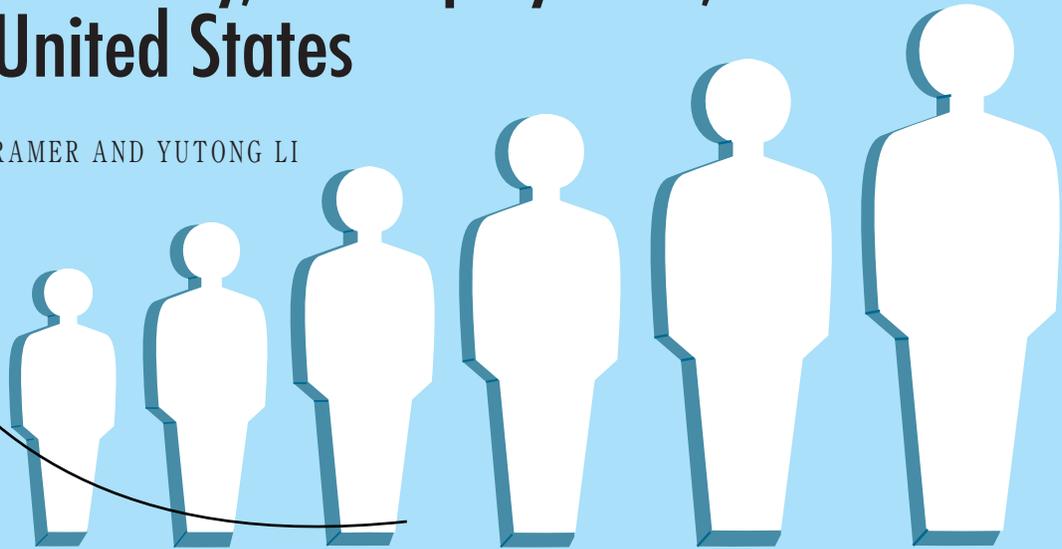


# Job Uncertainty, Unemployment, and Inflation in the United States

CHARLES F. KRAMER AND YUTONG LI



*In the major industrial countries, low unemployment usually creates inflationary pressures. But during the recent economic expansion in the United States, prices have held steady despite low unemployment. What is behind this atypical behavior?*

**T**HE PHILLIPS curve—the negative empirical relationship between inflation and the unemployment rate—has long been a mainstay of market and policy analysis of inflation in

the United States. Macroeconomic forecasters and policymakers alike have relied on the Phillips curve to provide a reading of the likely path for inflation in the period ahead. In the past few years, however, the Phillips curve seems to have become less reliable. The unemployment rate has fallen in the 1990s, but the expected subsequent increase in inflation has not occurred. Some have attempted to explain this in terms of developments in the labor market—specifically, increased fears of job loss. However, measures of job insecurity do not help to explain why the Phillips curve has been less reliable than in the past. Other factors, such as the behavior of labor costs other than wages, fluctuations in the value of the US dollar, and other developments affecting the markup of prices over wages, more likely explain the unusually subdued behavior of inflation in the United States.

## Natural rate of unemployment

In a standard Phillips curve, the rate of inflation (say, in consumer prices) increases when the unemployment rate falls below a certain threshold—known as the *natural rate of unemployment*—which can be estimated using a variety of statistical techniques. The inflation rate decreases when unemployment rises above this threshold. The underlying idea of the Phillips curve is simple: unusually low unemployment leads to pressure on the labor market followed by rapidly rising wages—hence costs—and then by rising prices; unusually high unemployment means slack in the labor market and slowly rising wages, costs, and prices. The Phillips curve is thus a kind of intellectual shorthand for the relationship of wages to labor market conditions, and the relationship of prices to wages (the markup of prices over labor costs).

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Of course, many factors other than wages influence prices. The cost of intermediate inputs, such as energy, is one example. Also, firms set prices and workers bargain for wages based, in part, on the general level of prices they expect to prevail in the future. This has led some forecasters and policy analysts to add past inflation (as a measure of expected inflation) and prices of inputs such as oil to their Phillips curves. These augmented Phillips curves have been of much practical use in the past few decades.

Since both tightness and slack in the labor market take some time to have an effect on wages and prices, the Phillips curve can be used to forecast inflation. For example, a tight labor market today implies rising inflation in the future. This fact, and the lags between policy decisions and their effects on economic activity, is what makes the Phillips curve of interest to policymakers. Unfortunately, this forecasting relationship seems to have broken down in the past few years. A forecast of inflation (core consumer price inflation, which excludes volatile food and energy prices) from a Phillips curve for 1995 and 1996 is wide of the mark: it shows that core inflation should have increased over that period, from about 3 percent to about 4 percent,

owing to the decline in the unemployment rate. But core inflation actually declined to about 2.25 percent over 1995–96.

