

Stockholm Doctoral Program in Economics 2016  
Macroeconomics with Financial Frictions

Preliminary Syllabus

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**Aim of the course:**

This course wants to introduce the students to the main mechanisms through which financial frictions affect equilibrium prices and allocations in the macroeconomy. The course first discusses the assumptions of the standard (neoclassical) model, where resources are guided to their most efficient use independent of the distribution of funds across households or firms, and independent of how firms finance investment. The course then looks at various micro-foundations for financial frictions, such as limited information, costly state verification, and moral hazard. The course then looks at how (reduced-form versions of) these frictions lead to persistence, amplification and instability / volatility in the macroeconomy. Finally, the course looks at the post-2007 financial crisis and, depending on student interest, regulatory and other policy responses, the role of housing, etc.

**Course Website:** [www.mondo.su.se](http://www.mondo.su.se)

**Course Organisation and Format:** The course will start with an introduction in lecture format (3 or 4 sessions). The rest of the course will be mainly based on papers that students are expected to present and briefly present.

**Office hours:** After the lecture or on appointment by email.

**Readings** A '★' marks compulsory readings. Two '★'s mark compulsory readings that will be presented in class by students.

**Assessment:** Students will be assessed on the basis of their presentations (25 percent) and a term paper (75 percent). For the latter, students should send a one-page research proposal by Feb 15.

**General Reading**

1. Brunnermeier et al. (2012)

2. \*\* Quadrini (2011)
3. Romer, David (2011): Advanced Macroeconomics
4. Tirole, Jean (2006): The Theory of Corporate Finance

## **Others' Courses**

1. Alp Simsek "Advanced Topics in Macroeconomics Spring 2012"  
<http://isites.harvard.edu/icb/icb.do?keyword=k83901>

## **Preliminary Course Outline**

### **1. Introduction and Facts**

- Facts
- Readings
  - Blanchard (2009)
  - Mian and Sufi (2010)
  - Mian et al. (2013)
  - Campello et al. (2010)

### **2. The frictionless benchmark model**

- Investment without frictions
  - q theory
  - Modigliani-Miller Theorem
- Consumption with complete markets
  - Complete insurance markets
  - Permanent income hypothesis
- References
  - Introductory Readings, esp. Romer Chapter 8 and Session 1 in Simsek's course
  - Fazzari et al. (1988)
  - Kaplan and Zingales (1997)
  - Attanasio and Weber (2010)

### **3. The microfoundations of financial frictions**

- Limited Information

- Hidden action: Moral Hazard in investment choices: Holmstrom and Tirole (1997)
- Hidden Type: Adverse Selection and Credit rationing: Stiglitz and Weiss (1981June)
- Hidden state and costly state verification: Gale and Hellwig (1985October)
- Limited enforcement/ pledgeability, renegotiation and collateralised contracts
- Readings
  - \* Hart and Moore (1994November)
  - \* Holmstrom and Tirole (1997)
  - Stiglitz and Weiss (1981June)
  - Gale and Hellwig (1985October)

#### 4. Financial intermediation and banks

- Readings
  - \* Holmstrom and Tirole (1997)
  - \* Diamond and Dybvig (1983)

#### 5. Leverage cycles

- Readings
  - \* Geanakoplos (2009)

#### 6. Imperfect information asset pricing

- Readings
  - ?grossman1980impossibility ()
  - ?allen2006beauty ()
  - ?veldkamp2005slow ()
  - ?veldkamp2006information ()

#### 7. The net worth Channel

- Readings
  - \*\* Bernanke et al. (1999)

#### 8. Fire sales and the amplifying role of asset prices

- Readings
  - Shleifer and Vishny (1992September)
  - \*\* Kiyotaki and Moore (1997April)

## 9. Precautionary savings and instability

- Readings
  - \*\* Sannikov and Brunnermeier (2012)

## 10. Financial shocks

- Readings
  - \*\* Jermann and Quadrini (2012February)

## 11. Consumption

- Readings
  - Aiyagari (1994)
  - Krusell and Smith (1998)

## 12. Housing and the Macroeconomy

- Readings
  - Kiyotaki et al. (201103)
  - Duca et al. (2010)
  - \*\* Favilukis et al. (2010)
  - Davis and Heathcote (2005)
  - Aoki et al. (2004)
  - Iacoviello (2004December)
  - Campbell and Cocco (2007)
  - Davis and Heathcote (200508)
  - Chao He, Randall Wright and Yu Zhu (2013). "Housing and Liquidity", mimeo at [http://econ.ohio-state.edu/seminar/papers/130917\\_Wright.pdf](http://econ.ohio-state.edu/seminar/papers/130917_Wright.pdf)
  - Zhen Huo and Jose-Victor Rios-Rull (2013) "Balance Sheet Recessions", mimeo.

