

The Unemployment Gender Gap During the Current Recession

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The condition of the U.S. labor market has been deteriorating rapidly during the current recession. Payroll employment declined by close to 7 million and the unemployment rate increased to 9.7%, the highest level since 1983. Interestingly, a breakdown of the employment figures shows that, the current recession has had a more adverse effect on men than women. Since the start of the recession, the unemployment rate for men has increased much more than for women. To understand the underlying forces behind these differences we make use of the labor market flows data, specifically the flows in and out of unemployment. We document that the disproportionate increase in the unemployment inflow rate for men caused this discrepancy. A close look at the sectoral composition of job losses reveals that men are more concentrated in the sectors that were hit hardest by the recession. Furthermore, compared to previous recessions, we find that more men have flown into unemployment from nonparticipation contributing to men's higher unemployment rate.

I. Introduction

During the current downturn, there has been an unprecedented deterioration in the labor market. Since the start of the recession in December 2007, the unemployment rate increased from 4.9% to its current peak at 9.7%; its highest level since June 1983. Non-farm payroll employment shrank by 5.0%, corresponding to loss of 6.9 million jobs. The non-farm payroll employment figures have not looked this bleak since the post World

War II recession in 1946, when in a span of nine months employment declined 6.9%, resulting in 2.9 million job losses.

A breakdown of the employment figures shows that men have been affected more adversely than women during the present economic downturn. Male and female unemployment rates were around the same levels in December 2007, 5.0% and 4.8% respectively. Since then these two unemployment rates have diverged significantly. In August 2009, the male unemployment rate stood at 10.9% while that of females was 8.2%. This 2.7 percentage point difference is the largest unemployment gender gap in the postwar era. During the same period, there was a disproportionate decline in nonfarm payroll employment for men than women. Nonfarm payroll employment fell 5.1 million for men while it only dropped 1.8 million for women.

In this edition of *Current Issues*, we attempt to understand and explain the gender differences in the labor market outcomes during the current recession by analyzing the gross labor flows data from the Bureau of Labor Statistics (BLS). The gross labor flows data measure the movement of people between employment, unemployment, and ‘not in the labor force’. We use the data to calculate unemployment inflow and outflow rates by gender. These statistics provide additional insights since they help us to isolate the gender differences in labor supply responses (movements between labor force and nonparticipation) and job-loss and job-finding prospects (movements between unemployment and employment). We find that, just like in the two previous recessions, there has been an increase in inflow rates as well as a decrease in outflow rates during the current recession. A closer look at the gross labor flows by gender reveals that men had a significantly higher unemployment inflow rate than women, causing the unemployment

gender gap to widen. We reconcile this asymmetry by investigating the sectoral employment statistics. Payroll employment data show that men are highly concentrated in the sectors that were hit hardest by the recession. In addition, we find evidence that the recent run up in the unemployment rate for men was due to the increase in the number of men that want to participate in the labor market but fail to find jobs. We conclude with a brief discussion of possible policy implications and future outcomes in the labor market.

II. Current State of the Labor Market

Payroll employment began to decline in December 2007, coinciding with the National Bureau of Economic Research's (NBER) dating of the start of the recession. Between December 2007 and August 2008, payroll employment dropped by slightly over one million jobs, an average decline of 137,000 jobs per month. With the deepening of the financial crisis the pace of job losses increased. Since August 2008 the U.S. labor market has shed close to six million jobs, amounting to half a million jobs per month. These job losses have brought the level of payroll employment back to its June 2000 level and have erased all job creation of the past decade.

Figure 1 presents the payroll employment series normalized to one at the start of each respective recession in the past four decades.¹ Compared to the previous five recessions, the current decline in employment has been the longest and the most severe. The only other recession that is comparable in length and severity is the 1981 recession. Corresponding to the employment decline, the overall unemployment rate nearly doubled. From the start of the current recession to August 2009, the unemployment rate has increased from 4.9 percent to 9.7 percent. The unemployment rate has not been this

¹ For consistency, we analyze the employment data according to the NBER business cycle dates rather than the peak to trough of the employment data.

high since the 1981 recession when it peaked at 10.8%. These aggregate data, however, conceal substantial heterogeneity in the way men and women have fared during this downturn.

An in depth look into the non-farm payroll employment data show a much bigger drop for men than women.(Figure 2). In particular, payroll employment for men has declined 6.9 percent since the start of the 2007 recession while it has only declined 2.6 percent for women. Although these declines are the highest in the past four decades for both men and women, men have been disproportionately impacted more than women. Thus for the first time in history, there are about as many women on U.S. payrolls as men.

