Deconstructing Structural Unemployment

John Schmitt and Kris Warner

March 2011

Center for Economic and Policy Research
1611 Connecticut Avenue, NW, Suite 400
Washington, D.C. 20009
202-293-5380
www.cepr.net

Contents

About the Author

John Schmitt is a Senior Economist at the Center for Economic and Policy Research in Washington, D.C. Kris Warner is a Program Assistant at CEPR.

Acknowledgments

The authors thank the Ford Foundation and Public Welfare Foundation for generous financial support and Dean Baker, Eileen Appelbaum, and Nicole Woo for helpful comments.

Executive Summary

Some economic observers argue "structural unemployment" has increased in the wake of the Great Recession.

Structural unemployment refers to unemployment that reflects supply constraints in the economy: workers whose skills or geographic location don't match with employers' desires. Structural unemployment differs from cyclical unemployment, which is associated with fluctuations in aggregate demand related to swings in the business cycle.

The distinction between structural and cyclical unemployment has crucial implications for economic policy. If unemployment is "structural" then government policy that seeks to increase demand – low interest rates or fiscal stimulus, for example – will have little or no effect on the national unemployment rate and could even make matters worse by igniting inflation. If unemployment is "cyclical," however, then expansionary macroeconomic policy can lower unemployment substantially with little or no risk of inflation.

We find little support for either of two arguments that suggest that structural unemployment has been on the rise.

The first argument focuses on the large increase in unemployment among construction workers. According to this view, the large supply of unemployed construction workers will never find work in construction again and lack the skills needed to find new jobs in other sectors of the economy.

Based on data from the January 2010 Displaced Workers Survey (DWS), the experience of construction workers, however, is remarkably similar to workers displaced from other sectors.

- Slightly more construction workers (56.3 percent) than non-construction workers (55.5 percent) found a new job at some point between the time they were displaced and the time they were interviewed for the DWS.

- On average, construction workers also held slightly more jobs since being displaced (0.80) than non-construction workers (0.71).

- Construction workers also appear to be more geographically mobile than non-construction workers. About one-in-ten construction workers had moved to a different city or county after being displaced (10.3 percent), compared to only about one-in-twelve non-construction workers (8.5 percent).

- Construction workers were also more likely to "move to look for work or to take a different job" (6.1 percent) than workers displaced from other sectors (5.1 percent).

- Displaced construction workers were only slightly less likely to be employed at the time of the DWS interview (46.7 percent) than displaced workers from other sectors (47.9 percent).

- Displaced construction workers also appear to be as willing to accept pay cuts as workers displaced from other sectors. Exactly the same share of displaced, formerly full-time construction and non-construction workers (38.2 percent) who were re-employed at the time of the DWS interview had taken a pay cut of more than 20 percent at their new job. Roughly comparable shares of both groups of workers took a pay cut of between zero and 20 percent (23.2 percent for construction, 27.3 for non-construction).

A second argument suggesting that structural unemployment has increased is that falling house prices have reduced the mobility of unemployed workers. This situation has created "housing lock" where unemployed workers, who would otherwise relocate to regions with jobs, are stuck in high unemployment areas.

The DWS data do suggest that house prices have had some impact on displaced workers' likelihood to move. Displaced workers in states where the house price index was unchanged or positive were less likely to stay (84.8 percent) than were workers who lost their jobs in states with house-price declines (87.6 percent in the case of small declines; 87.2 percent in the case of large house-price declines).

Using data from the DWS on the unemployment experience of movers and non-movers, these differences in the staying rate across states by house-price changes suggest that the overall effect of housing lock is likely to be small – increasing the total number of unemployed by about two percent. To put these effects into perspective, at an unemployment rate of 10 percent, for example, increasing the total pool of unemployed by two percent would raise the unemployment rate to about 10.2 percent.

