Volume 12, Issue 1, November 2010

Steven Davis on Labor Market Dynamics

Steven J. Davis is the William H. Abbott Professor of International Business and Economics at the University of Chicago Booth School of Business. His interests cover employment outcomes, worker mobility, job loss, business dynamics, economic fluctuations, and national economic performance. He is also the editor of the American Economic Journal: Macroeconomics. Davis's RePEc/IDEAS entry.

EconomicDynamics: You have studied labor markets flows in the US extensively for a long time. In particular, you have identified regularities in job loss and job finding rates in recessions and recoveries. Is the recent recession looking similar to previous ones?

Steven Davis: In terms of labor market flows, the recent recession began much like previous US downturns: sharp spikes in job destruction, layoffs and the flow of job losers into unemployment plus a slow down in job creation, a drop in quits and a decline in the job-finding rate for unemployed workers. An important distinguishing feature of the recent downturn — apart from its severity — is the long, deep slide in the job-finding rate and its failure to rebound. As measured by the unemployment escape rate in the Current Population Survey, the job-finding rate has ranged from 19-23% per month since the middle of 2009. This is about half the rate from 2004 to 2007, and much lower than job-finding rates in previous US recessions. Quit rates also dropped dramatically relative to pre-recession levels. By these metrics, the US labor market has become much less fluid since the onset of the recent recession. Employer-side measures of labor market flows tell a consistent story. They also suggest that recent developments have accentuated a secular decline in the fluidity of U.S. labor markets. Gross job creation rates in the BLS Business Employment Dynamics data are about 25% smaller in recent quarters than in the early 1990s. A similar downward drift since the early 1990s shows up in the rate at which businesses hire new employees.

See my working paper with Jason Faberman and John Haltiwanger on “Labor Market Flows in the Cross Section and over Time.” Some of my other papers show that the rate of job reallocation across employers has been drifting down since the early 1980s, and since the late 1960s in the manufacturing sector.
ED: The unemployment rate in the US has doubled during the last recession, while the change has been much smaller in Europe. How can such a difference be explained?

SD: This is a great question but not one that I have studied carefully. An obvious point is that the United States entered the recession with a lower unemployment rate than most European countries. Still, even in terms of the additive change in the unemployment rate since 2007 or 2008, the United States fares poorly in comparison to many European countries. The contrast to Germany is particularly striking. According to OECD statistics, the German unemployment rate fell from 8.4% in 2007 to 6.8% in the six months through September 2010. The US unemployment rate rose by 5 percentage points over the same period. Several factors are in play here, but it is worth stressing that Germany and the United States experienced similar output growth over this period, with a somewhat deeper contraction in Germany followed by a somewhat stronger recovery in 2010. So the main source of the contrasting unemployment experiences does not rest on differences in output growth. Public subsidies for short-time working arrangements muted German job losses in response to the recession. To my mind, these subsidy programs raise several important questions: First, how large a role did they play in stemming the rise of unemployment in Germany (and several other countries)? Second, under what circumstances are subsidies for short-time arrangements preferable to a US-style unemployment insurance program? Third, to what extent do short-time arrangements retard the productivity-enhancing reallocation of jobs, workers and capital? Fourth, will short-time subsidies be unwound in a timely manner, or will they evolve into a semi-permanent subsidy to employment and production in weak and declining sectors? The answer to the last question may turn on institutional and political factors that differ across countries. While the role of short-time arrangements in US-European unemployment comparisons warrants careful study, there remains the big question of why job creation and hiring have failed to rebound more strongly in the United States. I have not seen a convincing analysis of this question. I suspect that many factors are working in the same direction: a diminished capacity and appetite for risk bearing as continuing legacies of the financial crisis; high levels of uncertainty about future taxes, business regulations, and the implementation of recent health care legislation; an expensive fiscal stimulus program that was not well designed to promote employment; and a monetary authority that has
exhausted its capacity to push down short-term interest rates.

**ED:** Over the last decades, the volatility of GDP and the probability of job loss both decreased. They both increased significantly in this recession. Is there a link?

**SD:** Yes, I think there is a strong and rather straightforward link. To see why, consider a simple model in which individual employers are hit by common and idiosyncratic shocks to employment growth rates. The common shocks include technology shifts, tax code changes, monetary policy innovations, commodity supply disruptions, and so on. For simplicity, suppose the shocks are mutually uncorrelated. Now make two key assumptions: First, employers differ in their loadings on the common shocks, i.e., in their response coefficients. Second, the average cross-product of the employer-specific loadings is positive for each common shock. The first assumption has abundant empirical support. The second captures the well-known fact that aggregate fluctuations exhibit much positive co-movement across sectors, regions and firms. Now calculate the time-series variance of the aggregate employment growth rate and the cross-sectional mean of the employer-specific growth rate variances. These and related measures appear in empirical studies of aggregate and firm-level volatility. Given my two key assumptions, it is easy to show that the aggregate and firm-level volatility measures move in the same direction in response to a change in any one of the shock variances, provided that the employment shares and loadings are reasonably stable over time. Thus, for example, fewer commodity supply disruptions (“good luck”) or smaller monetary policy innovations (“better policy”) lead to declines in both aggregate and firm-level volatility. My paper with several collaborators in the 2006 NBER Macroeconomics Annual sets forth this argument. We also show that the firm-level volatility of employment growth rates trended down from the early 1980s to 2001, in line with the declines in aggregate volatility stressed by the Great Moderation literature. The trend declines in firm volatility hold in every major industry sector of the US economy. My short paper on “The Decline of Job Loss and Why It Matters” considers several measures of job loss and shows that all of them trended downward during the Great Moderation period. Getting back to the recent recession, high job-loss rates are one manifestation of high aggregate and firm-level volatility. When big negative shocks hit the economy, there is an increase in the volatility and cross-sectional dispersion of firm-level outcomes, and in job destruction and layoff rates. Big positive
shocks can also raise volatility and dispersion, but they seem to occur less frequently or abruptly than big negative shocks. More important, it is much easier for workers to move between jobs with no intervening unemployment spell, or a relatively short one, in a booming economy.