Figure 3 shows that the unemployment gender gap was fairly large with women having a higher unemployment rate than men prior to the 1980 recession. However during the 1980 recession, the male unemployment rate jumped to 7.8 percent, not only closing but even reversing the unemployment gender gap. Since then, the unemployment rate for men appears to persist at higher levels than that for women during, and shortly after, recessions. During expansions gender-specific unemployment rates tend to converge. The current downturn follows this pattern. The unemployment rates for men and women were very similar when the recession started in December 2007. However, during the recession, the unemployment gender gap reached a historical high of 2.7 percentage points. This is far above the 1.0 percentage point average unemployment gender gap that appeared over the past three recessions.

An additional indicator that shows the severity of the current recession is the average duration of unemployment. As shown in figure 4, there has been a substantial

increase in the average time that unemployed persons spent looking for jobs since the beginning of the current recession. However, unlike the unemployment rate gender gap, the average duration of unemployment for men and women followed a very similar path. At the start of the current recession, the average duration of unemployment stood at 17 and 16.7 weeks for men and women respectively. In March 2009, average duration of unemployment for men and women reached the same average level of 20.2 weeks of unemployment and has increased at a similar rate.

To understand the underlying dynamics behind these gender differences in recent labor market output we next present evidence on gross labor flows.

III. Gross Labor Flows Data and the Gender Decomposition of the Labor Market Flows Data

Beginning in October 2007 the BLS has released seasonally-adjusted monthly estimates of labor force status flows going back to 1990.² The data series reports month-to-month flows between three distinct labor market states: employment (E), unemployment (U) and not in the labor force (N). The data series tracks individuals'³ movements between the three labor market states.

There is a clear advantage to looking at the labor flows data over the stock data. The stock labor force data only show the net change in the number of employed, unemployed or not in the labor force over a certain period of time. The flows data provide additional information about the sources of the net change. For example, an unemployed worker can leave unemployment either by gaining employment or deciding

² Since the data only goes back to 1990, we only analyze the unemployment inflow and outflow rate for 1990-1991, 2001 and current recessions.

³ The people that are counted for this purpose are part of the civilian non-institutionalized working age population.

to leave the labor force. Both of these transitions would decrease the stock of unemployed by one. However, the flows data would show two very distinct transitions, one a job finding transition (unemployment to employment) and the other a labor supply response (unemployed to not in the labor force). These two margins are likely to differ by gender. Thus, decomposing the labor flows data by gender provides an insight into what accounts for the unprecedented pattern in the labor market data during the current recession. A detailed description of the development of the flows and the flows convention can be found in Box 1.

In this exercise, we specifically analyze the flows in and out of unemployment. Unemployment *inflows* consist of people that transition from either employment or not in the labor force to unemployment (EU or NU) and unemployment *outflows* consist of people who transition from unemployment into either employment or not in the labor force (UE or UN).⁴ We use data on these flows to calculate the rates at which the population moves in and out of unemployment.

Figures 5 and 6 reveal that during recessionary periods, both genders' unemployment inflow rates increase while the outflow rates decrease. This causes the unemployment rate to increase because there are more individuals flowing into unemployment and fewer flowing out.⁵ In the 1990-91 recession, the unemployment inflow rate increased and outflow rate decreased more for men than for women. This caused the male unemployment rate to increase more than that of women. During the

⁴ Prior to the public availability of the flows data, researchers have calculated the unemployment inflow and outflow rates using the dynamic behavior of the unemployment level and short-term unemployment level (Shimer (2005); Hall (2005); Elsby, Hobijn and Şahin (2009)). However, these flows calculations do not consider the flows between unemployed and not in the labor force.

⁵ For analysis of previous recessions using flows data see Fujita and Ramey (2008) and Elsby, Michaels and Solon (2009).

2001 recession both inflow and outflow rates behaved similarly for men and women. Hence, we saw similar increases in the unemployment rates as well. During the current recession it appears that the male inflow rate has increased significantly more than the female inflow rate while the changes in the outflow rates have been comparable.

To see how exceptional the current gender gap in labor market conditions is, we consider Table 1. In the previous two recessions, both men and women saw double-digit percentage increases in their inflow rates into unemployment, reflecting the layoffs that generally occur during downturns. Men and women also saw substantial reductions in their chances of finding a job, reflected by the decline in the outflow rate during the previous two recessions. Though there were some gender differences in the change of flow rates that led to the male unemployment rate to increase more than that of women during these two recessions, these differences were not as striking as during the current recession.