## References

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- Aoki, Kosuke, James Proudman, and Gertjan Vlieghe. 2004. *House prices, consumption, and monetary policy: a financial accelerator approach*, Journal of Financial Intermediation **13**, no. 4, 414–435.
- Attanasio, Orazio P. and Guglielmo Weber. 2010. *Consumption and saving: Models of intertemporal allocation and their implications for public policy*, Journal of Economic Literature **48**, no. 3, 693–751.

- Bernanke, Ben S., Mark Gertler, and Simon Gilchrist. 1999. *The financial accelerator in a quantitative business cycle framework*, Handbook of macroeconomics, pp. 1341–1393.
- Blanchard, Olivier J. 2009. *The crisis: Basic mechanisms and appropriate policies*, Technical Report 09/80, International Monetary Fund.
- Brunnermeier, Markus K., Thomas M. Eisenbach, and Yuliy Sannikov. 2012. *Macroeconomics with financial frictions: A survey*, Technical Report 18102, National Bureau of Economic Research, Inc.
- Campbell, John Y. and Joao F. Cocco. 2007. *How do house prices affect consumption? evidence from micro data*, Journal of Monetary Economics **54**, no. 3, 591–621.
- Campello, Murillo, John R. Graham, and Campbell R. Harvey. 2010. *The real effects of financial constraints: Evidence from a financial crisis*, Journal of Financial Economics **97**, no. 3, 470–487.
- Davis, Morris A. and Jonathan Heathcote. 2005. *Housing and the business cycle*, International Economic Review **46**, no. 3, 751–784.
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- Diamond, Douglas W and Philip H Dybvig. 1983. *Bank runs, deposit insurance, and liquidity*, Journal of Political Economy **91**, no. 3, 401–19.
- Duca, John V., John Muellbauer, and Anthony Murphy. 2010. *Housing markets and the financial crisis of 2007-2009: Lessons for the future*, Journal of Financial Stability **6**, no. 4, 203–217.
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- Fazzari, Steven M., R. Glenn Hubbard, and BRUCE C. PETERSEN. 1988. *Financing constraints and corporate investment*, Brookings Papers on Economic Activity **19**, no. 1, 141–206.
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- Geanakoplos, John. 2009. *The leverage cycle*, Technical Report 1715, Cowles Foundation for Research in Economics, Yale University.
- Hart, Oliver and John Moore. 1994November. *A theory of debt based on the inalienability of human capital*, The Quarterly Journal of Economics **109**, no. 4, 841–79.
- Holmstrom, Bengt and Jean Tirole. 1997. *Financial intermediation, loanable funds, and the real sector*, The Quarterly Journal of Economics **112**, no. 3, 663–91.
- Iacoviello, Matteo. 2004December. *Consumption, house prices, and collateral constraints: a structural econometric analysis*, Journal of Housing Economics **13**, no. 4, 304–320.
- Jermann, Urban and Vincenzo Quadrini. 2012February. *Macroeconomic effects of financial shocks*, American Economic Review **102**, no. 1, 238–71.
- Kaplan, Steven N and Luigi Zingales. 1997. *Do investment-cash flow sensitivities provide useful measures of financing constraints*, The Quarterly Journal of Economics **112**, no. 1, 169–215.
- Kiyotaki, Nobuhiro, Alexander Michaelides, and Kalin Nikolov. 201103. *Winners and losers in housing markets*, Journal of Money, Credit and Banking **43**, 255–296.
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Mian, Atif, Kamalesh Rao, and Amir Sufi. 2013. *Household balance sheets, consumption, and the economic slump*, Quarterly Journal of Economics, forthcoming.

Mian, Atif and Amir Sufi. 2010. *The great recession: Lessons from microeconomic data*, American Economic Review **100**, no. 2, 51–56.

Quadrini, Vincenzo. 2011. *Financial frictions in macroeconomic fluctuations*, Economic Quarterly **3Q**, 209–254.

Sannikov, Yuliy and Markus Brunnermeier. 2012. *A macroeconomic model with a financial sector*, Technical Report 507, Society for Economic Dynamics.

Shleifer, Andrei and Robert W Vishny. 1992September. *Liquidation values and debt capacity: A market equilibrium approach*, Journal of Finance **47**, no. 4, 1343–66.

Stiglitz, Joseph E and Andrew Weiss. 1981June. *Credit rationing in markets with imperfect information*, American Economic Review **71**, no. 3, 393–410.

## Additional Resources

- Lee Ohanian on the post-2007 recession (and plenty of other topics) <http://files.libertyfund.org/econtalk/y2012/Ohanianrecession.mp3>
- Cui and Raedde (2013). Search-Based Endogenous Illiquidity, mimeo Princeton University.
- Chao He, Randall Wright and Yu Zhu (2013). Housing and Liquidity, mimeo at [http://econ.ohio-state.edu/seminar/papers/130917\\_Wright.pdf](http://econ.ohio-state.edu/seminar/papers/130917_Wright.pdf)
- Zhen Huo and Jose-Victor Rios-Rull (2013) "Balance Sheet Recessions", mimeo.