

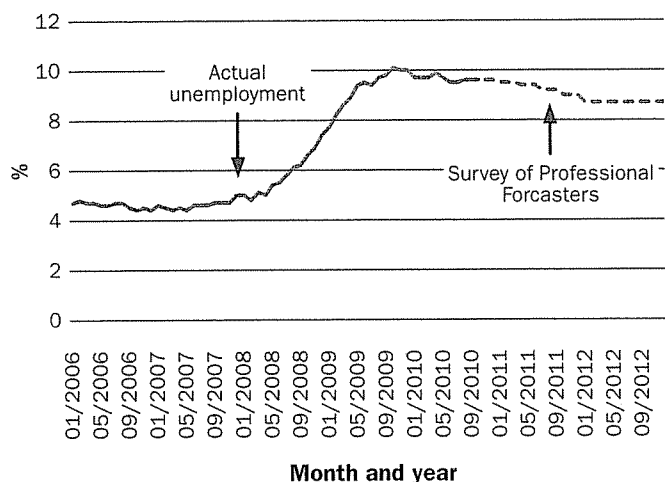
## The unemployment crisis

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As 2011 begins, the prospects for U.S. unemployment are bleaker than at any time since the Great Depression. As shown in Exhibit 1, the unemployment rate was less than 5% during 2006 and 2007. Unemployment rose rapidly during the financial crisis, passed 9% in May 2009, and has stayed around 9% or 10% since then. According to the Survey of Professional Forecasters, unemployment is not likely to fall significantly over 2011 or 2012.

**Exhibit 1: U.S. unemployment rate, 2006–2012**



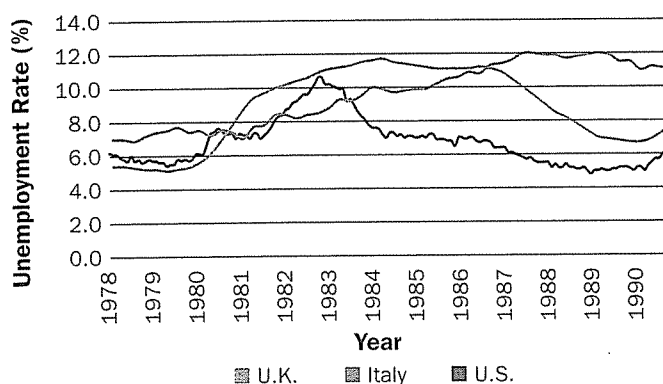
Sources: U.S. Bureau of Labor Statistics and Survey of Professional Forecasters, September 2010

Is unemployment stuck at a high level indefinitely? Are there economic forces that will eventually push it down? This article gives pessimistic answers to these questions. In my view, it will be a long time before unemployment falls substantially — perhaps well past 2012. The reason is that the usual cure for high unemployment — countercyclical monetary policy — has been thwarted by the zero bound on interest rates. Without countercyclical policy, unemployment exhibits “hysteresis”: When an event such as a financial crisis pushes it up, it stays high.

### Past episodes of high unemployment

Some economists presume that unemployment will fall significantly over the next few years. The reason is partly theoretical. According to mainstream macroeconomics, a recession such as that of 2008-2009 should have only a short-run effect on unemployment. In the long run, unemployment should return to its “natural rate,” which appeared to be about 5% before the financial crisis.

U.S. history seems to support this view. At two previous times since World War II, in 1975 and 1982, recessions pushed the unemployment rate to 9% or higher. In these episodes, after unemployment peaked, it started falling. Within a few years, unemployment was near its pre-recession levels. If this pattern were to continue, U.S. unemployment would fall substantially over 2011-2013.

**Exhibit 2: Unemployment, 1978—1990**

Sources: U.S. Bureau of Labor Statistics and Survey of Professional Forecasters, September 2010

Yet, when unemployment rises, a subsequent decline is not inevitable. In many countries, unemployment has risen during a recession and then stayed high. Exhibit 2 illustrates this point by comparing U.S. unemployment in the 1980s to unemployment in the U.K. and Italy in the same period.