We can clearly see from the flow rates that the disproportionate increase in the unemployment inflow rates and comparable decrease in the unemployment outflow rates caused the disparity in the unemployment rates. The decline in the outflow rate is similar for men and women. In fact, similar levels of outflow rates imply that men and women are equally likely to leave unemployment, as a result, their average durations of unemployment are similar.

The most striking gender-difference in terms of flows is that the inflow rate for men has spiked much more than that of women. This disproportionate increase in the unemployment inflow rate for men appears to be the primary cause of the divergence of the unemployment rates for men and women during the current recession. .

IV. Decomposition of the Inflow and Outflow Rates

Because the unemployment inflow and outflow rates mask the specific source of the movements in and out of unemployment, we decompose the flow rates further to get a better understanding of the mechanism that is driving the unemployment rate gender gap. The unemployment inflow rate is composed of two flows: employment to unemployment (EU) and not in the labor force to unemployment (NU). The left panel of figure 7 shows the inflow rates to unemployment from employment and not in the labor force for men and women. We see that there is a stark difference in the employment to unemployment transition rate between men and women. The E to U flow rate for men increased from 1.4% in December 2007 to 2.2% in August 2009. The corresponding increase for female workers during the same period was much less pronounced, from 1.1% to 1.5%. Moreover, even though both men and women experienced an increase in N to U flow rates, men experienced a greater increase. For men the flow rate from N to U increased from 2.8% to 4.5% while for women the rate increased from 2.1% to 2.9%.

The right hand panel shows the outflow rates. Like the inflow rate, the outflow rate is also composed of two distinct flows: unemployment to employment (UE) and unemployment to not in the labor force (UN). Even though the total outflow rate was similar for men and women, on average men were more likely to leave unemployment for employment, while women were more likely to leave unemployment and move out of the labor force.

The flows data reveal that the widening of the unemployment gender gap was mostly caused by the differences in the inflow rates for men and women during the current recession, rather than differences in the outflow rates.

V. Unemployment Inflow Rate: Why Did It Increase More for Men?

As we have documented in the previous section, during this recession women have been less likely to flow from employment into unemployment than men. The EU flow rate is now almost 60% higher for men than women. This is a reflection of the sectoral composition of job losses. Job losses this recession are highly concentrated in goods-producing sectors which generally employ a higher proportion of male workers. Similarly the industries that have fared better during the current recession are health care and education; both sectors where there is a higher concentration of women. Table 2 shows the payroll employment changes in different industries during the current recession and the fraction of female workers in each sector in December 2007. As noted, there are significantly less women in the industries which have experienced huge job losses while female workers are heavily concentrated in sectors that are doing relatively better.

This discrepancy is also reflected in the composition of unemployed by reason for both sexes. Almost three quarters of male unemployed workers are job losers while the corresponding number is around 56 percent for women. Labor force reentrants and new entrants constitute almost 35 percent of female unemployed workers while only 20 percent of male workers are in this situation.

Consistent with the high fraction of female reentrants and new entrants, we observe an increase in the rate of flows from N to U for women. This increase is very

similar to the increases that we have seen in the last two recessions and explains the relatively flat female labor force participation rate during the current recession. . This increase in females' willingness to work is an example of "added worker effect"; when a member of the household loses his or her job, another member's willingness to supply labor generally increases. For example, Juhn and Potter (2007) find that married women whose spouses move from employment to nonemployment are more likely to enter into the labor force than women whose spouses remain employed. In particular, when the economy moves from expansion to recession, the difference in entry rates between married women whose spouses exited employment and those whose spouses remained employed is 9.4%. Given the severity of the recession and its disproportionate negative effect on males, we believe that the increase that we have seen in the N to U flows for women starting from the early months of the recession is an indication of the added worker effect.

The labor supply response for females fits the historical pattern, however, we have seen an unprecedented increase in N to U for males. Typically when the labor market conditions are weak, unemployed workers take a break from the labor market and wait for the labor market to improve. However, during the current recession, it seems like there is increased willingness to supply labor by nonemployed males who we speculate are males who ran down their savings during their periods of nonemployment. This argument is consistent with Daly, Hobijn, and Kwok (2009) who also emphasize the wealth effects on labor supply and they argue that reduced wealth and liquidity prompted certain demographic groups like prime-age married women, workers aged 55 and older, and college age students to enter the labor force.

