

# Chicago Fed Letter

## Explaining the recent decline in the unemployment rate

by Lisa Barrow, senior economist

The unemployment rate fell by nearly 1 percentage point between November 2010 and March 2011. Was this drop due to unemployed workers exhausting their unemployment insurance (UI) benefits and choosing to stop looking for work or due to more positive labor market developments, such as fewer workers losing their jobs or more workers finding new jobs?

The recent decline in the unemployment rate seems to have been driven largely by a decline in the number of employed persons becoming unemployed.

In this *Chicago Fed Letter*, I examine the data on labor force status (LFS) flows from the U.S. Bureau of Labor Statistics' *Current Population Survey* (CPS) to assess their contributions to the recent decline in the unemployment rate. I conclude that this decline seems to have been driven by a decline in the number of employed persons becoming unemployed rather than by either an increase in the unemployed becoming employed or an increase in the unemployed leaving the labor force.

### Labor force status flows

Every month, the CPS provides estimates of the number of individuals 16 years and older in each of three labor force states—employment (E), unemployment (U), or not in the labor force (NILF). Individuals are either in the labor force or NILF, and those in the labor force are either employed or unemployed. The monthly unemployment rate is then defined as the percentage of the labor force (the unemployed plus the employed) that is unemployed. From these and other survey data, the CPS also provides estimates on LFS flows, namely, the number of people moving from one labor force category last month to another labor force category

this month. From these flows, I have estimates of the number of people who moved from unemployment last month to employment this month, the number of people who moved from employment last month to unemployment this month, and so on. As a result, I can define the number of people unemployed in March, for instance, as the number of people unemployed in February plus the number of people moving into unemployment from either NILF or employment minus the number of people moving out of unemployment into either employment or NILF. Thus, the unemployment rate in March can be decomposed into five components related to the number unemployed in February (lagged unemployment) and the four LFS flows into and out of unemployment between February and March.<sup>1</sup> A change in the unemployment rate can likewise be decomposed into changes in these components.

Being able to attribute monthly changes in the unemployment rate to changes in LFS flows can provide some insight on the strength of the labor market. For example, the unemployment rate may fall because a large number of unemployed workers find jobs. This

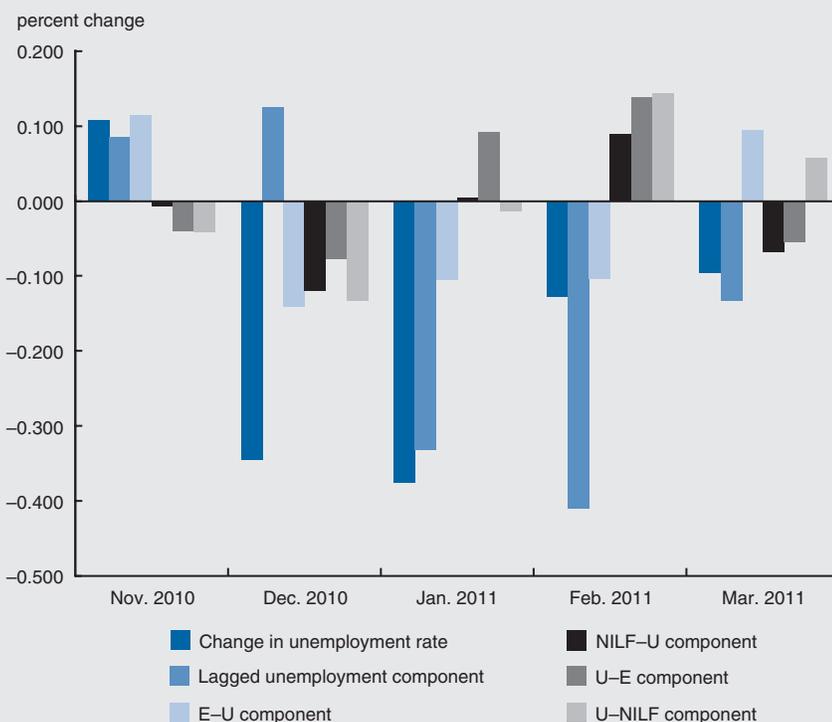
## 1. LFS flow counts

Current month	E-U	E-NILF	U-E	U-NILF	NILF-E	NILF-U
(----- thousands -----)						
October 2010	2,345	3,920	2,472	2,834	3,415	3,067
November 2010	2,520	3,764	2,534	2,897	3,521	3,057
December 2010	2,300	3,700	2,648	3,097	3,640	2,869
January 2011	2,131	3,669	2,498	3,109	3,617	2,865
February 2011	1,972	3,638	2,286	2,891	3,578	3,003
March 2011	2,118	3,484	2,373	2,807	3,508	2,904

NOTES: The seasonally adjusted labor force status (LFS) flow counts are from the previous month to the current month. E means employment, U means unemployment, and NILF means not in the labor force.

