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Aggregate Demand, Idle Time, and Unemployment

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The US unemployment rate did not fall below 7% from 2009 to 2013. The origins of this five-year period of high unemployment are still debated. Indeed, a large number of candidates have emerged to explain this period of high unemployment. Popular candidates include high mismatch, caused by major sectoral shocks, low search effort from unemployed workers, triggered by the long extensions of unemployment insurance benefits, and low aggregate demand, caused by a sudden need to repay debts or pessimism. This paper develops a new model of unemployment fluctuations that sheds light on the origins of unemployment fluctuations.

Our model can be seen as an equilibrium version of the illustrious Barro-Grossman model of general disequilibrium. Our model keeps the architecture of the Barro-Grossman model but replaces the disequilibrium framework on the product and labor markets by a matching framework.

Our model fits between two popular existing models of unemployment fluctuations: the New Keynesian Dynamic Stochastic General Equilibrium (DSGE) model and the matching model of the labor market. Its advantage over the DSGE model is that it lends itself to comparative-statics analysis, which helps us inspect the mechanisms behind unemployment fluctuations. Its advantage over the matching model is that it accounts for the influence of aggregate demand on the labor market. Indeed, in our model, aggregate demand influences unemployment through a simple mechanism: when prices exhibit some rigidity, higher aggregate demand raises the probability that firms find customers, which reduces idle time for firms' employees and thus increases labor demand, which in turn reduces unemployment.

We empirically examine the role of a broad set of shocks---labor supply, mismatch, technology, and aggregate demand shocks---in explaining unemployment fluctuations over the business cycle. We reach three conclusions. First, price and real wage are not fully flexible because product and labor market tightness fluctuate significantly. Second, fluctuations are mostly caused by labor demand and not labor supply shocks because employment is positively correlated with labor market tightness. Third, labor demand shocks mostly reflect aggregate demand and not technology shocks because output is positively correlated with product market tightness.

To summarize, through the lens of the model, the empirical evidence suggests that price and real wage are somewhat rigid, and that unemployment fluctuations are mainly driven by aggregate demand shocks.