*ED: Labor market flow research has focused on the study of worker transitions. Only recently have flows on the establishment side been analyzed. Can we look at vacancies in a symmetric way to unemployment?*

*SD: Actually, research on employer-side flows goes back a long ways. Sumner Schlichter’s 1921 book on *The Turnover of Factory Labor* and Wladimir Woytinsky’s 1942 report on *Three Aspects of Labor Market Dynamics* are major early contributions. They remain well worth reading today. Katharine Abraham and others did important early work on job vacancies. And there is my work with Haltiwanger and Scott Schuh on job flows and much related work by others. There is also a great deal of interesting research on labor market flows in other countries, some of which exploits data on job vacancies. Still, it is true that employer-side measures of vacancies and worker flows have received comparatively little attention. That has begun to change, partly because of new data on job vacancies and establishment-side measures of hires, layoffs and quits in the BLS Job Openings and Labor Turnover Survey (JOLTS). The JOLTS has been in production mode since December 2000, and it has been an eventful decade. Faberman, Haltiwanger and I have begun to explore the relationship between job vacancies and new hires using JOLTS micro data. Our paper on “The Establishment-Level Behavior of Vacancies and Hiring” uses a simple model of daily hiring dynamics to identify the job-filling rate for vacant positions. The job-filling rate is the employer counterpart to the much-studied job-finding rate for unemployed workers. Textbook search and matching theories and standard matching function have strong implications for the behavior of the job-filling rate. These implications have not received much attention in previous research.

*ED: This year’s Nobel Prize in Economics was attributed to pioneers of search theory, in particular in how it applies to the labor market. How has this theory helped us in understanding labor market flows?*

*SD: Theories of search and matching provide an explicit, coherent framework for analyzing labor market flows and their relationship to frictional unemployment. There are many excellent contributions in this area, and I*
will mention only a few. In their 1989 article on “The Beveridge Curve,” Olivier Blanchard and Peter Diamond use concepts from search and matching theory to organize their influential study of job flows, worker flows, unemployment and vacancies. Dale Mortensen and Chris Pissarides develop an equilibrium search theory of frictional unemployment in their famous 1994 paper on “Job Creation and Job Destruction in the Theory of Unemployment.” They use the theory to analyze the effects of aggregate and idiosyncratic shocks on job flows, vacancies and unemployment. In his 2005 AER paper, Rob Shimer shows that a closely related theory cannot readily account for the observed magnitudes of fluctuations in unemployment, vacancies and job-finding rates when wages are determined by a generalized Nash bargain. Shimer, Bob Hall and others have followed up on this observation in an active line of research on how wage-setting behavior affects hiring incentives and unemployment dynamics. In contrast to the focus on job creation and hiring incentives in the recent work by Hall and Shimer, Lars Ljungqvist and Tom Sargent put the spotlight on the incentives and skill evolution process of unemployed workers. See, for example, their 1998 JPE paper on “The European Unemployment Dilemma.” Michael Pries and Richard Rogerson use search theory to analyze the role of firing costs and wage compression in persistent US-European differences in unemployment durations, hiring incentives and labor market flows. See their 2005 JPE paper.

ED: And can our recent understanding of the labor market dynamics data fashion theory?

SD: Yes, definitely. Let me give you some examples drawn from my recent research. In our 2010 AEJ-Macro article, my coauthors and I show that secular declines in business volatility (measured various ways) account for much of the large decline in US unemployment flows and unemployment rates in the period from the early 1980s to the mid 2000s. A natural way to explain this finding with search models is to allow for a decline over time in the variance of idiosyncratic match-specific shocks. The evidence in our AEJ-Macro paper should encourage researchers to model the idiosyncratic shock variance as a time-varying object, especially in quantitative studies of labor market flows and frictional unemployment. My second example draws on recent work with Faberman and Haltiwanger. As I mentioned above, we use JOLTS data to recover the job-filling rate for vacant positions. We proceed to show that the job-filling rate rises very strongly with the gross hires rate in the cross
As we discuss, the textbook equilibrium search theory of unemployment cannot replicate this finding. Surprisingly, this statement holds even when one extends the theory to incorporate variable recruiting intensity by employers with vacancies. One way to reconcile the theory with the behavior of job-filling rates is to allow for variable recruiting intensity AND to drop the standard free-entry condition for job creation. The standard entry condition ensures that vacancies have zero asset value in equilibrium. Most search theories adopt this assumption because it simplifies the analysis of equilibrium. Our evidence indicates that the simplification comes at a fairly high cost. Another way to reconcile theory and evidence is to drop the random matching assumption in favor of directed search with wage posting. Directed search models can readily produce a positive relationship between job-filling rates and gross hires rates, as shown by Leo Kaas and Philipp Kircher in a recent working paper titled “Efficient Firm Dynamics in a Frictional Labor Market.”

My third example also draws on work with Faberman and Haltiwanger. We consider a generalized matching function with three arguments: unemployed workers, vacant job positions, and recruiting intensity per vacancy. When interpreted through the lens of this function, our evidence on job-filling rates implies that the standard matching function under predicts hires in a weak labor market and over predicts hires in a strong labor market. That is exactly the pattern we see in the ten-year period covered by JOLTS data. We proceed to use our micro-based evidence to put structure on the generalized matching function and to develop an index for recruiting intensity per vacancy. We think these objects will be useful in helping to guide future theoretical developments.

References