"[T]he Fed does not have a means to transform construction workers into manufacturing workers." – Narayana Kocherlakota, President, Federal Reserve Bank of Minneapolis, August 17, 2010[1]

"You can't change the carpenter into a nurse easily... Monetary policy can't retrain people. Monetary policy can't fix those problems." – Charles Plosser, President, Federal Reserve Bank of Philadelphia, February 14, 2011[2]

Introduction

In 2006, the U.S. housing bubble peaked and home prices began to fall in most real-estate markets across the country.[3] In response, employment in the construction sector dropped sharply, with job losses eventually totaling more than two million.[4] These initial job losses in construction reduced demand in the economy, generating further job losses in other sectors. But, the decline in house prices has done the most damage. The $6 trillion fall in housing equity since the peak has led households to cut spending sharply, reducing GDP by about 2.5 percent relative to pre-crash levels.[5]

Some economic observers argue that two particular features of the Great Recession – both rooted in the downturn's origins in residential housing – have led to an increase in "structural unemployment." Economists have long distinguished between "structural" and "cyclical" unemployment. Cyclical unemployment refers to unemployment in response to temporary declines in demand (consumption, investment, government spending, or exports) associated with the business cycle. Structural unemployment refers to unemployment that reflects supply constraints in the economy: workers whose skills or geographic location don't match with employers' desires.[6] The distinction has crucial implications for economic policy. If unemployment is "structural" then government policy that seeks to increase demand – low interest rates or fiscal stimulus, for example – will have little or no effect on the national unemployment rate and could even make matters worse by igniting inflation. If unemployment is "cyclical," however, then expansionary macroeconomic policy can lower unemployment substantially with little or no risk of inflation.

---

1 See http://www.minneapolisfed.org/news_events/pres/speech_display.cfm?id=4525

2 Mary Anastasia O'Grady, "The Fed's Easy Money Skeptic," The Wall Street Journal, February 14, 2011, http://online.wsj.com/article/SB10001424052748704709304576124132413782592.html.

3 According to the National Bureau of Economic Research, the recession began in December 2007, about nine months before the crisis in financial markets reached its peak in the fall of 2008. For a discussion of the origins of the Great Recession, see Baker (2008).

4 Employment in construction peaked at about 7.7 million at the beginning of 2007, and fell more or less continually until January of 2011, for a total loss of more than 2 million jobs. See Bureau of Labor Statistics, Current Employment Statistics, http://www.bls.gov/ces/.

5 Economists believe that households typically spend about six cents for every dollar increase in housing wealth – and cut about the same for every dollar decline in housing wealth. Given the $6 trillion decline in housing wealth, this wealth effect would translate to an annual decline in spending of roughly $360 billion. With GDP at roughly $14 trillion before the crash, this $360 billion decline in consumption represents about 2.5 percent of GDP. The subsequent stock-market crash further reduced household wealth. But, stock ownership is more heavily concentrated in upper-income households whose consumption is less sensitive to changes in their wealth. The typical estimate of wealth effects on changes in stock prices is about three cents on the dollar. At this rate, the $6 trillion decline in share prices further lowered consumption about $180 billion, just over one percent of GDP.

6 Structural unemployment can also result from other factors including overly generous unemployment benefits that discourage the unemployed from looking for or accepting jobs.

The first argument in favor of "structural unemployment" focuses on construction workers. According to this view, the bursting of the housing bubble left behind a large supply of construction workers who will never find work in construction again and who also lack the skills needed to find new jobs in other sectors of the economy.

The second argument is that falling house prices have reduced the mobility of unemployed workers. Many of those who lost their jobs are also "underwater" on their mortgages, that is, what they can reasonably expect to get for their house is less than the unpaid balance on their mortgage. This situation has created "housing lock" where unemployed workers, who would otherwise relocate to regions with jobs, are stuck in high unemployment areas.[7]

In this report, we use data from the Census Bureau's Displaced Workers Survey (DWS) to examine evidence on both of these links between the housing market and structural unemployment.[8] The DWS is a biennial survey, conducted as part of the Current Population Survey (CPS), that studies the experience of "long-tenured displaced workers." As defined by the Bureau of Labor Statistics (BLS), displaced workers are "persons 20 years of age and older who lost or left jobs because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished." Following the BLS, we focus on "long-tenured" displaced workers, who are those who "worked for their employer for 3 or more years at the time of displacement."[9] The DWS is particularly well-suited to the analysis of economic restructuring because it tracks workers who lost relatively long-standing jobs for specific reasons beyond their control.

Construction Workers

The DWS data show a sharp increase in job displacement during the Great Recession (see **Figure 1**). In the three years from 2007 through 2009, about one of every twenty workers was displaced from their job, by the fairly strict definition of displacement used by the BLS. That is, in those three years, 5.1 percent of workers lost a job that they had held for at least three years "because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished."[10] The three-year displacement rates immediately preceding the 2010 survey were well above the three-year rates for earlier surveys (1994, 2002, and 2004) that also included recession years (1991 and 2001).