VI. Conclusion

In this *Current Issue*, we examined the unprecedented unemployment gender gap in the way the current recession has affected the labor market status of men and women. We find that the recession has had a far more substantial adverse effect on men than women. Analyzing labor market flows data by gender, we conclude that the unemployment gender gap was caused by the high unemployment inflow rate for men which may be a reflection of the deterioration of male-dominated industries during the current recession, decreasing household wealth, and tightening credit. Surprisingly, men and women face remarkably similar prospects in terms of leaving unemployment.

With the US economy going through a major change, a quick recovery in the labor market seems unlikely. The manufacturing sector has continued to shrink while there has been considerable restructuring in the auto and construction sectors. This is quite different from the recessions of the 1970s and 1980s when most job losses were temporary layoffs. Moreover, with the current state of the economy, it is likely that the labor market will see significant structural changes just as it did after the 2001 recession (Groschen and Potter, 2003). A fraction of the employment declines in the goods sector are likely to be permanent and it will take time to reallocate the excess labor supply to other sectors. Since some jobs are permanently lost in the goods producing sector, displaced workers will have to seek employment opportunities elsewhere. An important finding in the labor literature is the fact that displaced workers suffer substantial wage losses after reemployment since they lose the skills that are specific to their previous jobs. (Jacobsen, LaLonde and Sullivan, 1993.) Most of the displaced workers are men who are likely to be primary earners in their household. Even if they manage to find

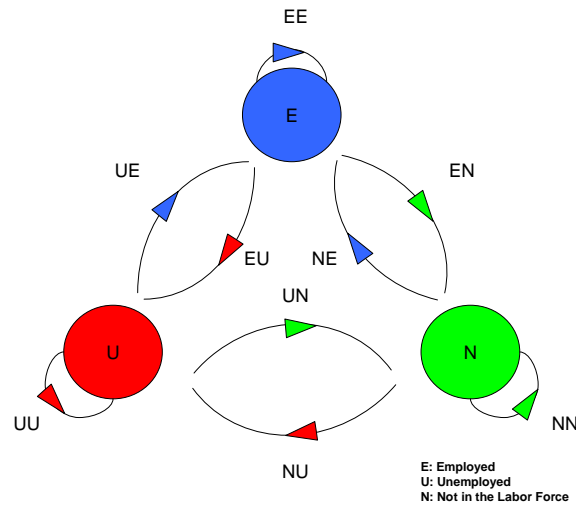
employment opportunities, they are likely to suffer from substantial earnings losses. This will cause downward pressure on household income and consumption in the short to medium run. Thus, policies like training programs or job-search consulting, that would help increase reemployment and earnings prospects of displaced workers, might be useful while the economy goes through this transition.

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Box 1: How is the flows data calculated?

In a given month, an individual is in one of the three labor force states: employed (E), unemployed (U), and not in the labor force (N). The following month, the individual can either stay in the same state or switch to one of the other two labor force states. This is depicted below. The stock of employed, unemployed, and not in the labor force are denoted by the circles while the flows of individuals between months are depicted by the arrows. The notation of the flows is such that the first letter denotes the individual's labor force status in the current month and the second letter of each flow denotes the status in the following month. For example, "UE" would describe an individual who is unemployed during the current month and gains some sort of employment in the next month.

