

Aggregate labor market dynamics

1 Summary

This course examines recent research at the intersection of macroeconomics and labor economics. In the first part, we cover four main search models used in the macro-labor literature – a random search model, a directed search model, a wage posting model and an island model. Then we look at the determinants of business cycle frequency fluctuations in employment and hours worked and ask whether search models are capable of addressing empirical inconsistencies in market-clearing models of the labor market. The second part covers various labor market topics which are currently active areas of research. These include structural duration dependence, labor markets and financial frictions, earnings losses of displaced workers, mismatch and other.

2 Requirements

Course grades will be based on problem sets (35%) and a final exam (65%). You should expect 6–8 problem sets.

3 Course outline

3.1 Basic theories of nonemployment and unemployment

- Hansen, Gary D. 1985. Indivisible labor and the business cycle. *Journal of monetary Economics* 16 (3):309–327.
- Rogerson, Richard. 1988. Indivisible labor, lotteries and equilibrium. *Journal of monetary Economics* 21 (1):3–16.
- Pissarides, Christopher A. 1990. *Equilibrium unemployment theory*. MIT press, especially Chapter 1

3.2 Facts about labor markets and business cycle

- Rogerson, Richard and Shimer, Robert. 2011. Search in macroeconomic models of the labor market. *Handbook of Labor Economics* 4 ():619–700.
- Shimer, Robert. 2012. Reassessing the ins and outs of unemployment. *Review of Economic Dynamics* 15 (2):127–148.

- Elsby, Michael WL, Michaels, Ryan, and Solon, Gary. 2009. The Ins and Outs of Cyclical Unemployment. *American Economic Journal: Macroeconomics* 1 (1):84–110.
- Davis, Steven J, Faberman, R Jason, and Haltiwanger, John. 2006. The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links. *The Journal of Economic Perspectives* 20 (3):3–26.
- Petrongolo, Barbara and Pissarides, Christopher A. 2001. Looking into the black box: A survey of the matching function. *Journal of Economic literature* ():390–431.

3.3 Unemployment volatility puzzle and the role of wage determination

- Shimer, Robert. 2005. The cyclical behavior of equilibrium unemployment and vacancies. *American economic review* 95 (1):25–49.
- Hall, Robert E. 2005. Employment fluctuations with equilibrium wage stickiness. *American economic review* 95 (1):50–65.
- Hagedorn, Marcus and Manovskii, Iourii. 2008. The cyclical behavior of equilibrium unemployment and vacancies revisited. *The American Economic Review* 98 (4):1692–1706.
- Hall, Robert E and Milgrom, Paul R. 2008. The Limited Influence of Unemployment on the Wage Bargain. *American Economic Review* 98 (4):1653–1674.
- Gertler, Mark and Trigari, Antonella. 2009. Unemployment Fluctuations with Staggered Nash Wage Bargaining. *Journal of Political Economy* 117 (1):38–86.
- Pissarides, Christopher A. 2009. The unemployment volatility puzzle: Is wage stickiness the answer? *Econometrica* 77 (5):1339–1369.
- Ljungqvist, Lars and Sargent, Thomas J. 2015. *The Fundamental Surplus in Matching Models*. New York University Mimeo

3.4 Wage posting and price dispersion

- Burdett, Kenneth and Mortensen, Dale T. 1998. Wage differentials, employer size, and unemployment. *International Economic Review* ():257–273.
- Postel-Vinay, Fabien and Robin, Jean-Marc. 2002. Equilibrium wage dispersion with worker and employer heterogeneity. *Econometrica* 70 (6):2295–2350.
- Burdett, Kenneth and Judd, Kenneth L. 1983. Equilibrium price dispersion. *Econometrica: Journal of the Econometric Society* ():955–969.
- Hornstein, Andreas, Krusell, Per, and Violante, Giovanni L. 2011. Frictional Wage Dispersion in Search Models: A Quantitative Assessment. *The American Economic Review* ():2873–2898.