---

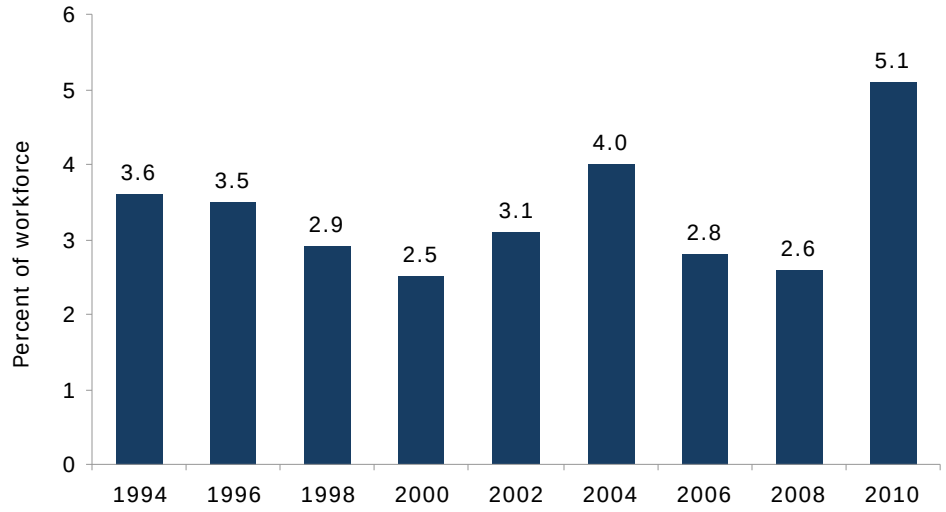
7 Weidner and Williamson (2011) give a succinct summary of both of these arguments: Another "...explanation is that the degree of mismatch between job seekers and potential employers has increased. The construction, finance, and real estate sectors have shrunk after the bursting of the housing bubble and the subsequent financial crisis. The skills of workers who used to be employed in those sectors may not be easily transferable to growing sectors such as education and health care... Similarly, the housing bust has left millions of homeowners underwater on their mortgages, which locks them into their homes and may make it more difficult for them to move to higher growth areas. These sectoral and geographic mismatches between workers and job openings may be making it harder for employers to fill vacancies."

8 For other recent evidence against a significant increase in structural unemployment, see Daly, Hobijn, and Valetta (2011), Weidner and Williams (2011), Lawrence, Shierholz, and Edwards (2010), and Jayadev and Konczal (2010).

9 Bureau of Labor Statistics, *Displaced Workers Summary*, August 26, 2010, p. 1, http://www.bls.gov/news.release/disp.nr0.htm.

10 The denominator here is total employees in employment as of January 2010 plus all displaced workers who were not working as of the survey date. This measure understates the true displacement rate because the denominator includes all workers, not just those who have been with the same employer for three years or more.

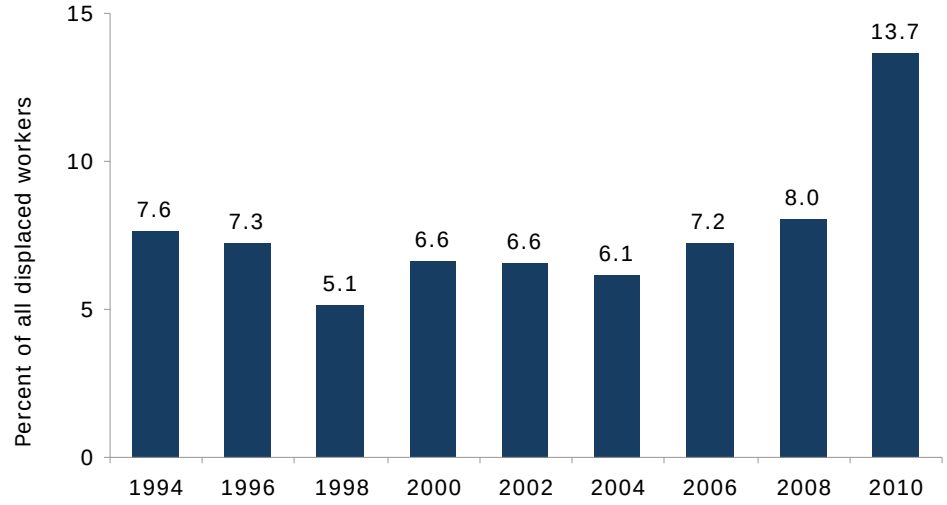
FIGURE 1
Three-year Displacement Rate, All Workers, 1994-2010