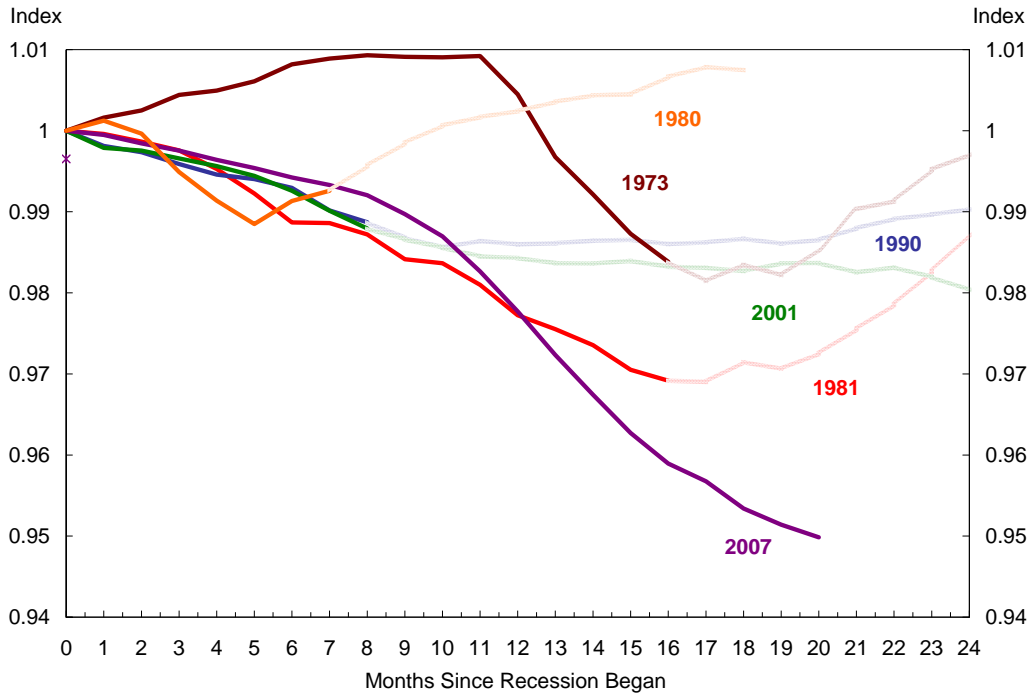


Flow rate: The fraction of people that are in a particular state in the current month and who end up in another state the next month. For example, the UE flow rate, is the fraction of currently unemployed workers that end up having a job next month.

Total Inflows and Outflows: The total inflow into unemployment is the sum of the number of people who either transition from employment to unemployment or not in the labor force to unemployment from the current month to the next month. The total outflow consists of the number of people who transition from unemployment to either employment or not in the labor force from the current month to the next month.

Evolution of unemployment: The change in the unemployment rate is the difference between the total inflows and the total outflows.

Figure 1: Payroll Employment

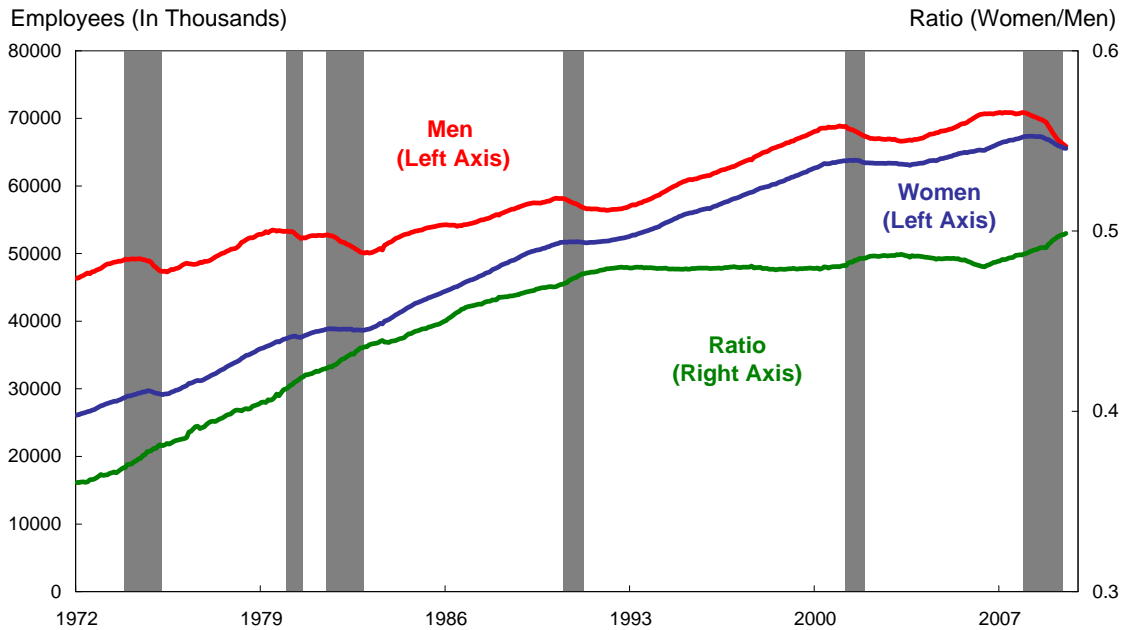


Source: Bureau of Labor Statistics

Notes: Normalized to 1 at the start of each recession; Bold lines depict the months in recessions; We stop the 1980 Recession Line at month 18 since the 1981 Recession started 19 months after.

