

## What Shifts the Beveridge Curve? Recruitment Effort and Financial Shocks"

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A distinctive feature of the Great Recession, compared to previous recessions, is the drop in aggregate matching efficiency in the labor market, ie the TFP of the aggregate matching function. This phenomenon is visible through the outward shift of the Beveridge curve and through the prolonged drop in the job finding rate for unemployed workers.

We build a model to account quantitatively for this fact. The model has three building blocks. The first one is the cross-sectional relationship (recently estimated by Davis, Faberman, and Haltiwanger) between the firm-level job filling rate and the firm's growth rate: firms that grow fast also fill vacant jobs more quickly, suggesting that firms growing faster put more "recruitment effort" in hiring. Since employment growth is concentrated in small and young firms, these are the ones that exert most of the recruitment effort in the economy. Our model replicates this fact. Note that recruitment effort decisions, aggregated across firms, show up as aggregate matching efficiency in the matching function.

The second building block is an environment with firm dynamics. Firms operate a decreasing returns to scale production function whose only input is labor. Since they cannot pay negative dividends, they may need to borrow in order to cover the recruitment cost. They do so through a competitive financial sector that prices into the loan the risk of firm's default.

The third building block is a frictional labor market, with an aggregate matching function dictating the flows of jobs created every period, and a Nash bargaining wage determination.

We calibrate the model to match a number of targets on the cross-sectional distribution and the life cycle of firms.

We then perform two computational experiments. First, we study the dynamics of the economy following an aggregate TFP shock. Second, we engineer an

aggregate financial shock. The difference between these two experiments is the way firms respond through their hiring decisions. The TFP shock is more neutral across young and old, small and large firms, whereas the financial shock hits predominantly the firms that borrow, which are the young and small ones.

Therefore, the financial shock implies a bigger drop in average recruitment effort, and in aggregate matching efficiency, compared to the TFP shock. The aggregate labor market dynamics following the 2001 and the 2007 recessions are consistent with this prediction.

In a nutshell, recessions driven by financial factors induce bigger and more prolonged drops in labor-market matching efficiency relative to TFP-driven recessions. The reason is that they are more disruptive for young and small firms, and these are the firms where the bulk of recruitment effort is concentrated.