Source: Authors' analysis of CPS DWS

Construction workers did make up a larger share of displaced workers in 2007-2009 than was the case in earlier years. Of the workers displaced in the three years before the 2010 survey, 13.7 percent were displaced from construction jobs. This share is twice the average for construction workers in the 1994 through 2008 surveys (see **Figure 2**).

FIGURE 2
Construction Workers as Share of Displaced, 1994-2010



Source: Authors' analysis of CPS DWS

But, a higher share of construction workers in the overall pool of displaced workers does not, on its own, make a case for an increase in structural unemployment. For the greater supply of construction workers to be raising the structural unemployment rate, at a minimum, they must be facing greater labor-market difficulties than other kinds of workers.

Table 1 uses data from the most recent DWS to compare labor-market outcomes of workers displaced from construction jobs with workers displaced from jobs in all other sectors. The DWS data only examine the experience of construction workers who lost jobs that they had held for at least three years and report losing their job because their company closed, their particular position was abolished, or due to lack of demand. The DWS excludes all voluntary job separations or changes and all job losses where the worker was with the company for less than three years. Arguably, the experience of these "long-tenured" displaced workers is more informative about economic restructuring than the experience of workers with shorter attachments to their employers who change jobs, often voluntarily and for a host of economic and non-economic reasons.

TABLE 1
Labor-market Outcomes of Workers Displaced in 2007-2009, as of January 2010

	Construction	Non-construction
Since being displaced...		
Have worked (%)	56.3	55.5
Average number of jobs held	0.8	0.7
Have moved (%)	10.3	8.5
Have moved for economic reasons (%)	6.1	5.1
Among those displaced from a full-time job, at time of interview...		
Employed (%)	46.7	47.9
Unemployed (%)	42.3	38.4
Left labor force (%)	11.1	13.7
Among those displaced from a full-time job, and now employed, weekly pay at new job, relative to lost job... (%)		
20% or more below	38.2	38.2
20-0% below	23.2	27.3
0-20% above	20.2	19.2
20% or more above	18.5	15.2

Source: Authors' analysis of DWS data.

Based on the DWS data, the experience of construction workers is remarkably similar to workers displaced from other sectors. Slightly more construction workers (56.3 percent) than non-construction workers (55.5 percent) found a new job at some point between the time they were displaced and the time they were interviewed for the DWS. On average, construction workers also held slightly more jobs since being displaced (0.80) than non-construction workers (0.71).

Construction workers also appear to be more geographically mobile than non-construction workers. About one-in-ten construction workers had moved to a different city or county after being displaced (10.3 percent), compared to only about one-in-twelve non-construction workers (8.5 percent). Construction workers were also more likely to "move to look for work or to take a different job" (6.1 percent) than workers displaced from other sectors (5.1 percent).

Displaced construction workers were only slightly less likely to be employed at the time of the DWS interview (46.7 percent) than displaced workers from other sectors (47.9 percent). Part of the reason for the small difference was a higher share of construction workers in unemployment at the time of the interview (42.3 percent) than non-construction workers (38.4 percent). But, construction workers were also less likely to have left the labor force (11.1 percent) than non-construction workers (13.7 percent). For understanding structural change in the economy, the employment comparisons are more important than the unemployment and not-in-the-labor force comparisons. Employment rates reflect the suitability of displaced construction workers for existing jobs. By this measure, displaced construction workers look a lot like displaced workers from other sectors. The split of the rest of displaced workers likely reflects institutional features of the unemployment insurance system. Construction workers are more likely to be male and have above average earnings given their age and education level, which makes them more likely to qualify for unemployment insurance and therefore more likely to remain attached to the labor force (to continue to search for work) than to leave the labor force altogether.