From 1979 through 1982, the path of unemployment in the U.K. paralleled that in the United States: The unemployment rate rose from less than 6% to more than 10%. In both countries, unemployment rose because the central bank raised interest rates to fight inflation. After 1982, however, the paths diverged: In 1987 unemployment was down to 6% in the U.S. but still over 10% in the U.K. Unemployment in the U.K. remained above its 1979 level until 2001.

In Italy, unemployment rose from 7.2% in 1978 to 8.5% in 1982 and then 12.0% in 1987. After that, it did not fall significantly until the 2000s.

In a path-breaking 1986 paper, Olivier Blanchard and Lawrence Summers interpreted such experiences as evidence of hysteresis. This term comes from physics, and means that a shock to a variable (in this case a rise in unemployment) has long-run effects — effects that persist even after the initial shock is gone. According to hysteresis

theories, a rise in unemployment during a recession leaves scars on the labor force. The skills of unemployed workers erode or fail to keep up with technological change, the workers become unattractive to employers, and they become detached from the labor force. As a result, unemployment stays high even after the recession ends.

### When does unemployment stay high?

To summarize history, when unemployment rises during a recession, it sometimes stays high and sometimes falls. What determines whether unemployment falls?

Research suggests that a critical factor is the behavior of monetary policy. A 1994 paper by Christina Romer and David Romer shows that the Federal Reserve has responded strongly to U.S. recessions, reducing interest rates to push unemployment down. The federal funds rate fell 4.6 percentage points from late 1973, when the mid-70s recession began, to mid-1975. The fed funds rate fell 8.3 percentage points from mid-1981 to the end of 1982.

These policy actions produced strong economic recoveries. U.S. output grew at an annual rate of 5.5% from early 1975 to late 1976 and 5.2% from mid-1981 to mid-1983, rates that were well above the long run U.S. growth rate of 2%-3%. Rapid output growth raised the demand for labor and reduced unemployment.

Using estimates of the effects of monetary policy, Romer and Romer perform counterfactual simulations showing how the economy would have behaved if the Fed had not eased policy during past recessions. They find that output growth would have been slower — too slow to push unemployment down significantly. High unemployment would have persisted for much longer than it did with the Fed's actual policy.

It is natural that the Fed has eased policy in response to recessions. More surprising, perhaps, is the fact that not all central banks have behaved that way. Again, the U.K. and Italy in the 1980s are good examples. In both countries, the central bank raised short-term interest rates slightly when recessions began.

Why wouldn't a central bank ease policy during a recession? I have examined this question in my past research. In some cases, including the U.K. in the 1980s, the explanation is fervent opposition to inflation. The Fed under Paul Volcker tightened policy in 1979 to reduce inflation, but then shifted toward ease when unemployment rose. In contrast, British policy under Margaret Thatcher remained tight despite rising unemployment. Thatcher wanted to ensure that inflation was vanquished completely before easing. (Prime Minister Thatcher directed monetary policy because the Bank of England was not yet independent of the government.)

In Italy, the absence of countercyclical policy during the 1980s resulted from the country's participation in the European Monetary System (EMS). The EMS fixed exchange rates within Europe from 1979 to 1999, when the euro was created. The Banca d'Italia could not reduce interest rates because that action would have caused the lira to depreciate.

The absence of monetary expansions explains why the British and Italian recessions produced persistent increases in unemployment. These episodes mirror Romer and Romer's counterfactual simulations of the effects of passive monetary policy. When the British and Italian recessions ended, there were no spurts of above-average output growth, so unemployment did not fall. Hysteresis set in: the recessions had long-run effects on unemployment.

Differences in monetary policy may not be the sole reason that, in the past, European countries have experienced hysteresis and the United States has not. Another possible factor is distortions in European labor markets created by government policies, such as long-lived unemployment benefits and restrictions on the hiring and firing of workers. Some economists argue that these policies impede the recovery of employment after a recession.

In my view, however, distortions in labor markets are a secondary factor for explaining hysteresis. In current research, I am examining increases in unemployment in Latin American countries such as Argentina and Colombia.

These countries lack European-style labor market policies, yet hysteresis is strong: As in the U.K. and Italy, the absence of countercyclical policy has produced persistent increases in unemployment. In these episodes, as in Italy, policy was constrained by exchange-rate regimes, such as Argentina's currency board.

