

Comments on
Labor Market Flows in the Cross Section and Over Time

by Steven J. Davis, R. Jason Faberman and John Haltiwanger

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Davis, Faberman, and Haltiwanger use the Job Openings and labor Turnover Survey (JOLTS) and the Business Employment Dynamics (BED) to study the relationship between worker flows and job flows in the cross section and over time. They document tight relationships between hires, quits and layoffs and employment growth in the cross section which they use to explain the fluctuations in worker flows. One of the main findings of the paper is that a specification that imposes a time-invariant link between employment growth rates and worker flows captures the aggregate fluctuations in hires and layoffs very well but fails to account for the behavior of quits. The authors then allow the cross-sectional quit relationship to vary with aggregate conditions and find that this extension improves the fit for quits substantially. This specification gives the authors a statistical model that can account for the behavior of worker flows using the cross-sectional distribution of establishment growth rates. Then by using this specification, the authors construct synthetic JOLTS-type measures of hires, separations, quits and layoffs going back to 1990. This calculation essentially doubles the available JOLTS data on worker flows.

1 A Simple Example

Majority of search and matching models in the tradition of Mortensen and Pissarides (1994), feature an “iron link” between job flows and worker flows. If the iron-link specification is valid, the cross-sectional distribution of employment growth rates fully determines worker flows. How close are we to an iron-link specification in reality? Does the knowledge of cross-sectional employment growth rates help predict the behavior of worker flows? Does the relationship between job flows and worker

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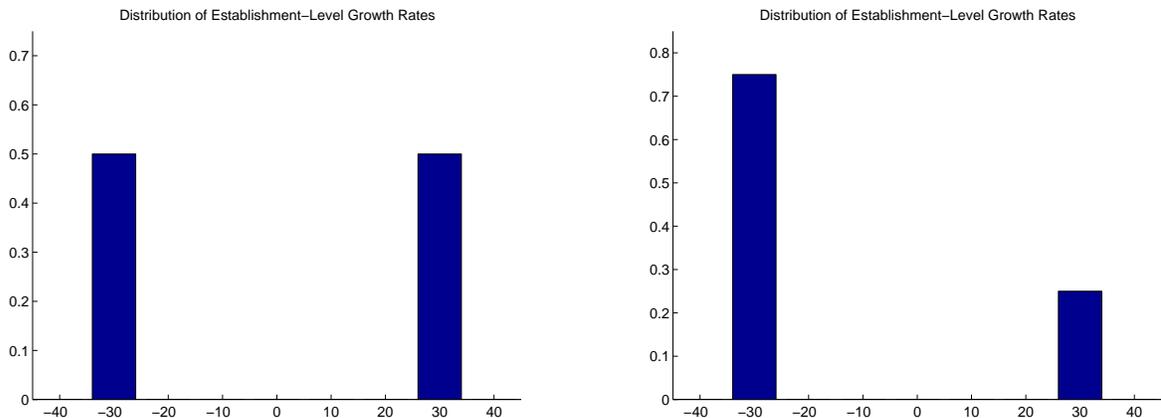


Figure 1: Establishment growth rate distribution in the boom (left panel) and in the recession scenarios (right panel) for the simple example.

flows vary over time? Davis, Faberman, and Haltiwanger provide a convincing analysis that answers these questions. I will try to provide some additional insights by introducing a simple example.

Let's assume a simple economy where half of the establishment grow by 30% and the other half contract by 30% (left panel, figure 1).¹ Figure 2, which is figure 6 in the paper, shows the relationship between between hires, quits and layoffs and employment growth in the cross section. The worker flow rates on the figure approximately correspond to the worker flow rates at employment growth rates of -30% and 30%. Using the worker flows corresponding to employment growth rates of -30% and 30%, we can calculate the aggregate hires, layoffs and quit rates using the iron-link specification. As shown in equation 4 in the paper following Cooper, Haltiwanger, and Willis (2007), the time-invariant iron link between worker flows and establishment growth imply that:

- Hires Rate = $\sum_g f_t(g)\bar{h}(g) = 25\%$
- Layoffs Rate = $\sum_g f_t(g)\bar{l}(g) = 11.5\%$
- Quits Rate = $\sum_g f_t(g)\bar{q}(g) = 11\%$

where $f_t(g)$ is the share of employment with growth rate g at time t . $\bar{h}(g)$, $\bar{l}(g)$, and $\bar{q}(g)$ correspond to hiring, layoff, and quits rates for establishments with growth rate g calculated using JOLTS micro data pooled over the 2001 to 2010 period. Note that we are not allowing the relationship between g and workers flows to be time dependent. In other words, the only time-varying statistics we use in the iron-link specification to account for the fluctuations in workers flows is the establishment growth rate distribution.

¹Note that Davis, Faberman, and Haltiwanger use the BED to compute the cross-sectional distribution of establishment-level growth rates, as they show in figure 5 in their paper.

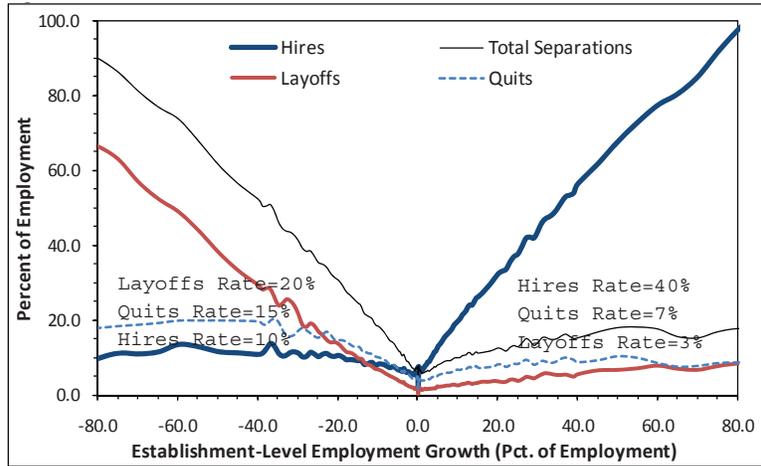


Figure 2: Worker Flow Rates as a Function of Establishment-Level Growth, figure 6 in Davis, Faberman, and Haltiwanger.

Now let's assume that the economy is hit with a recession that causes more establishments to contract. In this recessionary scenario we now assume that 25% of the establishments grow by 30% (as opposed to 50% during the boom) and 75% contract by 30%. This scenario is depicted in the right panel of figure 1. Again by applying the same equations from above, we can calculate the worker flows for the recession scenario:

- Hires Rate = $\sum_g f_t(g)\bar{h}(g) = 17.5\%$
 → goes down from 25% to 17.5%
 → Procyclical
- Layoffs Rate = $\sum_g f_t(g)\bar{l}(g) = 15.75\%$
 → goes up from 11.5% to 15.75%
 → Countercyclical
- Quits Rate = $\sum_g f_t(g)\bar{q}(g) = 13\%$
 → goes up from 11% to 13%
 → Countercyclical

The iron-link specification successfully captures the procyclicality of hires and countercyclicality of layoffs by just using the cross-sectional time-invariant relationship. However, the story is quite different for quits. The prediction is an increase in the quits rate from 11% to 13%, implying that quits are countercyclical. This is highly counterfactual since quits are strongly procyclical in

reality. This suggests that the iron-link specification is not successful in accounting for fluctuations in quits.

The intuition can be best explained by figure 8 in the paper. To assess whether the iron-link specification is plausible, the authors fit the fixed cross-section specification separately for three periods that correspond to different aggregate labor market conditions: 2001Q2-2003Q1, 2006Q1-2006Q4, and 2008Q3-2009Q2. If the iron-link specification is a satisfactory description of the data, we expect the cross-sectional relationships across these three time periods to be similar. For layoffs the authors indeed find evidence for iron-link behavior in the cross-sectional layoff relationship. However, as can be seen on the lower right panel of figure 8, this relationship does not hold for quits. The quit relation is not time-invariant: it shifts up and down as aggregate labor market conditions change. Conditional on establishment growth rate, the quit rate is much lower in 2008-09 than in the other two periods. The cross-sectional quit relationship varies with aggregate conditions and consequently the iron-link specification fails to predict quits over the business cycle.