Displaced construction workers also appear to be as willing to accept pay cuts as workers displaced from other sectors. Exactly the same share of displaced, formerly full-time construction and non-construction workers (38.2 percent) who were re-employed at the time of the DWS interview had taken a pay cut of more than 20 percent at their new job. Roughly comparable shares of both groups of workers took a pay cut of between zero and 20 percent (23.2 percent for construction, 27.3 for non-construction). And a slightly higher share of construction workers than non-construction workers earned more or substantially more at their new job. These re-employment wage distributions aren't definitive, but they suggest both that construction workers are not stubbornly resisting pay cuts in the face of economic reality and that many construction workers have skills that pay even better outside the construction sector.

"Housing Lock"

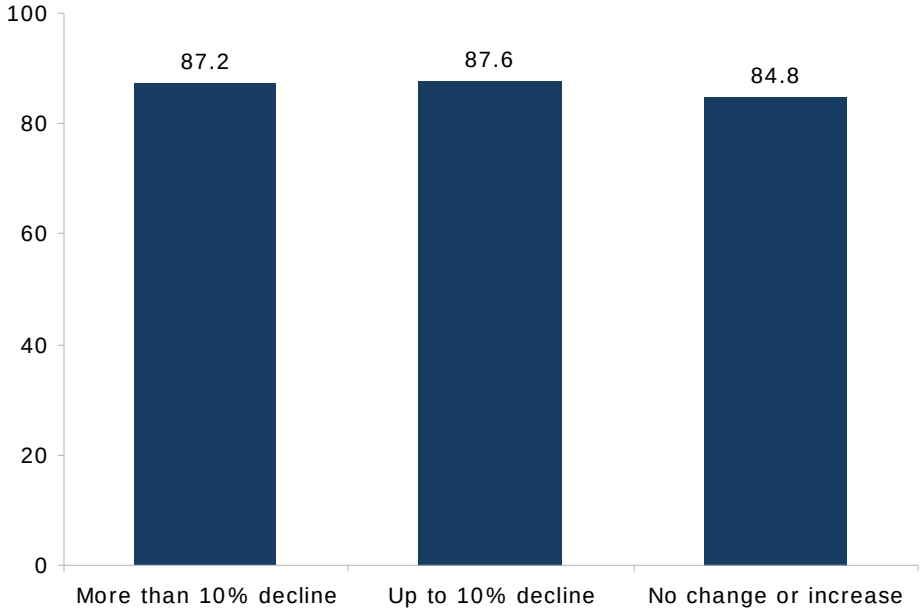
A second way that the collapse of the housing market may have created "structural unemployment" is by reducing the geographic mobility of unemployed workers. The large declines in house prices experienced in many parts of the country left many households "underwater" on their mortgages. If they were to sell their homes, the price that they would receive would not cover the outstanding value of the mortgage and the generally sizable transaction costs associated with selling a house. This situation may have induced "housing lock" where unemployed workers, who would otherwise relocate to regions with more jobs, must remain in their homes in high unemployment areas.

To gauge the potential size of this "housing lock" effect, we examine DWS data on whether displaced workers moved from their city or county after being displaced. First, we grouped states

according to the percent change in the state's home price index[11] following two different approaches. In one, we divided the 51 states (including the District of Columbia) into five groups of ten (with the middle group containing eleven) from largest decline to the largest increase in the state house price index. For the other approach, we divided states into three groups: those states that saw their house price index fall more than 10 percent; those that saw a decline of up to 10 percent; and those that saw any increase in the house price index. Next, we compared the "staying rate" – that is, the share of displaced workers who did not move out of their city or county after being displaced – across states by the size of the change in their house price index. If housing lock is causing "structural unemployment," we would expect staying rates to be higher where house-price declines were steepest.

The DWS data do suggest that house prices have some impact on displaced workers' likelihood to move. Displaced workers in states where the house price index was unchanged or positive were less likely to stay (84.8 percent) than was the case for displaced workers who lost their jobs in states with small house-prices declines (87.6 percent) or large house-price declines (87.2 percent) (see **Figure 3**). The same is true when we divide states into five groups by the change in the house price index. States in the bottom three fifths of price changes had almost identical staying rates (86.8 to 87.9 percent), but displaced workers in the top fifth of states were somewhat less likely to stay after being displaced (84.1 percent) (see **Figure 4**).

