

Potential Causes and Implications of the Rise in Long-Term Unemployment¹

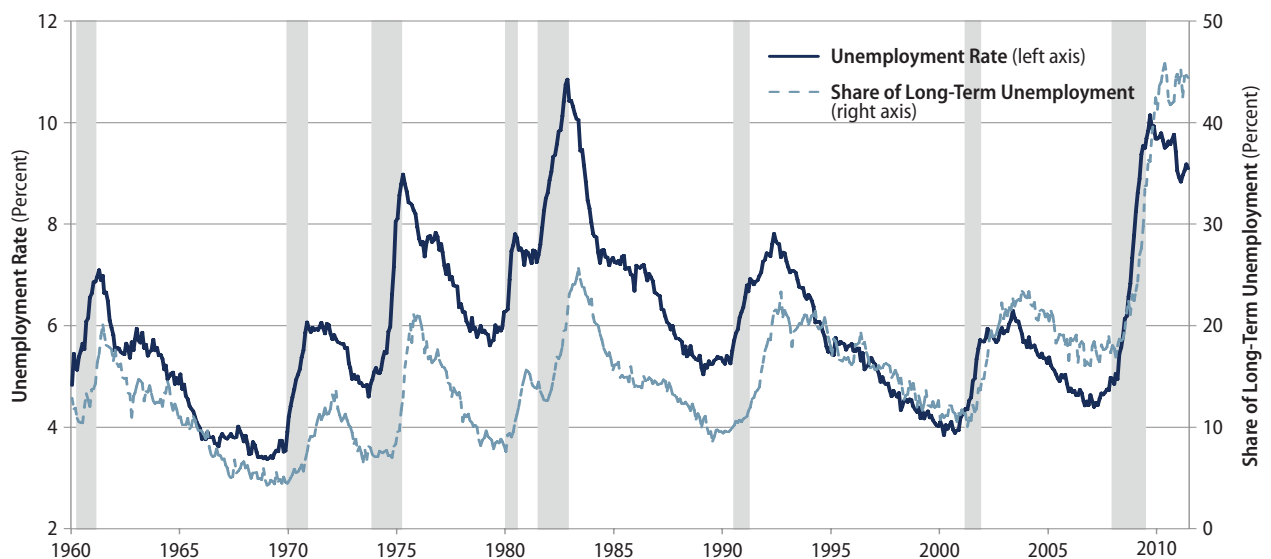
By Andreas Hornstein, Thomas A. Lubik, and Jessie Romero

Long-term unemployment rose dramatically during the recent recession and remains elevated. A primary cause may be the fact that more workers with inherently low job finding rates have become unemployed. This would suggest that the natural rate of unemployment has increased, and that additional monetary stimulus may have only a limited effect on reducing unemployment.

The recession of 2007–09 has had a major impact on labor markets in the United States. The unemployment rate peaked at 10.1 percent in October 2009 and has remained around 9 percent throughout the recovery. More striking is the long-term unemployment rate: nearly half of unemployed workers, 44 percent, have been unemployed for longer than 26 weeks.²

The share of long-term unemployment has been more than 40 percent since the beginning of 2010, peaking at nearly 46 percent in the second quarter of that year. Even during the recession of 1981–82, when the total unemployment rate reached 10.8 percent, the peak share of long-term unemployment was only 26 percent.

Figure 1: Long-Term Unemployment



Note: Data are through July of 2011. Shaded areas denote recessions.
Sources: Bureau of Labor Statistics, Haver Analytics, authors' calculations

For most of the post–World War II era, unemployment has been a relatively short-lived experience for the average worker. Between 1960 and 2010, the average duration of unemployment was about 14 weeks. The duration always rose during recessions, but relatively quick upticks in hiring after recessions kept the long-term unemployment rate fairly low. Even during the two “jobless recoveries” that followed the 1990–91 and 2001 recessions, the peak shares of long-term unemployment were 21 percent and 23 percent, respectively. But the 2007–09 recession represents a marked departure from previous experience: the average duration has increased to 40 weeks, and the share of long-term unemployment remains high more than two years after the official end of the recession.³ Never before in the postwar period have the unemployed been unemployed for so long.