### **Current U.S. monetary policy**

How does the current U.S. situation compare to past episodes of high unemployment? The Federal Reserve's behavior today differs from its past behavior for a simple reason: the zero bound on interest rates. In line with its past countercyclical policies, the Fed began reducing interest rates in September 2007 as the economy slowed. Unfortunately, it quickly ran out of ammunition: the federal funds rate hit zero in December 2008. The Fed could not provide further stimulus.

In 2009 and 2010, economists estimated that the interest rate consistent with the Fed's past countercyclical policy was around -3% or -4% (according to a "Taylor rule" in which the interest rate responds to movements in output and inflation). If one didn't know that a negative interest rate is impossible, it would appear that the Fed became extremely hawkish in 2009 — it held interest rates 300 or 400 basis points above the appropriate level. In any case, the Fed's inability to reduce rates has prevented it from creating a growth spurt like the ones following the recessions of the 70s and 80s. Output growth has returned to roughly its long run level of 2% or 3%, but that is not enough to reduce unemployment.

To summarize, history suggests that a rise in unemployment will persist if monetary policy is not sufficiently expansionary. In some countries, expansionary policy has been precluded by strong aversion to inflation or concern about exchange rates. Today, the Fed would like to stimulate the economy, believes that inflation is contained and is not greatly concerned about the exchange rate. Yet, expansionary policy has been thwarted by the zero bound on interest rates.

Is there any way that policymakers can stimulate the economy despite the zero bound? In October 2010, the Fed initiated quantitative easing: It is purchasing long-term Treasury bonds in an effort to reduce their interest rates, which are significantly above zero. But the effects of this policy on interest rates and output are likely to be small (like the effects of long-term security purchases in 2009). Expansionary fiscal policy — a tax cut or increase in government spending — could spur growth and push down unemployment, but such a policy is politically impossible because of worries about government debt.

It is always possible that something will increase growth. One precedent is Japan, which hit the zero bound on interest rates in 1999 in the midst of a long slump. Japanese growth finally picked up in 2004 because of rising demand for its exports, largely from China. Like Japan, the U.S. could experience a lucky shock that reduces unemployment — but it could also experience an unlucky shock, such as new problems in the financial system, that raises unemployment. Overall, the most reasonable forecast is that unemployment will remain near its current level for a long time.

### Deflation?

There is a worse possibility: deflation. Over the last several decades, the Phillips curve has explained most movements in U.S. inflation. According to the Phillips curve, inflation rises when unemployment is below its natural rate and falls when unemployment exceeds the natural rate. If the natural rate is near 5%, then unemployment in 2010 was far above the natural rate. Therefore, we should expect inflation to fall over time.

Inflation has indeed fallen modestly. Core inflation (the inflation rate excluding volatile food and energy prices) fell from 2.5% in 2007 to 0.8% in 2010 (as measured with data through September). A vital question is whether inflation will continue to fall — which would mean it will soon become negative.

That could be a disaster. With inflation falling and the nominal interest rate stuck at zero, the real or inflation-adjusted interest rate would rise. A higher real interest rate would slow the economy, raising unemployment — which would cause a further fall in inflation, raising the real interest again, and so on in a vicious circle.

Will this happen? Economists have suggested a number of reasons why inflation might not fall as predicted by the Phillips curve. Some argue that the behavior of inflation changes as the inflation rate gets near zero, because workers resist cuts in nominal wages. Another view, one espoused by Fed economists, is that deflation will not occur because expectations of inflation are “anchored” at a positive level. Finally, and ironically, hysteresis may save the economy from deflation. If the natural rate of unemployment rises to 8% or 9%, the deflationary gap between actual unemployment and the natural rate will disappear.

Once again, Japan is a potentially informative precedent. During its long slump in the 1990s and early 2000s, Japan’s inflation fell into negative territory. Yet, for whatever reason, the inflation rate stabilized at about -1% rather than falling further.

Most forecasters are not predicting deflation for the United States. I will hazard the guess that inflation will fall to approximately zero and then stay there. But it is hard to know what will happen because there are few examples of deflation since World War II. In sum, I feel confident in predicting that unemployment will stay high for a long time, but the implications for inflation are unclear.