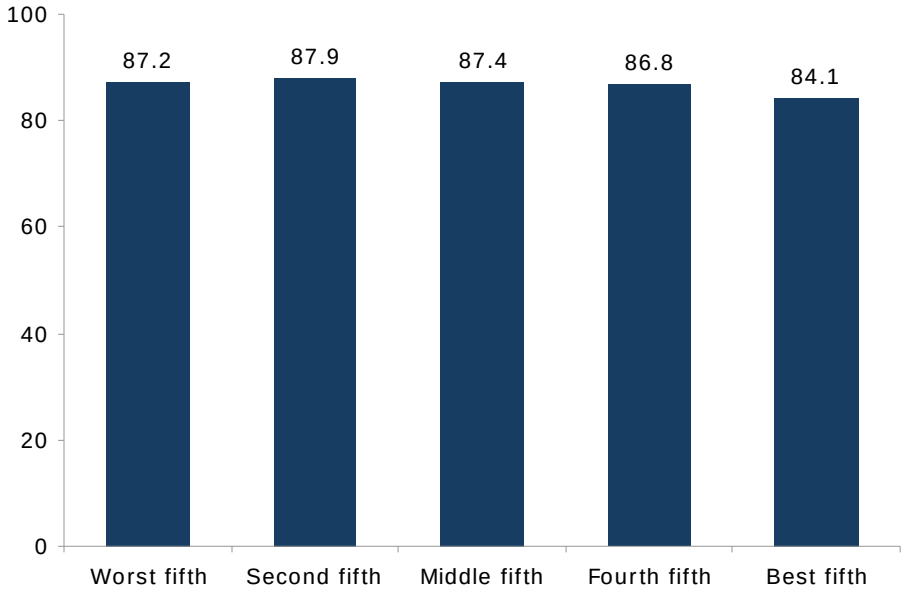
FIGURE 3
Displaced Workers' Probability of Staying, by Change in State-wide Housing Price Index



Source: Author's analysis of CPS DWS and Federal Housing Finance Agency data.

11 Federal Housing Finance Agency, Seasonally Adjusted Purchase Only Index for States: http://www.fhfa.gov/Default.aspx?Page=87.

FIGURE 4
Displaced Workers' Probability of Not Moving, by Change in State-wide Housing Price Index, by Quintiles



Source: Author's analysis of CPS DWS and Federal Housing Finance Agency data.

These differences in geographic mobility seem small, but it is possible to use other information from the DWS to estimate the economic magnitude of these observed effects. Among all workers in the 2010 DWS who were displaced from a full-time job, and subsequently moved, the share who were unemployed at the time of the DWS interview was 31.9 percent. For workers in the same circumstances, but who did not move, 38.8 percent were unemployed at the time of the interview. So, if the housing market in the bottom four-fifths of states had behaved like the housing market in the top fifth of states, and this improved performance in the housing market raised the moving rate in those states to the level observed in the top fifth of states, we would expect the share of displaced workers who were unemployed at the time of the interview to have been only about 0.8 percentage points lower than it was.[12] Since 38.4 percent of formerly full-time displaced workers were unemployed at the time of the DWS interview, this means that "housing lock" might have raised the total unemployment share for displaced workers by, at most, about two percent (0.8/38.4=0.021). While it is difficult to translate these figures from displaced workers to the overall unemployment rate, these numbers suggest that the overall effect of housing lock is likely to be small. At an unemployment rate of 10 percent, for example, increasing the total pool of unemployed by two percent would raise the unemployment rate to about 10.2 percent.[13]

12 The change in the share of displaced workers who are unemployed at the time of the survey is: $\Delta U = (S^h - S^l)*(U^m - U^s)$, where U is the share of all displaced (full-time) unemployed workers who are unemployed at the time of the interview; S is the moving rate; h and l refer to high-performing and low-performing state real estate markets; and m and s refer to "movers" and "stayers." Using the numbers from Figure 4, and treating the bottom four quintiles as the low-performing group, the calculation is: 0.002 = (0.841-0.873) * (0.319-0.388), or 0.2 percentage points. Because this calculation applies to each of the four lower-performing quintiles separately, the total effect is four times the 0.002 figure.

13 Note that these estimates are likely to overstate the effect, because displaced workers, having held their lost jobs for at least three years, are more likely to be homeowners than the unemployed overall.

