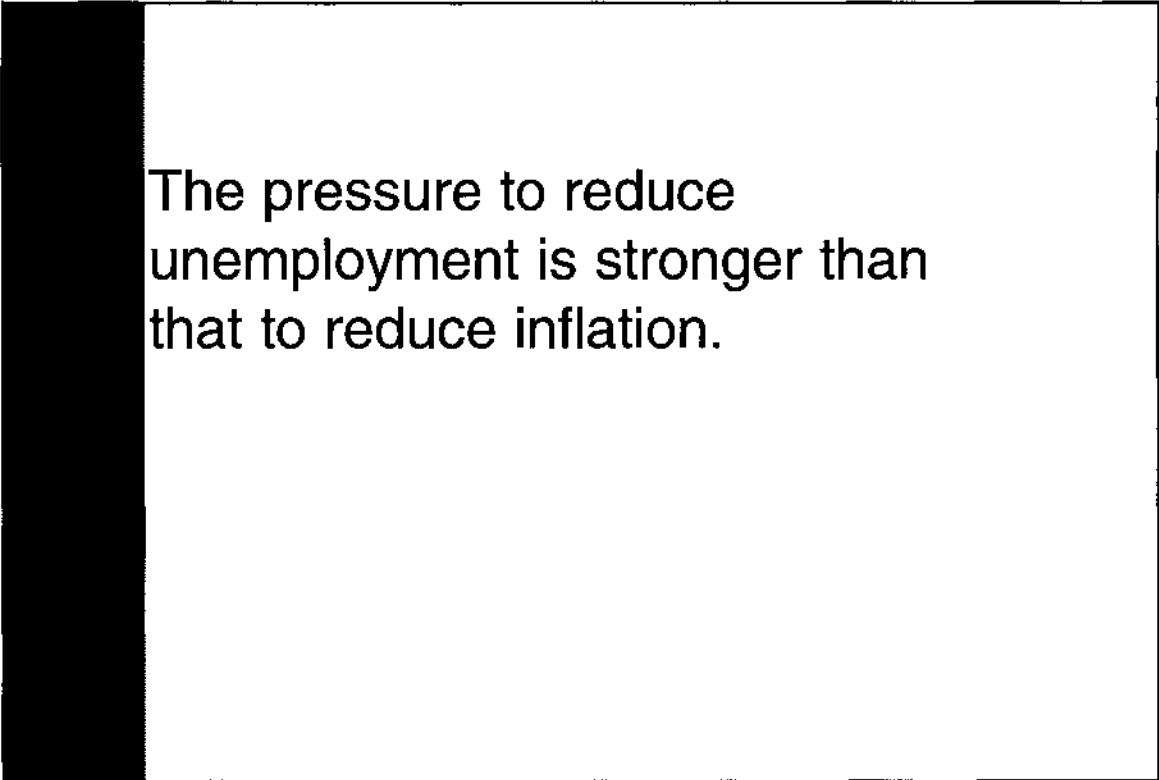
**MYTH: Attempting to stabilize employment and output is better than doing nothing.**

Despite these difficulties, some suggest that we should attempt to stabilize output because doing something is better than doing nothing.

What they fail to realize, however, is that...

**REALITY:** Pursuing counter cyclical monetary policy may increase the average rate of inflation.

Counter cyclical monetary policy is likely to raise the average rate of inflation over the business cycle from that which it would otherwise be.



The pressure to reduce unemployment is stronger than that to reduce inflation.

Part of the problem is that the political pressure to reduce unemployment is stronger than that to reduce inflation.

Consequently, during periods of slow growth there is pressure for the Fed to ease policy. During cyclical expansions the pressure to pursue a more restrictive policy will be less.

Monetary policy aimed at avoiding cyclical downturns will be conducted asymmetrically.

The result is that monetary policy will be conducted asymmetrically.

Monetary base growth will accelerate during downturns, but not slow commensurately during economic expansions.

Monetary base growth will tend to accelerate more during downturns than it will decelerate during economic expansions.