Figure 2: Nonfarm Payroll Employment

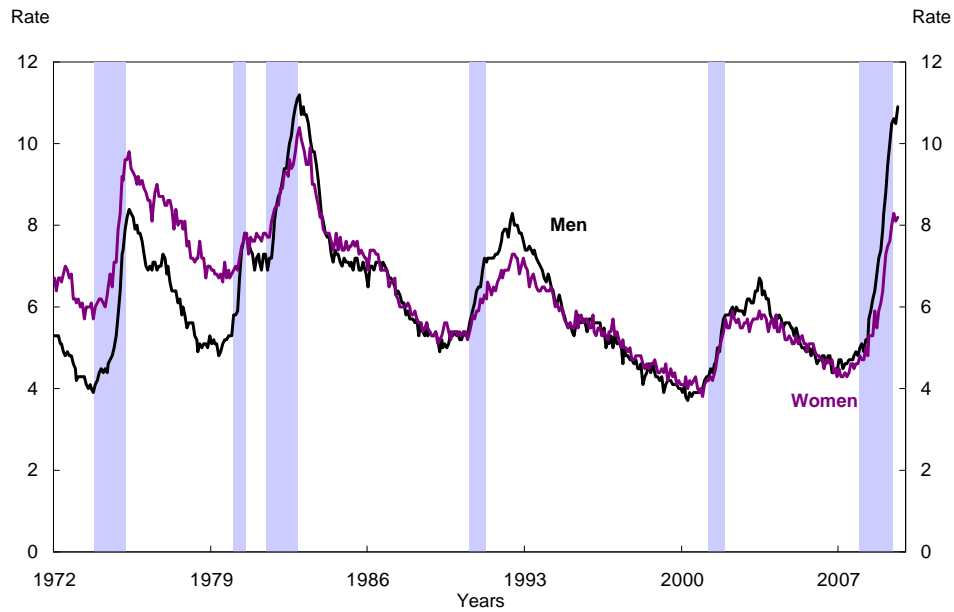
Nonfarm Payroll Employment By Gender



Source: Bureau of Labor Statistics

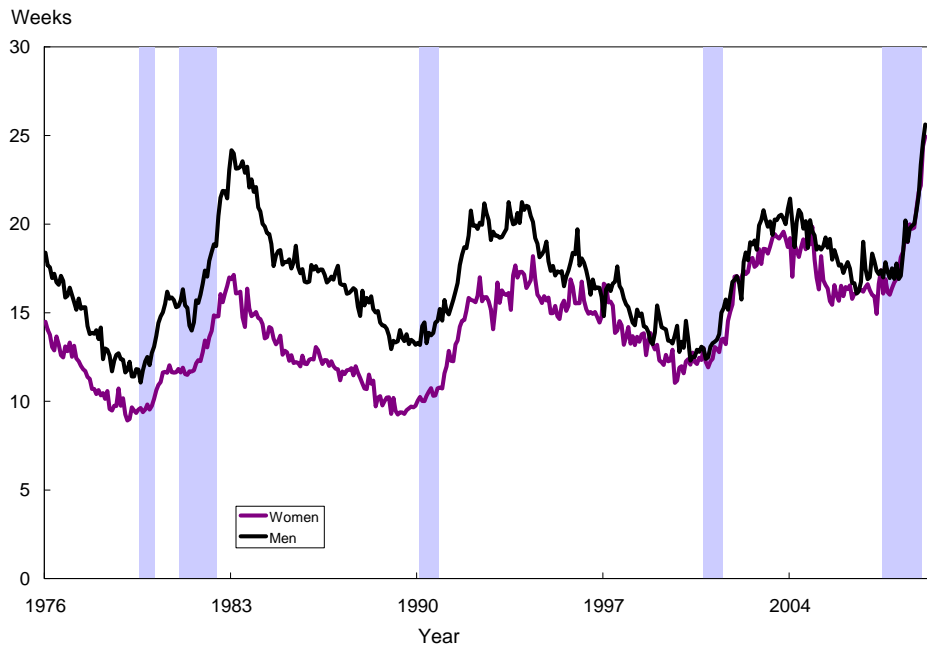
Note: Shading represents NBER recessions.