When we consider the recession scenario from above, we assume that a higher number of establishments shrink compared to the boom scenario. Since the iron-link specification implies that workers are more likely to quit from contracting establishments and a higher fraction of establishments contract during the recession, it predicts an increase in quits in the recession. Knowledge of variation in the establishment growth rate distribution over time is not enough to successfully account for the behavior of quits while it is quite informative about hires and layoffs. Put differently, establishments' hiring and layoff patterns are directly linked to their employment growth. However, quits are different. Then the question is what determines quits, or what causes the quit relationship to shift overtime?

Figure 3, which shows the job-finding rate and the level of quits for the 2001 to 2010 period, answers this question.² As the figure shows these two series have a remarkable positive comovement over the business cycle. The visual impression is also verified by the high correlation between the two series, which is 0.95. When the labor market is strong, it is easier to find jobs (as reflected by the high job-finding rate) and quits are higher. During recessions, it is harder to find jobs and quits go down. As the figure suggests quits are affected by aggregate labor market conditions. That is why the iron-link specification fails to predict the behavior of quits. Quits reflect workers' choices, which are affected by labor market conditions. The employment growth rate distribution gives us substantial information about employers' layoff and expansion decisions, but it has little information about workers' choices. While job flows reflect the decisions taken by establishments, like the decisions to engage in layoffs or expansionary hiring, quits reflect forward-looking choices of workers. If it is harder to get another employment opportunity, workers choose to quit less often and choose to stay in less productive matches.

²The job-finding rate is calculated with duration data from the CPS using the method in Shimer (2005) and quits are taken from the JOLTS.

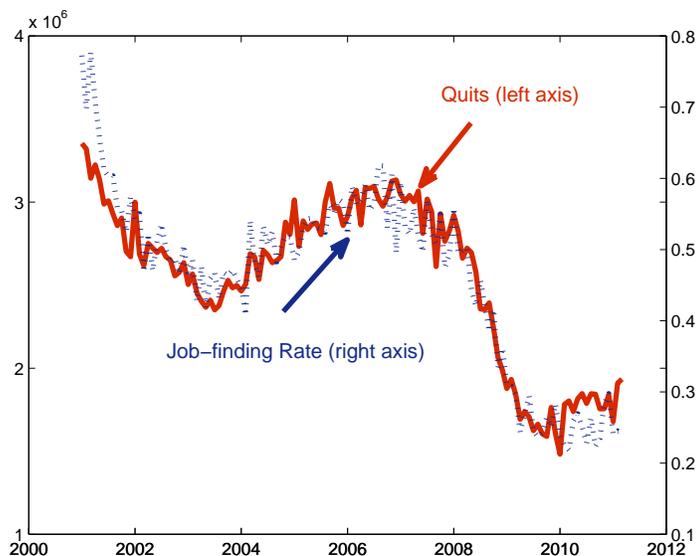


Figure 3: The job-finding rate (dashed line) and quits (solid line).

Figure 3 also explains why the baseline specification in the paper performs very well in accounting for the behavior of quits. Recall that Davis, Faberman, and Haltiwanger consider a more complex specification, which they call “baseline specification by letting the cross-sectional relations shift up and down as functions of business cycle indicators. In particular, they add the job-finding rate to their specification. Not surprisingly, the baseline specification captures the behavior of quits very well since the job-finding rate provides a good measure of the strength of the labor market.

2 Quits versus Layoffs

The analysis in the paper provides us a new piece of evidence regarding the distinction between layoffs and quits by showing that the relationship between two components of separations (layoffs and quits) and job flows are quite different. The distinction between quits and layoffs is generally thought to be blurry and there are valid reasons to think that it is hard to correctly distinguish between them. However, the analysis in the paper gives us a meaningful way to think about the distinction between the two components of separations.