Even if "housing lock" were a more serious problem, it might still be possible to address it using expansionary macroeconomic policy. Unemployment related to housing lock may be "structural" in some sense, but the structural barrier is in the housing market, not the labor or product markets. The overall economy is not contracting in some areas and expanding in others for reasons reflecting changes across regions in tastes, technology, or trade (and independent of the housing market). Structural changes motivated by these kinds of factors arguably might suggest relocating labor across regions. What is happening in the current business cycle, instead, appears to be that some regional markets have experienced local declines in demand that are related to the collapse in the housing market. A resurgence of demand at the national level, as would happen with expansionary macroeconomic policies, would potentially restore demand in depressed regions without requiring workers to relocate and without creating inflationary pressures.

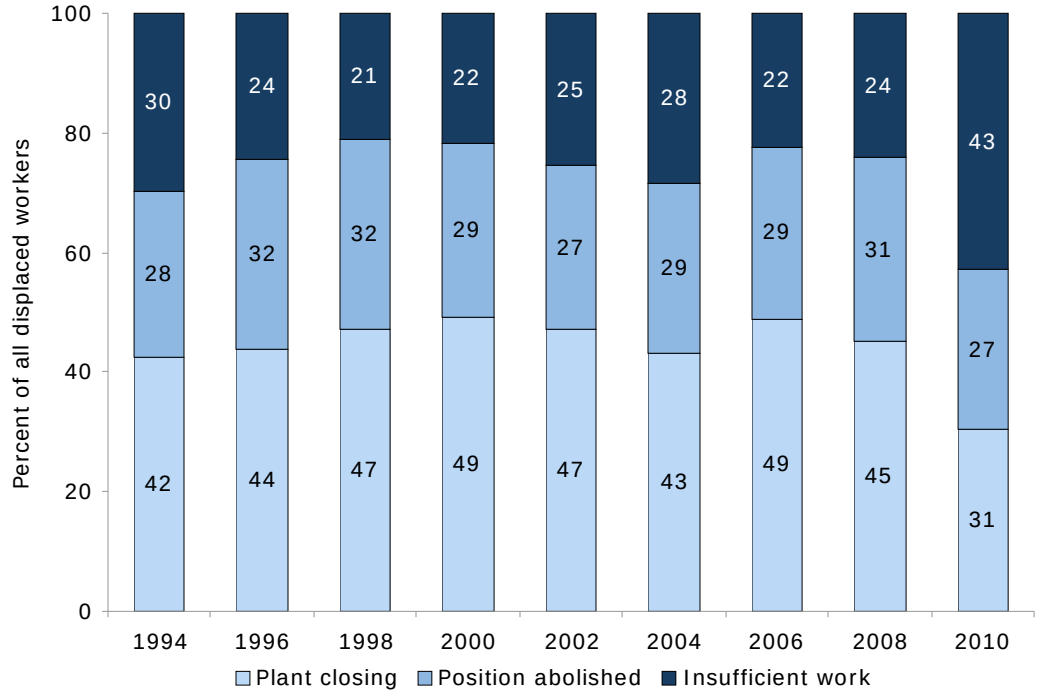
Lack of Demand

The DWS data provide little support for the view that features of the Great Recession have produced a significant rise in "structural unemployment." Additional evidence from the DWS reinforces this conclusion and suggests that the main problem facing the labor market is a sharp decline in aggregate demand. **Figure 5** shows the main reason for job displacement reported in each of the Displaced Worker Surveys between 1994 and 2010.[14] The most striking feature of graph is the large increase in 2010, relative to every earlier survey, in the share of workers displaced because of "insufficient work," a category that is arguably most closely consistent with a demand-side explanation for current high levels of unemployment.[15] The DWS data, however, are not definitive in this respect: at the firm level, where workers experience displacement, "insufficient demand" might reflect a decline in aggregate demand or a structural shift in demand. What is interesting about the 2010 survey is the large jump in the share of workers citing "insufficient demand" relative to earlier recessions.

14 Workers are classified as displaced only if they report one of these three reasons for losing the job they held for at least three years. Other reported reasons, which the BLS excludes from the "displaced" classification are: "seasonal job ended"; "self-operated business" ended; and "other."