3.5 Directed search and block recursivity

- Moen, Espen R. 1997. Competitive search equilibrium. *Journal of political Economy* 105 (2):385–411.
- Menzio, Guido and Shi, Shouyong. 2010. Block recursive equilibria for stochastic models of search on the job. *Journal of Economic Theory* 145 (4):1453–1494.
- Acemoglu, Daron and Shimer, Robert. 1999. Efficient unemployment insurance. *Journal of Political* ()
- Schaal, Edouard. 2015. *Uncertainty and unemployment*. NYU Mimeo

3.6 Geographic and occupational search: Island models

- Lucas Jr, Robert E and Prescott, Edward C. 1974. Equilibrium search and unemployment. *Journal of Economic Theory* 7 (2):188–209.
- Alvarez, Fernando and Shimer, Robert. 2011. Search and Rest Unemployment. *Econometrica* 79 (1):75–122.
- Kambourov, Gueorgui and Manovskii, Iourii. 2009. Occupational mobility and wage inequality. *The Review of Economic Studies* 76 (2):731–759.
- Veracierto, Marcelo. 2008. On the cyclical behavior of employment, unemployment and labor force participation. *Journal of Monetary Economics* 55 (6):1143–1157.

3.7 Empirical studies of wage cyclicity and wage rigidity

3.7.1 Cyclicity of new hires

- Bils, Mark J. 1985. Real wages over the business cycle: evidence from panel data. *The Journal of Political Economy* 93 (4):666–689.
- Carneiro, Anabela, Guimarães, Paulo, and Portugal, Pedro. 2012. Real wages and the business cycle: Accounting for worker, firm, and job title heterogeneity. *American Economic Journal: Macroeconomics* 4 (2):133–152.
- Haefke, Christian, Sonntag, Marcus, and Van Rens, Thijs. 2013. Wage rigidity and job creation. *Journal of monetary economics* 60 (8):887–899.
- Hagedorn, Marcus and Manovskii, Iourii. 2013. Job selection and wages over the business cycle. *The American Economic Review* 103 (2):771–803.
- Gertler, Mark, Huckfeldt, Christopher, and Trigari, Antonella. 2014. *Unemployment Fluctuations, Match Quality, and the Wage Cyclicity of New Hires*

3.7.2 Nominal wage stickiness

- Le Bihan, Hervé, Montornès, Jérémie, and Heckel, Thomas. 2012. Sticky wages: evidence from quarterly microeconomic data. *American Economic Journal: Macroeconomics* 4 (3):1–32.
- Taylor, John B. 1999. Staggered price and wage setting in macroeconomics. *Handbook of Macroeconomics* 1 ():1009–1050.

3.8 Labor market, financial constraints and discount rates

- Hall, Robert. 2014. *High discounts and high unemployment*
- Petrosky-Nadeau, Nicolas and Wasmer, Etienne. 2013. The cyclical volatility of labor markets under frictional financial markets. *American Economic Journal: Macroeconomics* 5 (1):193–221.
- Kehoe, Patrick, Midrigan, Virgiliu, and Pastorino, Elena. 2014. *Debt constraints and employment*. New York University Mimeo
- Schoefer, Benjamin. 2014. *The financial channel of wage rigidity*. Job Market Paper
- Wasmer, Etienne and Weil, Philippe. 2004. The macroeconomics of labor and credit market imperfections. *American Economic Review* 94 (4):944–963.