The Effects of Unemployment Insurance

One possible explanation for the rise in long-term unemployment is the extension of unemployment insurance. Unemployment benefits typically expire after 26 weeks, with some variation across states. The duration and the level of benefits tend to increase in response to recessions. By January of 2010, workers across the country were eligible to collect unemployment benefits for up to 99 weeks. In contrast, the maximum duration in any state in response to the 1981–82 recession was 55 weeks.⁴

Unemployment insurance is extended in order to lessen the negative financial impact of unemployment on workers, but this also can affect their incentives to look for jobs and accept job offers. On one hand, a worker receiving unemployment benefits might become more willing to reject job offers in the hope of receiving a better offer in the future. Extension of benefits thus would lower the exit rate from unemployment and increase unemployment duration. On the other hand, some workers might become more likely to accept job offers. In order to qualify for unemployment insurance, a worker must be employed and then get laid off involuntarily. An unemployed worker who does not qualify now might become more willing to accept a job to become eligible for benefits in the future.

Research generally shows that, on net, unemployment insurance increases unemployment duration. Studies of the current recession suggest that the extension might have lengthened the average unemployment spell by between two and six weeks.⁵ This is significant, but given that the average duration increased by a total of 18 weeks, the extension of unemployment benefits cannot fully account for the dramatic rise in long-term unemployment.

Inflows and Outflows

The total number of unemployed workers can be thought of as being determined by two factors: the inflow of workers to unemployment (the entry rate) and the outflow of workers from unemployment (the exit rate). Workers flow into unemployment by separating from a job either involuntarily (by a layoff) or voluntarily (by quitting), or by re-entering the labor force to start looking for work. They exit unemployment by finding a job or by discontinuing their job searches and leaving the labor force. The unemployment rate rises whenever the entry rate exceeds the exit rate.

Total unemployment depends on both the inflow and outflow rates, but average duration depends mainly on the exit rate. The lower the exit rate, the longer the average duration and the larger the share of workers who have been unemployed for a long time. During recessions, the increase in total unemployment is accompanied by a large increase in the average duration of unemployment, which suggests that a decline in exit rates is an important source of high unemployment.

We recover the entry and exit rates for unemployed workers between 1960 and 2010 using a model developed by Robert Shimer of the University of Chicago.⁶ Shimer’s model uses data on total unemployment and on workers who have been unemployed for fewer than five weeks. A simplifying assumption is that all workers are homogeneous, that is, they face the same exit rate. We find that while this model does predict the qualitative features of long-term unemployment in recessions, it does not match the magnitude observed in the actual data. The model predicts that the exit rate in a given month declines

to about 35 percent during recessions, and it also shows a steep decline to 20 percent during the 2007–09 recession. However, the model only predicts about one-third of workers who actually are unemployed for longer than 26 weeks during recessions.