SOURCE: U.S. Bureau of Labor Statistics, *Current Population Survey*, research series on labor force status flows, available at [www.bls.gov/cps/cps\\_flows.htm](http://www.bls.gov/cps/cps_flows.htm).

## 2. One-month change in unemployment rate, by LFS flows



NOTE: LFS means labor force status, E means employment, U means unemployment, and NILF means not in the labor force.

SOURCES: Author's calculations based on U.S. Bureau of Labor Statistics, *Current Population Survey*, research series on labor force status flows, available at [www.bls.gov/cps/cps\\_flows.htm](http://www.bls.gov/cps/cps_flows.htm), and unemployment rate data, from Haver Analytics.

would show up in the LFS flow data as an increase in the number of individuals moving from unemployment to employment, and this would be a sign of labor market strength. In contrast, the unemployment rate may fall because a large number of unemployed workers exit the labor force.

A particular concern in recent months has been that the long-term unemployed who are exhausting their UI benefits may be more inclined to exit the labor force than other unemployed workers and that a large number exhausting benefits and exiting the labor force at the same time could explain the recent

decline in the unemployment rate. If this were the case, then there would be an increase in the number of individuals moving from unemployment to NILF in the LFS flow data, and this would not be a sign of labor market strength.

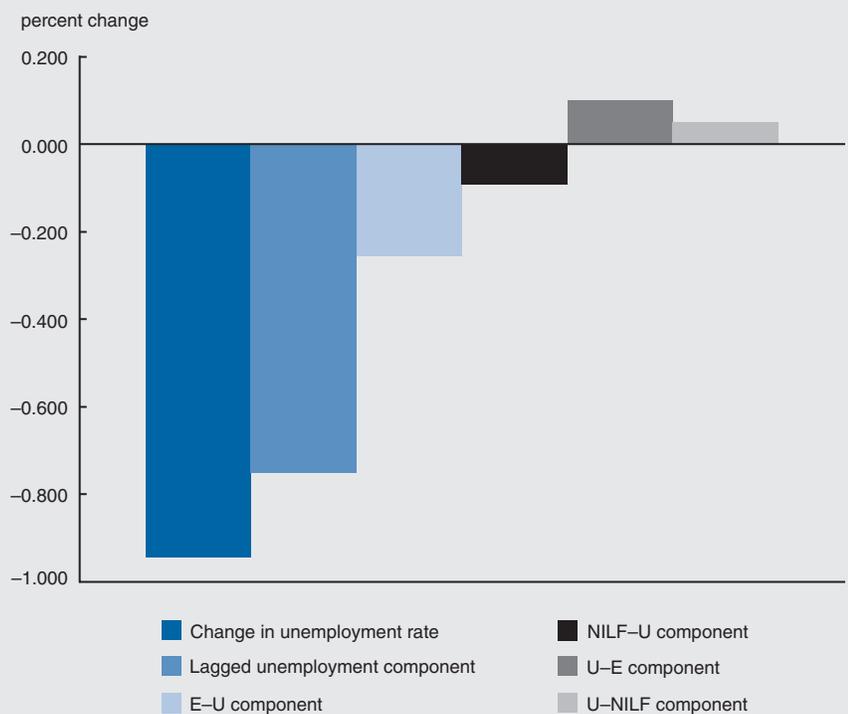
I present data on the LFS flows for six months—from October 2010 through March 2011—in figure 1. Each row represents the current month, and each column represents a different LFS flow. For example, the cell in the row labeled October 2010 and column labeled E-U indicates that 2,345,000 people moved from employment in September 2010 to unemployment in October 2010.

Looking over time at the transitions that affect the number of persons who are unemployed (the columns labeled E-U, U-E, U-NILF, and NILF-U), one can see a general decline in the number of individuals moving into unemployment from employment. The E-U flow fell from 2.3 million in October 2010 to around 2.1 million in March 2011. Declines in the E-U flow generate declines in the unemployment rate, all else being equal, and indicate improvement in labor market conditions. At the same time, however, there was not a general increase in the U-E flow, which would indicate an increase in job finding by the unemployed. As for UI benefit exhausters or other unemployed workers exiting the labor force, there was an increase in the U-NILF flow in December 2010 and January 2011. However, by February and March of 2011 the number of unemployed moving out of the labor force had returned fairly close to the levels in October and November of 2010.