Figure 3: Unemployment Rate



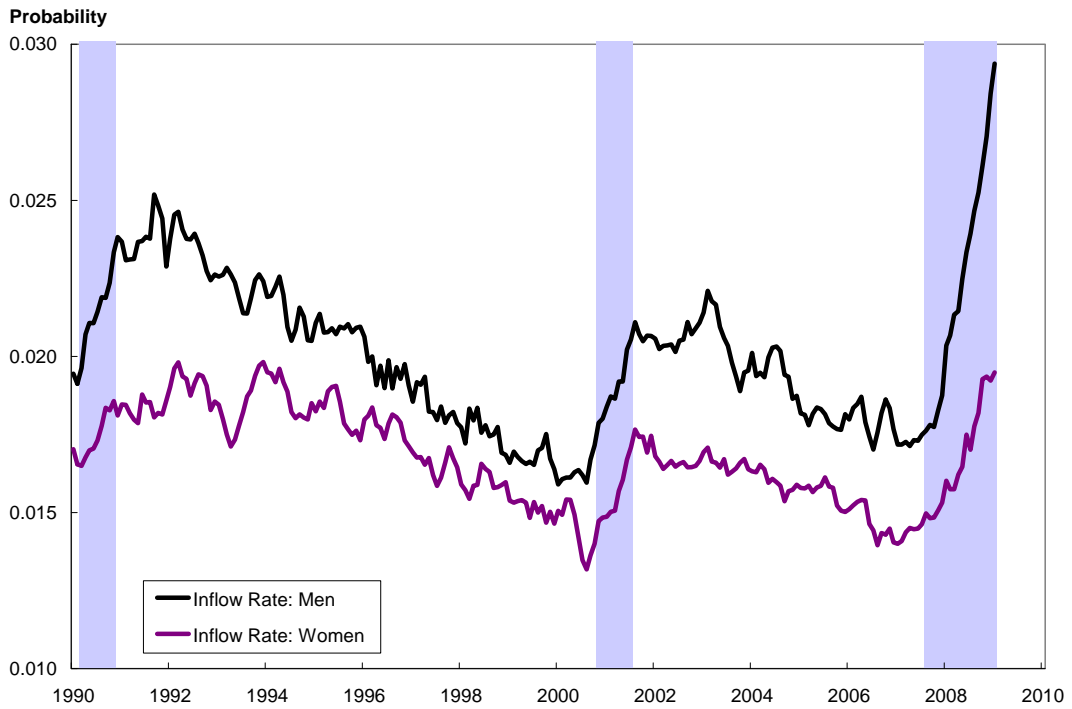
Source: Bureau of Labor Statistics
Note: Shading corresponds to NBER recession dates

Figure 4: Average Duration of Unemployment (Up to July 2009)



Source: Bureau of Labor Statistics
Note: Shading corresponds to NBER recession dates