Duration Dependence in Unemployment

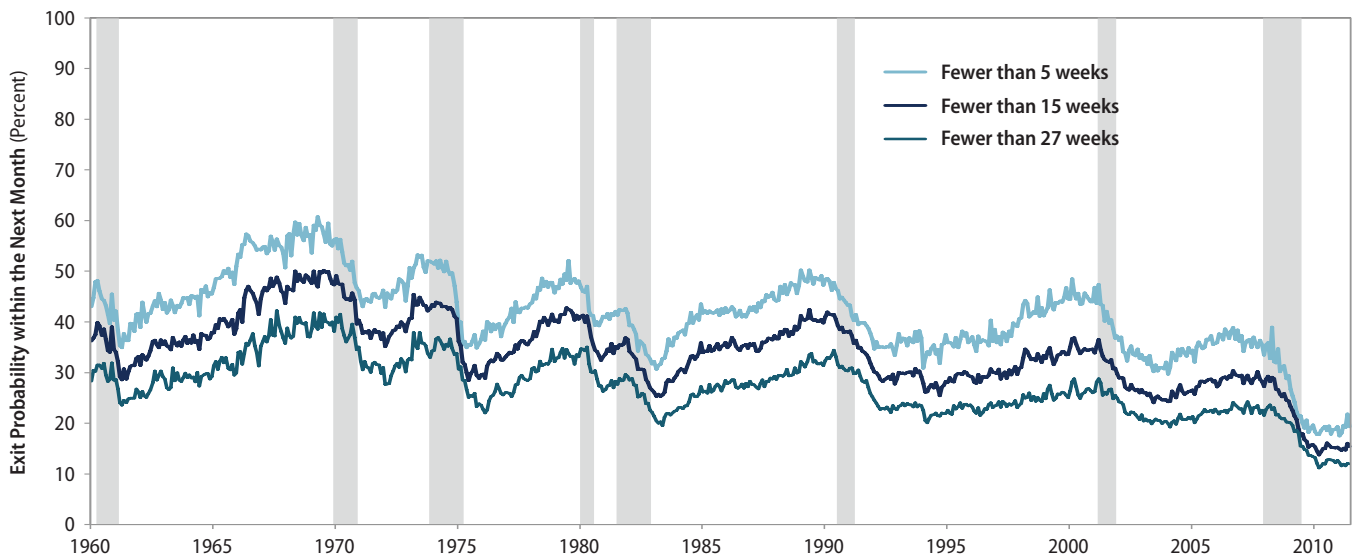
Some characteristics that are relevant to the chances of an unemployed worker finding work might be quite persistent yet unobservable. These characteristics might be related to the unemployment experience itself. For example, consider two equal groups of unemployed workers. Initially, they share the same observable characteristics, except for the time that they have been unemployed. On average, workers who have been unemployed for a shorter time will be more likely to find work and exit unemployment. Put another way, the longer workers have been unemployed, the less likely it is that they will find jobs. This is called “negative duration dependence.”

Shimer’s model is inconsistent with negative duration dependence. It assumes that all workers face the same exit rate regardless of how long they have been unemployed. This might be why the model underpredicts the number of long-term unemployed workers. Previously, we used Shimer’s data on workers who

have been unemployed for fewer than five weeks to recover exit rates from unemployment. When we use data on workers who have been unemployed for fewer than 5 weeks, fewer than 15 weeks, and fewer than 27 weeks, we find that the exit rates predicted using these different segments decline monotonically as the unemployment duration increases. These predictions are consistent with negative duration dependence.

There are two possible explanations for negative duration dependence. The first, “true duration dependence,” assumes that for every worker, the exit rate is a declining function of unemployment duration. The exit rate for the entire pool of unemployed workers declines with the length of time that the workers have been unemployed. True duration dependence could occur for several reasons, including loss of human capital, loss of attachment to people and networks that could help in finding a job, or employer discrimination against unemployed workers. It’s also possible that if the average wage being offered declines the longer a worker is unemployed, while unemployment benefits remain constant, then the worker would become less likely to accept an offer.

Figure 2: Duration Dependence in Exit Rates



Note: Figure depicts implied exit rates based on workers unemployed for fewer than 5, 15, and 27 weeks. Shaded areas denote recessions. Sources: Bureau of Labor Statistics, Haver Analytics, authors’ calculations

The other explanation is that newly unemployed workers have inherently different exit rates—some lower and some higher. Over time, the composition of the pool will shift to more workers with low exit rates, which means that the average exit rate for the entire pool also declines. This “unobserved heterogeneity” of unemployed workers could occur because some workers lose jobs in declining industries, and their skills don’t transfer easily to other industries. Other workers might lose jobs for reasons idiosyncratic to their employers, but have skills that are valued by a wide range of employers. These workers will tend to find work quickly.

Which explanation best matches the data? One of the authors of this article (Hornstein) has constructed a framework with two types of unemployed workers, those with a high exit rate and those with a low exit rate. This framework allows for two special cases. The first case involves only true duration dependence: all unemployed workers start out with a high exit rate, but at some point they make a random transition from having a high exit rate to having a low exit rate. In the second case, there is unobserved heterogeneity: workers are either short-term unemployed or long-term unemployed from the beginning, and they never change types.