Inflation will be higher over the business cycle than it would otherwise be.

The result is that inflation will be higher over the business cycle than it would otherwise be.

Some might say that is OK, because ...

**MYTH: The Fed is too concerned with inflation and not concerned enough with employment and economic growth.**

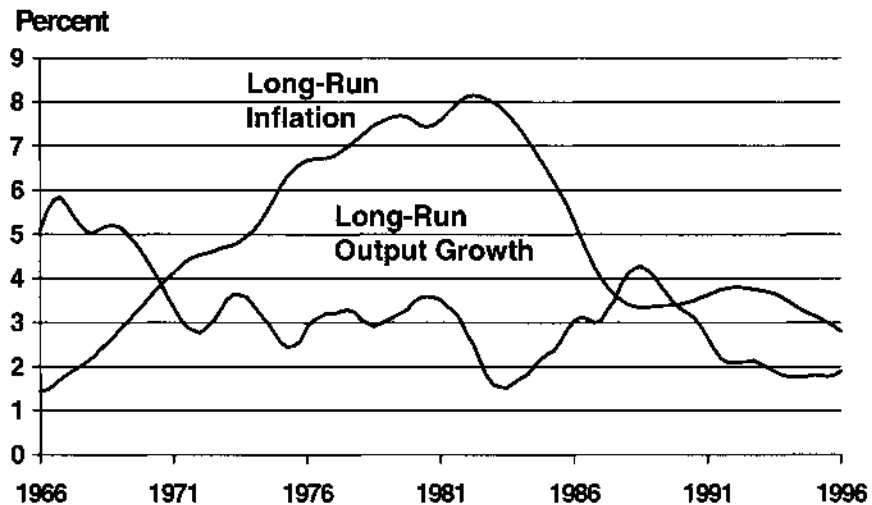
The myth is that the Fed is too concerned with inflation and not concerned enough with employment and economic growth.



**REALITY:** Being concerned about inflation and being concerned about output growth are the same thing.

The reality is, however, that being concerned about inflation and being concerned about output growth and economic welfare are the same thing.

## Chain-Weighted GDP and Price Index Growth Rates



**These are 5-year moving averages of year-over-year inflation and output growth rates.**

This chart suggests that there is no positive relationship between inflation and output growth for the US over the last 30 years. When inflation goes down, output growth goes up and the unemployment rate goes down, not up!

While there is no definitive scientific evidence that moderate inflation reduces the growth rate of output, economic theory suggests that this might well be the case.

## Why does inflation reduce output growth and economic welfare?

Why does inflation reduce output growth and economic welfare?

There are many reasons, but here are three of the more important ones.

## 1. Inflation redistributes income.

Inflation redistributes income.

While this happens in many arbitrary ways, inflation most importantly redistributes income from creditors to debtors.

The result is that inflation tends to reduce capital formation below that which would otherwise be the case.

A lower rate of capital formation can result in a lower rate of economic growth.

2. Inflation and inflation uncertainty redistribute resources from their most productive uses to less productive uses.

Inflation and the associated inflation uncertainty also redistributes resources to less productive uses.

We all saw what happened during the high inflation of the 1970s. Resources were redirected to predicting and hedging against the effects of inflation.

### 3. Inflation distorts the economy's price signaling mechanism.

Perhaps the most significant effect of inflation comes through the effect of inflation on the price signaling mechanism.

The price signaling mechanism is the economy's way of redirecting resources to their most productive use. For example, an increase in the price of good A relative to the price of good B signals that more resources should be devoted to A and perhaps fewer to B.

In an inflation environment, however, it becomes difficult to distinguish price changes that signal a need to reallocate resources from those that do not, that is, price changes that occur solely because of inflation.

The importance of more rapid economic growth: Even a very small, almost imperceptible, effect of inflation on output growth can have an immense impact on output over time.

While there is no definitive scientific evidence that moderate rates of inflation reduce output growth, economic theory suggests that it could. Because of this, it is instructive to look at what even a very small effect of inflation on output growth implies.