Some have argued that inflation has declined because of a decline in the natural rate of unemployment. If this were the case, at least some of the recent decrease in unemployment would be due to structural changes in the labor market and would not result in a tighter labor market. This argument can be tested simply by reversing the Phillips curve to yield the natural rate implied by observed inflation and unemployment rates; such a test implies that the long-run natural rate is about 3.75 percent. This is hard to believe; the actual US unemployment rate has not been that low since 1969 and the figure is well below statistical estimates of the natural rate.

### Job insecurity

An alternative explanation is based on job insecurity. Anecdotal evidence about layoffs and corporate downsizing suggests that US workers are more uncertain about job prospects than in the past. This uncertainty could explain low inflation in the face of a tight job market: workers might be reluctant to ask for wage increases. Among the proponents of this idea is US Federal

Reserve Chairman Alan Greenspan, who has described it in his testimony on monetary policy to the US Congress.

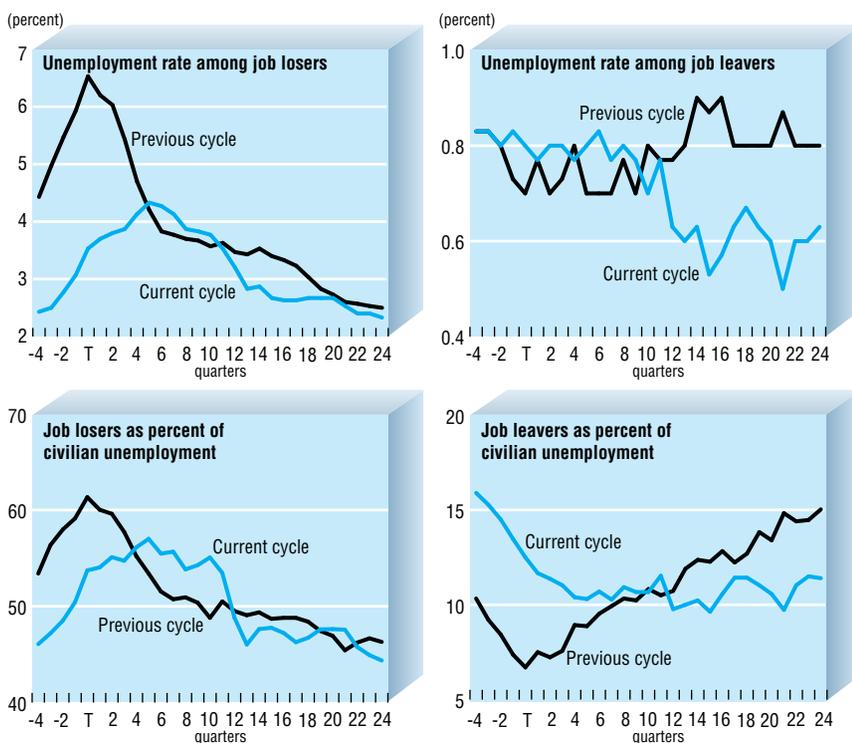
There are many ways to measure job uncertainty, including survey measures, wage increases in collective bargaining arrangements, days idle because of work stoppages such as strikes, and the number of workers who have become unemployed because they were terminated (rather than because they quit their jobs). Chart 1 shows the evolution of some unemployment statistics pertaining to why workers were separated from their jobs. The chart compares the economic expansion of the 1990s with that of the 1980s for the same point in the expansion. (This adjusts for the systematic way that labor market conditions vary over the business cycle.) “T” indicates the trough of the cycle, which is the first quarter of 1991 for the current expansion and the fourth quarter of 1982 for the previous one. For example, quarter 24 denotes the point six years after the trough, which would be the first quarter of 1997 for the current expansion, or the fourth quarter of 1986 for the previous expansion.

It turns out that job uncertainty is not very high, according to most measures. The unemployment rate for those who lost their jobs (through layoffs, for example) in the first quarter of 1997 was about 2.25 percent, fairly close to what it was at the same point in the previous business cycle. Likewise, job losers made up about 45 percent of the civilian unemployed in the twenty-fourth quarter of either business cycle. The unemployment rate for job leavers in this expansion, however, is somewhat below the level reached at the same point in the previous expansion. The percentage of unemployed who are job leavers has remained low in the current expansion, while it rose in the expansion of the 1980s. This might mean that job holders are reluctant to leave their jobs to look for new ones. Or it could mean that those who quit their jobs do not stay unemployed for long.

The direct way to ask whether job uncertainty has held down inflation is simply to add the job-uncertainty variables to the Phillips curve. For each variable, one might ask two questions: does the variable help to explain the changes in inflation beyond what changes in unemployment can explain? And, when forecasting, does it imply that inflation should have decreased in 1995 and 1996, as it did in reality?