3.9 Duration dependence

- Lancaster, Tony. 1979. Econometric Methods for the Duration of Unemployment. *Econometrica* 47 (4):939–956.
- Heckman, James J. and Singer, Burton. 1984. The Identifiability of the Proportional Hazard Model. *Review of Economic Studies* 51 (2):231–241.
- Honoré, Bo E. 1993. Identification Results for Duration Models with Multiple Spells. *Review of Economic Studies* 60 (1):241–246.
- Elbers, Chris and Ridder, Geert. 1982. True and Spurious Duration Dependence: The Identifiability of the Proportional Hazard Model. *The Review of Economic Studies* 49 (3):403–409.
- Shimer, Robert. 2008. The Probability of Finding a Job. *American Economic Review* 98 (2):268–273.
- Alvarez, Fernando, Borovičková, Katarína, and Shimer, Robert. 2015. *Testing the Mixed Proportional Hazard Model*. University of Chicago Mimeo
- Alvarez, Fernando, Borovičková, Katarína, and Shimer, Robert. 2015. *A Nonparametric Variance Decomposition Using Panel Data*. University of Chicago Mimeo
- Alvarez, Fernando, Borovičková, Katarína, and Shimer, Robert. 2015. *Decomposing Duration Dependence in a Stopping Time Model*. University of Chicago Mimeo

- Berg, Gerard J. Van den. 2001. Duration Models: Specification, Identification and Multiple Durations. In: *Handbook of econometrics*. Vol. 5. Elsevier. Chap. 55, 3381–3460.

3.10 Displaced workers: Earnings losses and other costs of job loss

- Jacobson, Louis S, LaLonde, Robert J, and Sullivan, Daniel G. 1993. Earnings losses of displaced workers. *The American Economic Review* ():685–709.
- Couch, Kenneth A and Placzek, Dana W. 2010. Earnings losses of displaced workers revisited. *The American Economic Review* ():572–589.
- Davis, Steven and Wachter, Till von. 2011. Recessions and the Costs of Job Loss. *Brookings Papers on Economic Activity* ()
- Jaimovich, Nir and Siu, Henry E. 2012. *The trend is the cycle: Job polarization and jobless recoveries*
- Huckfeldt, Christopher. 2014. *The Scarring Effect of Recessions: A Quantitative Analysis*
- Jarosch, Gregor. 2014. *Searching for Job Security and the Consequences of Job Loss*

3.11 Mismatch

- Shimer, Robert. 2007. Mismatch. *The American Economic Review* 97 (4):1074–1101.
- Sahin, Aysegül et al. 2015. Measuring mismatch in the US labor market. *American Economic Review, forthcoming* ()
- Herz, Benedikt and Rens, Thijs van. 2014. *Accounting for Mismatch Unemployment*. mimeo
- Pilossph, Laura. 2014. *Sectoral Shocks and Move Unemployment*. New York Fed Mimeo

3.12 Labor supply elasticity

- Rogerson, Richard and Wallenius, Johanna. 2009. Micro and macro elasticities in a life cycle model with taxes. *Journal of Economic theory* 144 (6):2277–2292.
- Chetty, Raj. 2012. Bounds on elasticities with optimization frictions: A synthesis of micro and macro evidence on labor supply. *Econometrica* 80 (3):969–1018.
- Ljungqvist, Lars and Sargent, Thomas J. 2014. *What Nonconvexities Really Say about Labor Supply Elasticities*. New York University Mimeo
- Ljungqvist, Lars and Sargent, Thomas J. 2014. *An Open Letter to Professors Heckman and Prescott*. New York University Mimeo

3.13 Learning about match quality

- Jovanovic, Boyan. 1979. Job matching and the theory of turnover. *The Journal of Political Economy* ():972–990.
- Moscarini, Giuseppe. 2005. Job matching and the wage distribution. *Econometrica* 73 (2):481–516.
- Borovičková, Katarína. 2016. *Learning, labor market flows and labor market policies*. NYU Mimeo

3.14 Search and multiworker firms

- Elsby, Michael WL and Michaels, Ryan. 2013. Marginal jobs, heterogeneous firms, and unemployment flows. *American Economic Journal: Macroeconomics* 5 (1):1–48.
- Schaal, Edouard. 2015. *Uncertainty and unemployment*. NYU Mimeo
- Stole, Lars A and Zwiebel, Jeffrey. 1996. Intra-firm bargaining under non-binding contracts. *The Review of Economic Studies* 63 (3):375–410.
- Brugemann, Bjoern, Gautier, Pieter, and Menzio, Guido. 2015. Intra-firm bargaining and Shapley values. *NBER Working Paper* 21508 ()