15 The DWS data are consistent with more detailed data from the regular monthly survey of small businesses conducted by National Federation of Independent Business (NFIB), which has shown a large increase since the recession began in the share of small businesses that report "poor sales" as the single most important problem facing their business. The same survey also shows a substantial decline in the share of businesses that report "quality of labor" as their biggest problem. For a recent analysis, see Sairah Husain, "Structural Unemployment: The Data Just Doesn't Match Up," CEPR Blog, March 2, 2011, http://www.cepr.net/index.php/blogs/cepr-blog/structural-unemployment-the-data-just-doesnt-match-up.

FIGURE 5
Reason for Displacement, All Workers, 1994-2010



Source: Authors' analysis of CPS DWS

Conclusion

The DWS data suggest that the bursting of the housing bubble – the central cause of the economic downturn and the ensuing financial crisis – has not generated any noticeable increase in "structural unemployment."

Construction workers have indeed suffered disproportionately in the downturn, but they have also been at least as successful in coping with the hostile labor market of recent years as workers displaced from other sectors. Construction workers' skills are at least as well matched to the available jobs as workers displaced elsewhere in the economy.

The downturn in the housing market also appears to have slightly lowered the geographical mobility of displaced workers, but the economic effects are small, raising the pool of the unemployed by only a few percent (and the unemployment rate, by a much smaller amount).

Appendix

The DWS is a survey of job displacement administered every other year since 1984, in January or February, as part of the Bureau of the Census' Current Population Survey (CPS). The CPS is a monthly survey of 50,000 to 60,000 households (used for, among other purposes, to calculate the official unemployment rate). In the DWS, since 1994, all participants in the CPS age 20 and older were asked if they had any experience of job displacement during the preceding three years (before the 1994 survey, respondents were asked about any experience of job displacement during the preceding five years). Workers who reported that they had experienced job loss due to "plant closing," "slack demand," or "position or shift abolished" were then asked a series of detailed follow-up questions about the lost job, their post-displacement experience, and their current economic situation.

This report uses the versions of the survey, for 1994-2010, which cover job losses during the period 1991 to 2009. The main focus here is on the survey for 2010, which covers the period 2007-2009. Changes in the recall period for the survey make comparisons before and after 1992 difficult. (See Farber, 2003, for an attempt to create a consistent series of job displacement across the change in the DWS.) The survey underwent additional, though minor, changes between 1994 and 1996, and has been essentially identical since 1996. Using the BLS's definition of displacement, the annual breakdown of the sample size of displaced workers is: 1994: 2,303; 1996: 1,677; 1998: 1,496; 2000: 1,322; 2002: 1,831; 2004: 2,207; 2006: 1,606; 2008: 1,481; 2010: 2,751.

The manufacturing sector includes a small portion of workers in mining. The service sector includes transportation, communications, and utilities.

All data and programs used are available for download at http://www.ceprdata.org.

References

Baker, Dean. 2008. "The Housing Bubble and the Financial Crisis." Real World Economics Review, No. 46, pp. 73-81. http://www.paecon.net/PAEReview/issue46/Baker46.pdf.

Baker, Dean. 2009. "The Housing Crash Recession and the Case for a Third Stimulus." Washington, DC: Center for Economic and Policy Research.
http://www.cepr.net/documents/publications/housing-crash-recession-2009-03.pdf

Daly, Mary, Bart Hobijn, and Rob Valletta. 2011. "The Recent Evolution of the Natural Rate of Unemployment." Federal Reserve Bank of San Francisco.
http://www.frbsf.org/publications/economics/papers/2011/wp11-05bk.pdf

Farber, Henry S. 2003. "Job Loss in the United States, 1981-2001." Industrial Relations Section, Princeton University, Working Paper No. 471.

Jayadev, Arjun and Mike Konczal. 2010. "The Stagnating Labor Market." New York: The Roosevelt Institute. http://www.rooseveltinstitute.org/sites/all/files/stagnant_labor_market.pdf

Mishel, Lawrence, Heidi Shierholz, and Kathryn Edwards. 2010. "Reasons for Skepticism about Structural Unemployment." Washington, DC: Economic Policy Institute.
http://epi.3cdn.net/c1218e8213c58051e4_tlm6b5tf9.pdf

Weidner, Justin and John C. Williams. 2011. "What is the New Normal Unemployment Rate?" Federal Reserve Bank of San Francisco Economic Letter, February 14.
http://www.frbsf.org/publications/economics/letter/2011/el2011-05.html