Example: Since 1959, Real GDP has increased at an average rate of 3.13%, while inflation has averaged 4.7%.


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Let's now assume that things had been different.  
Specifically, ...



Assume:

- Better monetary policy
- Lower inflation
- Higher output growth, 3.14%  
instead of 3.13%.



Since 1959, \$424.8 billion more real output would have been produced.

This amounts to average annual output lost of about \$12 billion a year.

The point is that because of compounding, a very small growth rate effect can have very large consequences for long-term economic welfare.

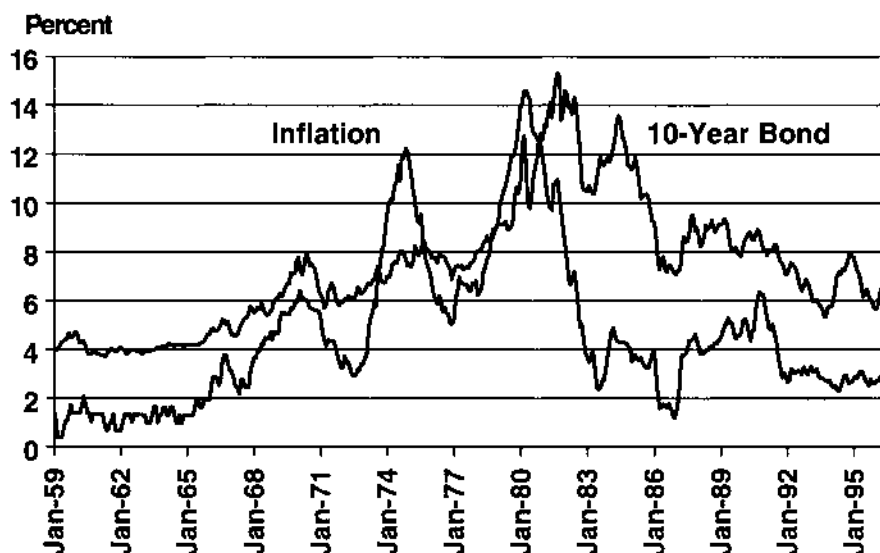
**MYTH: Inflation has no lasting consequences once it is under control.**

Nevertheless, some argue that we should focus some attention on stabilizing output, because if we make a mistake and create more inflation than we would like, we can simply reduce inflation back to a more desirable level without any lasting consequences.

This idea is naive. What is important for the actual inflation experience is inflationary expectations. Inflationary expectations depend on the public's perception of how committed the monetary authority is to stabilizing prices.

Among other things, this perception is related to what the public has observed the monetary authority doing in the past.

## Inflation and 10-Year Treasury Bond Rate



For example, look at what has happened to the long-term rate since the early 1980s. The inflation rate has come down and so have long-term interest rates. But long-term real interest rates remain relatively high.

Part of the reason for relatively high long-term rates is the fact that the market is not certain that the Fed is truly committed to achieving and maintaining a stable price level.

Indeed, when we look at the experience across countries, we find that the US experience is not unique. Specifically, countries with higher historical inflation rates have higher long-term interest rates relative to the current inflation rates than countries with historically better inflation performances.

**REALITY:** A lack of inflation credibility can cause inflation expectations and long-term interest rates to be high for a long time.

The need for credibility leads me to the last myth I would like to discuss with you.