The two cases provide different accounts of changes in unemployment. In the first case, almost all of the movements in unemployment are due to exit rate fluctuations of the two types. The true duration mechanism itself—changes in entry rates of short-term unemployed workers and transition rates from short-term to long-term unemployment—has only a limited effect. In the second case, however, changes in the entry and exit rates of long-term unemployed workers, that is, changes due to unobserved heterogeneity, account for about two-thirds of the unemployment rate volatility. The unobserved heterogeneity approach is a better match for the unemployment duration distribution.

Implications for Monetary Policy

A simple view of the relationship between unemployment and inflation suggests that the choices for monetary policymakers are clear: unemployment is

high and inflation is low, so monetary policy should be expansionary. But many modern macroeconomists argue that movements in real quantities affect inflation only to the extent that they depart from their “natural” level.

The natural rate of unemployment is the hypothetical rate of unemployment attainable in the absence of any distortions, such as impediments to the free adjustment of nominal prices and wages. The difference between the actual and natural rates is the “unemployment gap,” which represents the degree of slack in the economy. If there is a large pool of unemployed workers to choose from—if the unemployment gap is large and positive—wages are unlikely to increase, which limits pricing pressures stemming from rising input costs. However, this argument is useful for monetary policymakers only insofar as they are able to discern the natural rate. There is much debate over the effect the recession of 2007–09 has had on the natural rate.⁷

We argue that the prevalence of long-term unemployment is related to the decline in the exit rate from unemployment that occurs as unemployment duration increases. In addition, it seems that overall unemployment has increased because of the increased entry of workers with inherently low exit rates. After a long period of unemployment, affected workers may become effectively unemployable. If a large portion of long-term unemployed workers now finds it difficult to transition to employment, this suggests that the natural rate of unemployment may have increased, making the unemployment gap smaller than it appears. In this case, the level of unemployment may not be responsive to monetary stimulus, and inflationary pressures may be less constrained than it appears based on the unemployment numbers alone. Policy options that increase the ability of unemployed workers to find work and reduce the costs of generating and maintaining employment relationships thus may be more effective at reducing unemployment than additional monetary stimulus. ■

Andreas Hornstein is a vice president, Thomas A. Lubik is a senior economist and research advisor, and Jessie Romero is a writer in the Research Department at the Federal Reserve Bank of Richmond.

Endnotes

- ¹ This brief is based on the essay “The Rise in Long-Term Unemployment: Potential Causes and Implications” by Andreas Hornstein and Thomas A. Lubik. The essay was published in the Federal Reserve Bank of Richmond’s *2010 Annual Report*.
- ² Long-term unemployment is defined as longer than 26 weeks because unemployment benefits typically last for about half a year.
- ³ The Bureau of Labor Statistics revised its data-collection method for unemployment duration in January 2011. Based on the previous method, the average unemployment duration would be about 37 weeks rather than 40 weeks. For more information, see <http://www.bls.gov/cps/duration.htm>.
- ⁴ Daniel Aaronson, Bhashkar Mazumder, and Shani Schechter, “What is Behind the Rise in Long-Term Unemployment,” Federal Reserve Bank of Chicago *Economic Perspectives*, Second Quarter 2010, vol. 34, no. 2, pp. 28-51.
- ⁵ See Aaronson et al. (2010) and Michael Elsby, Bart Hobijn, and Ayşegül Şahin, “The Labor Market in the Great Recession,” *Brookings Papers on Economic Activity*, Spring 2010.
- ⁶ Robert Shimer, “Reassessing the Ins and Outs of Unemployment,” Mimeo, October 2007, University of Chicago. Available online at <http://sites.google.com/site/robertshimer/research/workingpapers>.
- ⁷ See, for example, Narayana Kocherlakota, “Inside the FOMC,” Speech in Marquette, Michigan, August 17, 2010, and Mary Daly, Bart Hobijn, and Rob Valletta, “The Recent Evolution of the Natural Rate of Unemployment,” Federal Reserve Bank of San Francisco Working Paper 2011-05, January 2011.

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