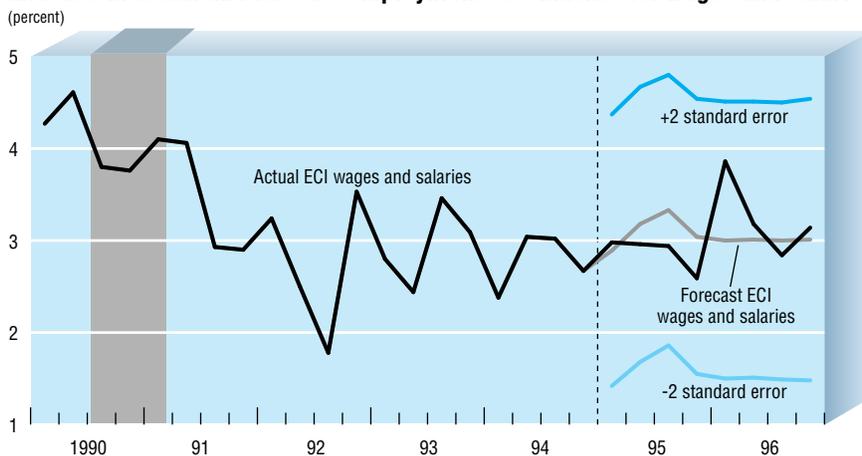
The results of such an exercise do not confirm the hypothesis that job uncertainty has helped to restrain inflation:

Chart 1  
**Job uncertainty in the United States**



Sources: United States, Department of Labor, Bureau of Labor Statistics; Conference Board; and National Association of Business Economists.  
Note: “T” represents the troughs of the cycle; positive (negative) numbers represent quarters after (before) the troughs. The trough of the current cycle occurred in the first quarter of 1991, and the trough of the previous cycle occurred in the fourth quarter of 1982.

Chart 2

**Increase in actual and forecast employment cost indexes for wages and salaries**

Sources: United States, Department of Labor, Bureau of Statistics; and IMF staff estimates.

Note: Shaded area reflects recession.

- Of 10 measures of job uncertainty, only 2 help to explain the behavior of inflation. Both, however, have the wrong kind of effect: more job uncertainty means more inflation, not less.

- The inflation forecasts for 1995 and 1996 are about the same, whether the job-uncertainty variables are used or not.

As already noted, the Phillips curve, the relationship between labor market conditions and prices, is really a shorthand expression for a more complicated relationship between labor market conditions and wages and prices. To sort out the source of any deviations from the Phillips curve, it is useful to break this relationship into its components. The obvious starting point is the relationship between unemployment and wages, which one can examine by substituting wage inflation for price inflation in the Phillips curve.

The same questions can be asked of this relationship as were asked of the unemployment-price inflation relationship. In one respect, the results of such an exercise are encouraging: over 1995 and 1996, a forecast of wage inflation from a Phillips curve is much more accurate than a forecast of price inflation (Chart 2). In another respect, though, they are still discouraging. Job uncertainty still does not help to explain how wage inflation has evolved or to predict how it will evolve.

### Wage and price relationship

What, then, can explain the recent behavior of US inflation? A hint is given by the step we omitted: the markup of prices over wages. Since recent changes in the

unemployment rate seem consistent with the behavior of wages but not with the behavior of prices, logically there must have been some change in the relationship of prices to wages. Such a change could take two forms. First, firms could be adjusting their profit margins, assuming that costs other than wages have evolved normally. Second, costs other than wages could have fallen, assuming that profit margins have been stable.

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There is not much support for the idea that lower inflation reflects squeezed profit margins. It has been suggested that increased globalization and competition may have restrained prices; there is anecdotal evidence of a general feeling among businesses that consumers will not tolerate price increases. However, the profits of US firms have been buoyant in recent years. If competition is affecting firms’ behavior, it is more likely manifested in cost containment than in less aggressive price increases.

### Structural factors

There is accordingly more support for the notion that costs other than wages have been well contained and that other

structural factors may be at work. For example, the costs of benefits (particularly medical benefits) have risen much more slowly in the 1990s than in the 1980s. Also, prices of important materials have been soft in recent years, thanks to sluggish growth in other major economies and the appreciation of the US dollar. The strength of the dollar is evident in declining prices for non-oil imports. Computer prices have also continued to decline. As for structural factors, restraint in government spending may have subdued demand and inflationary pressures. An increase in the proportion of the population participating in the labor force and the consequent strong growth of the labor force have helped to alleviate pressures on the labor market. Deregulation and lower transportation and communication costs have also helped hold down price increases. Finally, technological progress may have played a role; indeed, buoyant profits, the rapid pace of equipment investment in recent years, and computations of productivity from the income side of the national accounts suggest that labor productivity has risen more strongly than official statistics imply.

Finally, actual inflation can be influenced by expected inflation through the wage-setting process. For example, workers may respond to higher expected inflation by demanding higher wages, and firms may, in turn, raise prices to offset rising costs. If expected inflation is partly conditioned by past experience with inflation, then periods of low inflation like the early 1990s might create a “virtuous circle” of low expected inflation that leads to low actual inflation. Indeed, the University of Michigan’s Survey of Consumers shows that the expected inflation rate has declined to below 3 percent for the first time since it was first measured almost 20 years ago. The combined effects of these factors, which influence the markup of prices over wages, seem to provide a more likely explanation of low inflation in the United States in the 1990s than the level of job uncertainty. **[F&D]**

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