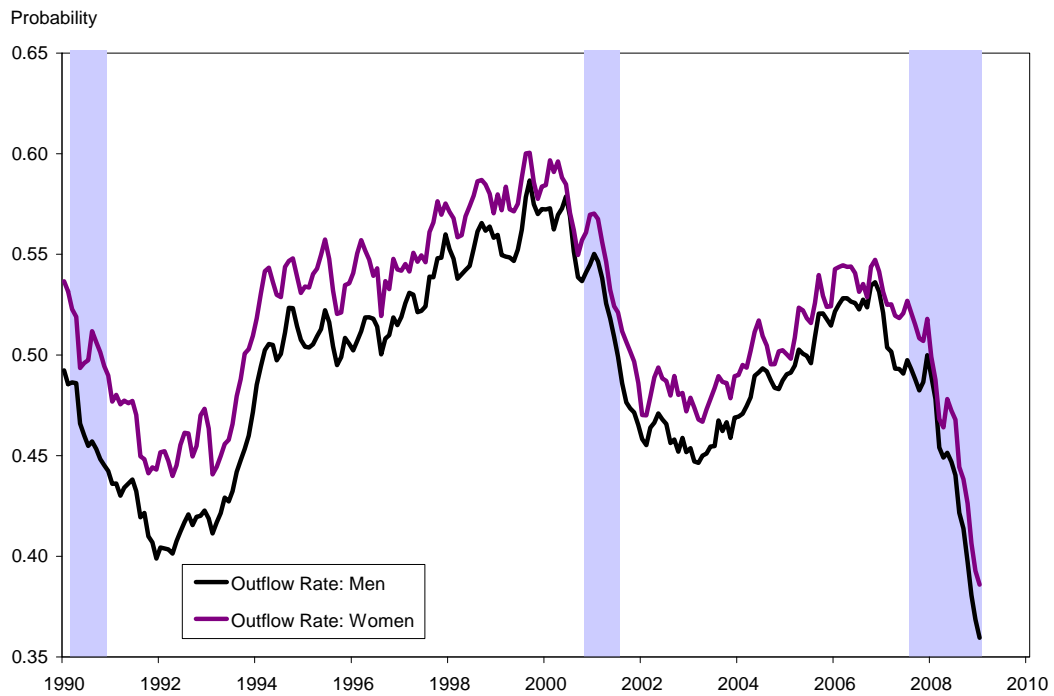
Figure 5: Unemployment Inflow Rate



Source: Bureau of Labor Statistics

Note: Shading corresponds to NBER recession dates

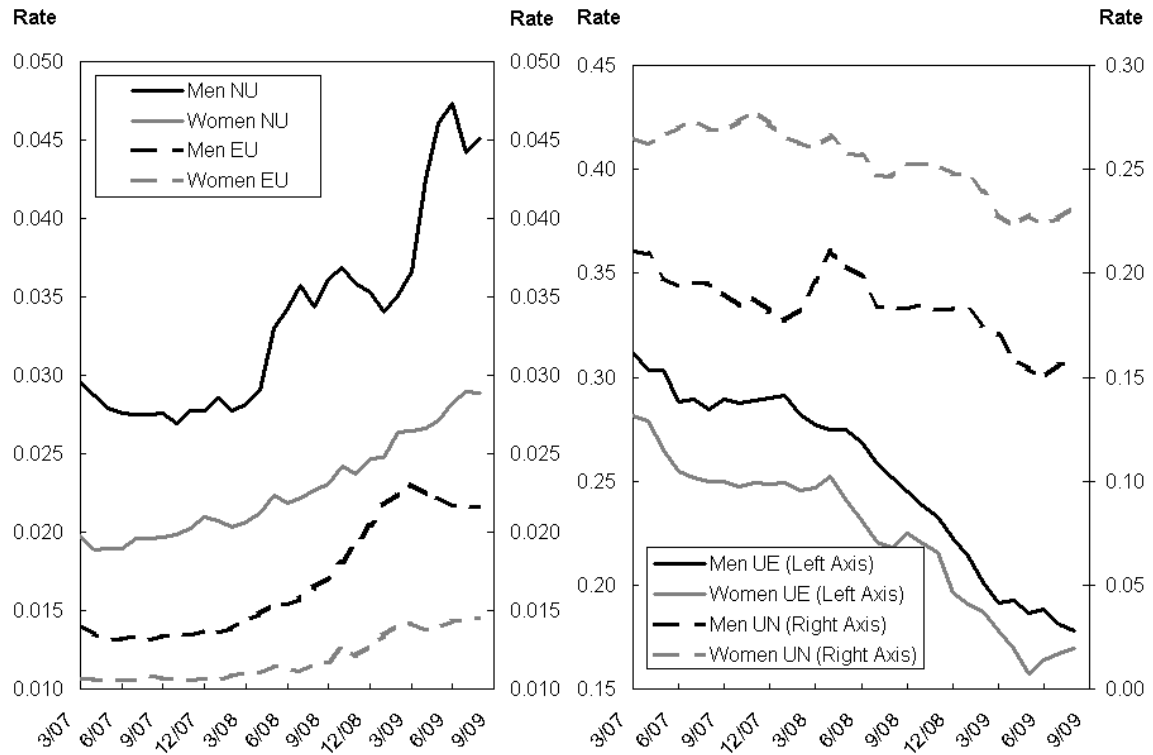
Figure 6: Unemployment Outflow Rate



Source: Bureau of Labor Statistics

Note: Shading Corresponds to NBER recession dates

Figure 7: Decomposition of Inflow and Outflow Rates by Gender



Source: Bureau of Labor Statistics, Author's Calculations

Table 1: Decomposition of the Unemployment Rate

Recession	Inflow Rate (% Change)		Outflow Rate (% Change)		Unemployment Rate (Difference)	
	Men	Women	Men	Women	Men	Women
1990-91	18.9	12.7	-10.7	-5.4	1.6	0.9
2001	14.5	16.3	-11.2	-7.1	1.4	1.2
2007-Present	62.6	37.6	-28.7	-23.0	5.9	3.4

Table 2:

	Overall Payroll Employment (Change Since Start of Recession)*	Share of Women in 2007**
Goods	-15.9%	22.7%
Manufacturing	-14.6%	28.8%
Construction	-19.4%	12.5%
Natural Resources and Mining	-4.1%	13.2%
Services	-2.9%	53.7%
Trade and Transportation	-6.0%	40.9%
Information	-6.9%	42.4%
Financial Activities	-6.2%	59.3%
Professional and Business Services	-8.0%	44.7%
Education and Health Services	4.3%	77.3%
Leisure and Hospitality	-2.9%	52.5%
Other Services	-1.7%	52.1%
Government	0.7%	57.0%

Source: Bureau of Labor Statistics and FRBNY

*Data through Aug, 2009.
**Data from December, 2007.