First let us review how JOLTS distinguishes between layoffs and quits to understand what the distinction in the JOLTS data can possibly capture. In the JOLTS, establishments report separations separately by quits, layoffs, and other separations. For layoffs, the establishments are asked to identify *involuntary* separations initiated by the employer. For quits, the establishments

are asked to identify employees who left *voluntarily*. The survey tries to get to the distinction between layoffs and quits by using the *voluntary/involuntary* separations idea. Layoffs, which are initiated by the employer, are supposed to mostly reflect the choice of the employer while quits are supposed to be an outcome of worker's choice.

In a recent paper Mike Elsby, Bart Hobijn and I find that the distinction in the JOLTS actually captures some significant differences between layoffs and quits. We find that workers who quit their previous job face a very low probability of subsequently entering unemployment, on average 16 percent of workers who quit their jobs subsequently flew into unemployment over the 2001-2009 period. Job-to-job flows drive a wedge between quits and inflows into unemployment. But the story is quite different for layoffs: workers laid off from their previous jobs face a very high probability of entering unemployment—averages 91 percent over the same period. Job-to-job transitions do not appear to be common among laid-off workers. These findings suggest that workers who quit their jobs are in a better position in terms of re-employment opportunities. That is likely because they had the choice about when to separate from their employers. Put differently, quits reflect workers choices. This is not true for laid off workers since the separation decision was initiated by the employer.

The findings of Davis, Faberman, and Haltiwanger also support this view. They find that movements in the growth rate distribution accounts for the variation in layoffs rate. In contrast, the relationship between job flows and quits varies over time. This is again an indication that unlike layoffs, quits are affected by workers' decisions and not surprisingly these decisions are heavily influenced by aggregate labor market conditions.

3 Aggregate Implications of the Decline in the Quits Rate

A striking observation in the paper is the large decline in quits during the 2007-2009 recession. As seen in figure 3, before the 2007-2009 recession quits were around 3 million every month. During the recession, there was a dramatic decline in the number of workers who quit their jobs and quits went down as low as to 1.5 million per month. The big decline in quits was another indication of weak labor market conditions during the recession. Job-finding rate fell to historically levels and predicting that it would be hard to line up another job quickly workers held on to their existing jobs. Despite some minor improvement, quits levels are still much lower than what we observed before the recession. This observation implies that some workers are stuck at poor job matches and waiting for aggregate conditions to improve to change jobs.

What do we expect to see in the near future? As labor market conditions improve, we are likely to see an increase in churning. Workers who have been at a poorly matched job are likely to start quitting for better matches. These sidelined job quitters are likely to join unemployed workers and fill up some of the advertised job vacancies. Consequently, some of the vacancies will be filled by

workers who want to change jobs rather than unemployed workers. This, would of course, cause an increase in job-to-job transitions and the quality of matches but at the same time slow down the decline in the unemployment rate.

4 Concluding Remarks

This is a very interesting and innovative paper. The authors first uncover some interesting patterns in the data and then present us a creative way of combining the BED data with JOLTS to create synthetic worker flow measures for 1990-2000. Moreover, the interpretation of the patterns in the data are quite helpful for those who work to develop better models of the labor market. By explaining their empirical findings in light of economic models, the authors help us improve our understanding of the strength and shortcomings of existing models of the labor market. In particular, the paper highlights the importance of forward looking choices of workers in accounting for worker flows and thus suggests that models that abstract from labor supply might fail to capture an important determinant of worker flows by shutting down the “worker’s choice” channel.³

A by-product of the paper is the synthetic JOLTS-type measures of hires, separations, quits, and layoffs going back to 1990 which are calculated by combining the JOLTS and the BED. The backcasted estimates of the quits, layoffs and hires rates are potentially very useful for other researchers. Since the JOLTS started in December 2000, it only covers two recessions. Having an additional decade of JOLTS-type data will enhance our understanding of the labor market over business cycles. In Section V, the authors conduct a validation exercise using data for two broad regions. In addition to being a convincing validation exercise, this section also offers a method that can be used to generate backcasted estimates of the quits, layoffs and hires rates at a disaggregated level. For future work, it would be very beneficial to compute the backcasted estimates of the quits, layoffs and hires rates by industry.

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³For a detailed discussion of the importance of worker’s choice in search and matching models see Krusell, Mukoyama, Rogerson, and Şahin.

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