Financial Frictions, Monetary and Macroprudential Policy and Household Heterogeneity

Stelios Tsiaras

Overview

This course studies the incorporation of financial frictions in DSGE models and their use for the design of monetary policy and financial regulation. It also extends those models to include household heterogeneity and studies the impact of monetary policy. The Financial Crisis of 2008 showed the importance of shocks originating from the financial sector on the real economy and highlighted the role of central banks in minimizing the economic downturn while wealth and income inequality have come to the forefront of economic analysis.

In the first part of this course we will explore some of the workhorse macroeconomic models with financial frictions, see how do they perform quantitatively and which are the different approaches. These models are a natural extension of the benchmark NK model (Smets and Wouters (2007)) which you are strongly suggested to study before the course.

In the second part we will focus on incorporating policy in models with financial frictions. This will cover different forms of unconventional monetary policy (e.g. quantitative easing, liquidity injections) that occurred in order to stimulate the economy from the crisis and to the adaptation macro prudential policy measures. Capital bases measures (such as the Basel III minimum capital requirement constraint for the banks) and borrower based measures (e.g. debt service to income (DSTI) ratio, loan to value ratio (LTV)) were introduced by the majority of the central banks in order to avoid a second financial downturn.

The third part will firstly provide some evidence on the distribution of income and wealth among households. Secondly we will study models that can, in a tractable way, incorporate this heterogeneity and provide information on how important this is for the monetary policy.

Background reading

0.1 Workhorse NK model

1. Smets, F. and R. Wouters (2007): "Shocks and frictions in US business cycles: A Bayesian DSGE approach," *American Economic Review*, 97, 586-606.

2. Christiano, L. J., M. Eichenbaum, and C. L. Evans (2005): "Nominal rigidities and the dynamic effects of a shock to monetary policy," *Journal of Political Economy*, 113, 1-45.

0.2 Literature review of the main topics

1. Brunnermeier, M. K., T. M. Eisenbach, and Y. Sannikov (2012): "Macroeconomics with financial frictions: A survey", National Bureau of Economic Research.

2. Colciago, A., A. Samarina, and J. de Haan (2019): "Central bank policies and income and wealth inequality: A survey," *Journal of Economic Surveys*, 33, 1199-1231.

1 Asymmetric information and limited commitment

1. Bernanke, B. and M. Gertler (1989): "Agency Costs, Net Worth, and Business Fluctuations," *American Economic Review*, 79, 14-31.

2. Bernanke, B. S., M. Gertler, and S. Gilchrist (1999): "The financial accelerator in a quantitative business cycle framework," *Handbook of Macroeconomics*, 1, 1341-1393.

3. Carlstrom, C. T. and T. S. Fuerst (1997): "Agency costs, net worth, and business fluctuations: A computable general equilibrium analysis," *The American Economic Review*, 891-910.

4. Christiano, L. J., R. Motto, and M. Rostagno (2014): "Risk shocks," *American Economic Review*, 104, 27-65.

5. Kiyotaki, N. and J. Moore (1997): "Credit cycles," *Journal of Political Economy*, 105, 211-248.

6. Iacoviello, M. (2005): "House prices, borrowing constraints, and monetary policy in the business cycle," *American Economic Review*, 95, 739-764.

7. Justiniano, A., G. E. Primiceri, and A. Tambalotti (2019): "Credit supply and the housing boom," *Journal of Political Economy*, 127, 1317-1350.

2 Financial frictions, monetary and macroprudential policy

1. Arau ÌĄjo, A., S. Schommer, and M. Woodford (2015): "Conventional and unconventional monetary policy with endogenous collateral constraints," *American Economic Journal: Macroeconomics*, 7, 1-43.

2. Brunnermeier, M. K. and Y. Sannikov (2014): "A macroeconomic model with a financial sector," *The American Economic Review*, 104, 379-421.

3. Curdia, V. and M. Woodford (2011): "The central-bank balance sheet as an instrument of monetary policy," *Journal of Monetary Economics*, 58, 54-79.

4. Gertler, M. and P. Karadi (2011): "A model of unconventional monetary policy," *Journal of Monetary Economics*, 58, 17-34.

5. Gertler, M. and P. Karadi (2013): "QE 1 vs. 2 vs. 3...: A framework for analyzing large-scale asset purchases as a monetary policy tool," *International Journal of Central Banking*, 9, 5-53.

6. Gertler, M. and N. Kiyotaki (2010): "Financial intermediation and credit policy in business cycle analysis," *Handbook of Monetary Economics*, 3, 547-599.

7. Grodecka, A. (2019): "On the Effectiveness of Loan-to-Value Regulation in a Multiconstraint Framework," *Journal of Money, Credit and Banking*.

3 TANK models, (tractable) household heterogeneity and some evidence

1. Bilbiie, F. O. (2008): "Limited asset markets participation, monetary policy and (inverted) aggregate demand logic," *Journal of Economic Theory*, 140, 162-196.

2. Bilbiie, F. O. (2019): "The new keynesian cross," *Journal of Monetary Economics*.

3. Colciago, A. (2011): "Rule-of-Thumb Consumers Meet Sticky Wages," *Journal of Money, Credit and Banking*, 43, 325-353.

4. Gali, J., J. D. Lopez-Salido, and J. Valles (2007): "Understanding the effects of government spending on consumption," *Journal of the European Economic Association*, 5, 227-270.

5. Kaplan, G., G. L. Violante, and J. Weidner (2014): "The Wealthy hand-to- mouth," *Brookings Papers on Economic Activity*, 77-153.

6. Mankiw, N. G. (2000): "The savers-spenders theory of fiscal policy," *American Economic Review*, 90, 120-125.