

## Has the U.S. Economy Become Less Interest Rate Sensitive?

By Jonathan L. Willis and Guangye Cao

*The U.S. economy appears to have become less responsive to monetary policy since the early 1980s. Empirical analysis shows that while employment has become less sensitive to interest rates over time, changes in the conduct of monetary policy have not contributed to this decline.*

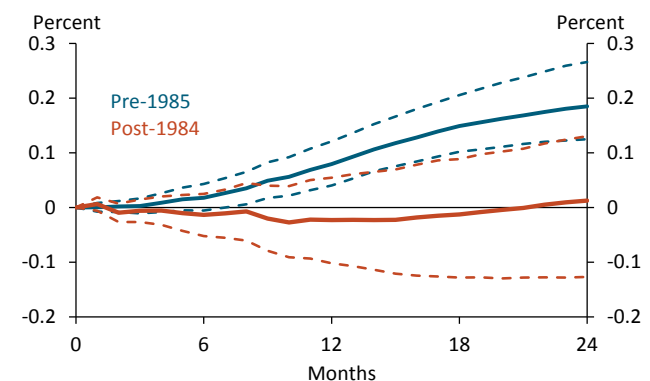
The U.S. economy appears to have become less responsive to monetary policy over the past three decades. Slow recoveries followed recessions in the 1990s and 2000s despite sizeable monetary accommodations. In 2012, the Federal Open Market Committee emphasized the importance of the labor market in its policy statements, suggesting a direct link between monetary policy and employment. To examine whether the economy's interest sensitivity has changed, we analyze the relationship between the federal funds rate and employment. Our findings suggest the economy has indeed become less interest sensitive.

The interest rate channel is the most frequently mentioned transmission mechanism through which monetary policy affects the economy. In this channel, a cut in the federal funds rate leads to a decline in real interest rates if prices are slow to adjust. Lower real interest rates, by reducing borrowing costs, increase consumption spending and investment activity. Then, to meet the higher demand for goods and services, firms increase employment.

To investigate whether employment has become less interest sensitive, we use a vector autoregression (VAR) model to test how an unexpected shock to the federal funds rate affects total employment. We focus on two sub-periods: 1959-1984 and 1985-2014.

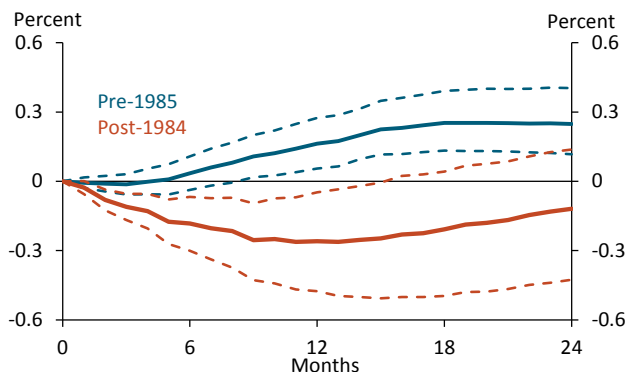
Our results suggest both aggregate and industry employment have become less responsive to monetary policy shocks. Prior to 1985, an unexpected 25 basis point cut in the federal funds rate led to a cumulative employment increase of approximately 0.2 percent after two years. Based on the current size of nonfarm payrolls, this response would have added 255,000 jobs over two years. Chart 1 shows that employment does not respond significantly to changes in the federal funds rate after 1984. This declining interest sensitivity can also be observed across a broad range of industries. For example, Chart 2 shows that durable goods manufacturing experienced a 0.25 percent cumulative increase in employment pre-1985, but a 0.1 percent decrease post-1984.

**Chart 1: Response of aggregate employment to a cut in the federal funds rate**



Note: Dashed lines represent 90 percent Bayesian confidence intervals.  
Source: Authors' calculations.

**Chart 2: Response of durable goods employment to a cut in the federal funds rate**



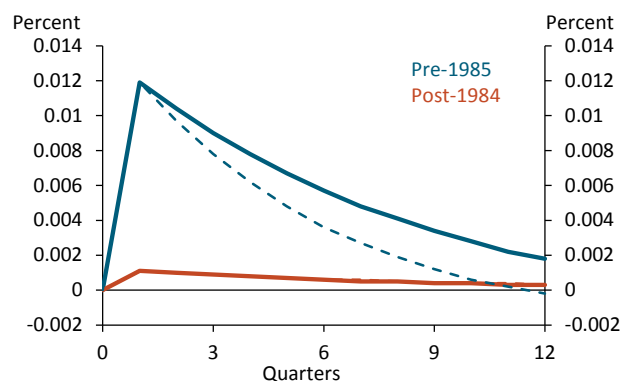
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of employment, we study the response of the employment gap, which is the difference between actual and potential employment. An increase in the employment gap reflects tighter labor conditions in the economy.

Results from the alternative model suggest changes in the conduct of monetary policy did not cause the decline in interest sensitivity. We estimate the model separately for the pre-1985 and post-1984 periods and also run a counterfactual exercise in which the monetary policy in each period is imposed upon the other period. Chart 3 shows that in the pre-1985 period, the actual response of the employment gap to an unexpected 25 basis point cut in the federal funds rate (solid blue line) is similar to the counterfactual response with post-1984 monetary policy imposed (dashed blue line). Both peak at around 0.012 percent in the period after the shock. The employment gap responses in the post-1984 period are indistinguishable: the counterfactual response with pre-1985 policy imposed is almost identical to the actual employment response of around 0.001. The proximity of the counterfactual and actual responses in both periods suggests changes in the conduct of monetary policy do not account for the employment gap's drop in interest sensitivity.

One possible cause for the diminished interest sensitivity is the change in the conduct of monetary policy since the early 1980s. In 1979, Federal Reserve Chairman Paul Volcker began targeting the quantity of reserves rather than the prices of reserves to control inflation. Although the Fed reversed this change in 1982, the early 1980s marked the beginning of a new era in which monetary policy became more active. To examine whether the change in the conduct of policy has made employment less interest sensitive, we use an alternative empirical model capturing the investment-savings relationship between interest rates and economic activity, the inverse relationship between inflation and employment, and the response of monetary policy to inflation and employment. Instead

**Chart 3: Actual and counterfactual responses of the employment gap to a cut in the federal funds rate**



Note: Dashed lines represent counterfactual responses.  
Source: Authors' calculations.

Two caveats should be attached to these results. First, the alternative model incorporates only backward-looking agents and is relatively simple compared with models with a greater focus on expectations through forward-looking agents. Second, the literature is divided on the contribution of monetary policy shifts to observed declines in interest sensitivity. For example, Boivin, Kiley, and Mishkin find that changes in the

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conduct of monetary policy almost entirely account for the estimated declines in interest sensitivity. However, Primiceri finds that changes in the conduct of monetary policy “did not play an important role” in shifts in interest responsiveness over time.

## **References**

Boivin, Jean, Michael T. Kiley, and Frederic S. Mishkin. 2011. “How Has the Monetary Transmission Mechanism Evolved Over Time?” *Handbook of Monetary Economics*, vol. 3a, pp. 369-422.

Primiceri, Giorgio E. 2005. “Time Varying Structural Vector Autoregressions and Monetary Policy,” *The Review of Economic Studies*, vol. 72, no. 3, pp. 821-825.

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