### LFS flow effects on the unemployment rate

Because changes in the number of persons unemployed in March 2011 can be attributed to the five components described previously, I can decompose changes in the unemployment rate into

### 3. Five-month change in unemployment rate, by LFS flows



NOTES: Data are from November 2010 through March 2011. LFS means labor force status, E means employment, U means unemployment, and NILF means not in the labor force.

SOURCES: Author's calculations based on U.S. Bureau of Labor Statistics, *Current Population Survey*, research series on labor force status flows, available at [www.bls.gov/cps/cps\\_flows.htm](http://www.bls.gov/cps/cps_flows.htm), and unemployment rate data, from Haver Analytics.

changes in these components. In figure 2, I present the change in the unemployment rate and how much of that change is attributable to changes in the components related to lagged unemployment and E-U, NILF-U, U-E, and U-NILF flows for each month from November 2010 through March 2011. In each month, the change in the unemployment rate, represented by the dark blue bar, is equal to the sum of the other bars.<sup>2</sup> For example, in November 2010 the monthly unemployment rate rose by 0.108 percentage points (from its value in October 2010). As shown in figure 2, 0.085 percentage points, or 79%, of the increase in the November 2010 unemployment rate is attributable to the lagged unemployment component, and 0.114 percentage points, or 106%, of the increase is attributable to the increase in the E-U flow. The NILF-U, U-E, and U-NILF flows all changed in

the direction of decreasing the unemployment rate: -0.006 percentage points is attributable to a slight decrease in the NILF-U flow, -0.040 percentage points is attributable to an increase in the U-E flow, and -0.041 percentage points is attributable to an increase in the U-NILF flow.<sup>3</sup>

Since November 2010, the unemployment rate has been falling. In December 2010, all four components related to LFS flows changed in the direction of decreasing the unemployment rate, with the decline in the E-U flow and the rise in the U-NILF flow explaining the largest shares of the decline. Thus, UI benefit exhausters and other unemployed workers exiting the labor force may in part explain the decline in the unemployment rate in December; however, a decline in the number of employed becoming unemployed accounts for an equal share of the month's decline.

Since December, changes in LFS flows have been more mixed in terms of their positive or negative contribution to the change in the unemployment rate. In figure 3, I summarize the changes in these components from November 2010 through March 2011 in order to decompose the -0.943 percentage point change in the unemployment rate over this five-month period. Once again, the change in the unemployment rate is represented by the dark blue bar and equals the sum of the remaining bars. This decomposition indicates that -0.256 percentage points, or 27%, of the decline in the unemployment rate is attributable to a decline in the E-U flow; also -0.093 percentage points, or 10%, is attributable to a decline in the NILF-U flow. The changes in the U-E and U-NILF flows worked in the direction of increasing the unemployment rate.<sup>4</sup>

### Conclusion

The recent sizable drop in the unemployment rate seems to have been largely driven by the decline in the LFS flow from employment to unemployment

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rather than by an increase in the number of unemployed moving out of the labor force or an increase in the number of unemployed finding jobs. When I decompose the change in the unemployment rate from November 2010 through

March 2011 attributable to changes in the components related to lagged unemployment and the flows either into or out of unemployment, I find that 27% of the decline is attributable to a decline in flow from employment to

unemployment. In contrast, changes in the flows from unemployment to employment and from unemployment to NILF worked in the direction of increasing the unemployment rate over this period.<sup>5</sup>

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<sup>1</sup> Technically there is also a flow into unemployment from “other,” which comprises people such as those newly turning 16 years old. This component is very small compared with the other components.

<sup>2</sup> The components in figure 2 (and figure 3 later) will not exactly equal the total because

of the omission of the flow into unemployment from “other” (see note 1), as well as rounding.

<sup>3</sup> The contribution from the flow of “other” into unemployment (see note 1) equals  $-0.004$  percentage points.

<sup>4</sup> The change in the unemployment rate attributable to the change in flow into unemployment from “other” (discussed earlier) is negligible.

<sup>5</sup> I thank Katherine Ranney for her excellent research assistance on this article.