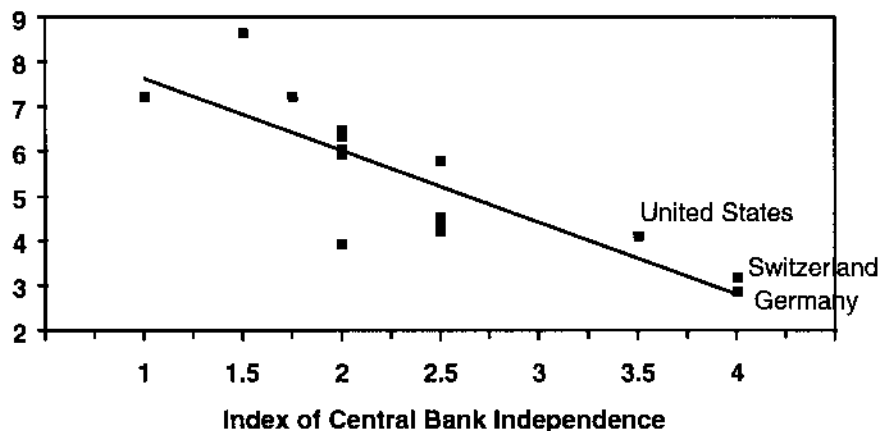
**MYTH: The Fed has too much independence.**

The myth is the Fed has too much independence.

The fact is the more independent the central bank, the better is the inflation outcome and the higher is that rate of real growth.

## Inflation and Central Bank Independence

Average Inflation Rate, 1950-1995



**This is the average inflation rate over the 35-year period from 1960 to 1995 for 16 countries, including the US and a index of central bank independence. This index is by Alberto Alesina and Lawrence Summers, *Journal of Money, Credit and Banking* (May 1995).**

Several indices of central bank independence have been constructed, and they all give qualitatively similar results.

The indices are designed to reflect what economists and others believe are essential features of central bank independence:

- the institutional relationship between the central bank and various branches of government
- the procedures for nominating and dismissing the head of the central bank
- the role of government officials in the central bank
- the frequency of contact between the head of the central bank and government officials.

### **Main Point:**

These data suggest that the more independent the central bank [where 4 is the most independent], the lower the long-run inflation experience.

**REALITY:** The more independent a central bank, the better is the long-run inflation experience.

Those who believe that the Fed is too independent likely also believe that the Fed should do more to stabilize output growth and be less concerned about inflation.



What are the essential monetary policy realities?

Let me summarize what I believe the essential monetary policy realities are.

1. Monetary policy is about controlling the supply of money.

Monetary policy is about controlling the supply of money, not about controlling short-term interest rates.

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2. Inflation is a monetary phenomenon that is subject to long-run control by the central bank.

Inflation is a monetary phenomenon caused by too rapid money growth.

Moreover, economic theory and experience suggest that the long-run inflation rate can be controlled by appropriate monetary policy.

3. As a practical matter, monetary policy cannot be used to stabilize output and employment.

Attempting to stabilize output will result in a higher average rate of inflation and likely produce less not more economic instability.

4. A monetary authority that is independent of short-term political pressures will produce the lowest inflation over time.

The best way we can insure that monetary policy will achieve price stability is to maintain the central bank's independence.

5. A monetary policy that achieves price stability fosters the highest rate of economic growth and the highest level of economic welfare.

Finally, the key to achieving the highest rate of economic growth that the economy is capable of is to stabilize the price level.

This is also the most that monetary policy can or should do to stabilize output as well.

What can be done to help the Fed achieve price stability?

What more can be done to help the Fed achieve price stability.

I recommend that the following three steps be taken.

1. Make achieving price stability the Fed's sole monetary policy objective.

First, achieving price stability should be the Fed's only goal.


Multiple objectives only serve to divert the Fed's attention from the only thing it can achieve, stable prices. The result is higher inflation than is either necessary or desirable and, very likely, a slower rate of economic growth.



2. Direct the Fed to quantify its inflation objective so it can be held accountable.

Second, the Fed's price level or inflation objective should be explicit and quantifiable. This is the only way the public and Congress can make the Fed accountable for its actions.

Without explicit objectives there is simply no way to evaluate a central bank's performance.



3. Maintain the Fed's institutional independence.

Finally, attempts during the past few years to politicize the Fed must be resisted. For example, in recent years there have been proposals to have members of the administration serve on the Federal Open Market Committee or to have Reserve Bank Presidents appointed by the President. Such recommendations are thinly veiled attempts to reduce the Fed's independence, and must be resisted.