

## 411-3 Macro: Frictions

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This part of the course covers the role of frictions in macroeconomics. We look at a variety of frictions arising from incomplete markets, from search in labor markets, from limited commitment and other agency frictions in financial markets, and from imperfect attention and information processing. The emphasis is on the role of frictions in capturing more realistically the dynamic adjustment of prices and quantities.

### 1 Consumption

#### 1.1 The basic model with heterogeneous agents and incomplete markets

- Aiyagari, Rao (1994) "Uninsured Idiosyncratic Risk and Aggregate Saving," *Quarterly Journal of Economics* 109(3), 659-684
- Krusell, Per and Tony Smith (1998): "Income and Wealth Heterogeneity in the Macroeconomy," *Journal of Political Economy* 106(5), 867-896.

#### 1.2 Applications: deleveraging, fiscal policy

- Veronica Guerrieri and Guido Lorenzoni. Credit crises, precautionary savings, and the liquidity trap. *The Quarterly Journal of Economics*, 132(3):1427–1467, 2017
- Atif Mian, Kamalesh Rao, and Amir Sufi. Household balance sheets, consumption, and the economic slump. *The Quarterly Journal of Economics*, 128(4):1687–1726, 2013
- Hyunseung Oh and Ricardo Reis. Targeted transfers and the fiscal response to the great recession. *Journal of Monetary Economics*, 59(S):50–64, 2012

## 2 The labor market

### 2.1 The basic search model

- Pissarides, C., *Equilibrium Unemployment Theory*, MIT Press, 2000, Ch. 1
- Shimer R. *Labor Markets and Business Cycles*, Ch. 2-3
- Gertler, M. and A. Trigari, “Unemployment Fluctuations with Staggered Nash Wage Bargaining”, *Journal of Political Economy*, 2009

### 2.2 Applications: unemployment in recessions

- Pascal Michaillat, “Do Matching Frictions Explain Unemployment? Not in Bad Times.” *AER* 2012
- Lawrence J Christiano, Martin S Eichenbaum, and Mathias Trabandt. Unemployment and business cycles. *Econometrica*, 84(4):1523–1569, 2016

## 3 Financial markets and banks

### 3.1 Interpretations of the financial crisis

- David Greenlaw, Jan Hatzius, Anil Kashyap, Hyun Shin, “Leveraged Losses: Lessons from the Mortgage Market Meltdown.” US Monetary Policy Forum Report No. 2, 2008
- Markus Brunnermeier, “Deciphering the Liquidity and Credit Crunch 2007-2008” *JEP* 2009
- Arvind Krishnamurthy, “How Debt Markets Have Malfunctioned in the Crisis.” *JEP* 2010
- Ben Bernanke. The real effects of the financial crisis. *Brookings Papers on Economic Activity*, 2018

## 3.2 Balance sheets and leverage

- Nobuhiro Kiyotaki and Mark Gertler, “Financial Intermediation and Credit Policy in Business Cycle Analysis,” in *Handbook of Monetary Economics*, Vol. 3, 2010.
- Markus Brunnermeier and Yuliy Sannikov “A Macroeconomic Model with a Financial Sector,” *AER*, 2013.
- Ana Fostel and John Geanakoplos “Leverage Cycles and the Anxious Economy,” *American Economic Review* 98(4), 2008.
- Holmstrom, B. and J. Tirole, “Financial Intermediation, Loanable Funds, and the Real Sector,” *Quarterly Journal of Economics*, 112(3), 663-691, August 1997.

## 3.3 Panics

- Gary Gorton and Andrew Metrick "Securitized Banking and the Run on Repo", *Journal of Financial Economics*, 2012
- Diamond, D.W. and P.H. Dybvig, “Bank Runs, Deposit Insurance, and Liquidity,” *Journal of Political Economy*, 91(3), 401-419, June 1983.

# 4 The goods market

## 4.1 Markups

- Rotemberg, J.J. and M. Woodford, “The Cyclical Behavior of Prices and Costs,” *Handbook of Macroeconomics*, Chapter 16, 1(2), 1051-1135, 1999.
- Bils, M., “The Cyclical Behavior of Marginal Cost and Price,” *American Economic Review*, 77(5), 838-855, December 1987.
- Christopher Nekarda and Valerie Ramey “The Cyclical Behavior of the Price-Cost Markup” NBER WP 19099, 2013

## 4.2 Complementarities

- Kiyotaki, Nobuhiro, “Multiple Expectational Equilibria under Monopolistic Competition," *Quarterly Journal of Economics*, 103(4), 695-713, November 1988.
- Murphy, K.M., A.Shleifer, and R.W. Vishny, “Industrialization and the Big Push,” *Journal of Political Economy*, 97(5), 1003-1026, October 1989.
- Angeletos, G.M, C. Hellwig, and A. Pavan, “Signaling in a Global Game: Coordination and Policy Traps,” *Journal of Political Economy*, 114(3), 452-484, June 2006.

## 4.3 Menu costs

- Caplin A. and D. Spulber, “Menu Costs and the Neutrality of Money,” *Quarterly Journal of Economics*, 102(4), 703-726, November 1987.
- Golosov, M. and R.E. Lucas, “Menu Costs and the Phillips Curve,” *Journal of Political Economy*, 115(2), 171-199, 2007.
- Caballero, R.J. and E.Engel, “Price Stickiness in *Ss* Models: New Interpretations of Old Results,” *Journal of Monetary Economics* 54, 2007.
- Bills, M. and P.J. Klenov, “Some Evidence on the Importance of Sticky Prices,” *Journal of Political Economy*, 112(5), 947–985, 2004.
- Emi Nakamura, Jón Steinsson, Patrick Sun, and Daniel Villar. The Elusive Costs of Inflation: Price Dispersion during the U.S. Great Inflation\*. *The Quarterly Journal of Economics*, 133(4):1933–1980, 08 2018

## 4.4 Information frictions

- Bartosz Mackowiak and Mirko Wiederholt. Optimal sticky prices under rational inattention. *American Economic Review*, 99(3):769–803, June 2009
- Guido Lorenzoni. A theory of demand shocks. *American Economic Review*, 99(5):2050–84, 2009

- Olivier Coibion and Yuriy Gorodnichenko. Information rigidity and the expectations formation process: A simple framework and new facts. *American Economic Review*, 105(8):2644–78, August 2015