Topics in Macrofinance

2023-24 Academic Year
Master of Research in Economics, Finance and Management

1. Description of the subject

- Topics in Macrofinance — Code: 32712
- Total credits: 6 ECTS — Workload: 150 hours
  Term: 3rd
- Type of subject: Optative
- Department of Economics and Business
- Teaching team: Vladimir Asriyan, Andrea Caggese, Priit Jeenas, Alberto Martin, Victoria Vanasco

. Teaching guide

- **Introduction**
  Over the last few decades, financial markets have taken a center stage in macroeconomics. This course will familiarize students with some basic tools to conduct research in this area. Parts 1 and 2 will analyze the macroeconomic implications of financial imperfections. Part 3 will provide a brief overview of the evidence on, as well as some recent theories of, credit booms. Parts 4 and 5 will focus on the interaction between financial constraints and firm dynamics, as well as with the identification of financial frictions.

- **Contents**

Part 1: (Victoria Vanasco)

1.1. Financial Intermediation, Information Frictions, and the Macroeconomy

- Market failures in the presence of information asymmetries.
- Implications for the allocation of capital and aggregate output.
- Endogenous asset quality and liquidity in markets with information frictions.

1.2. Asymmetric Information, the Allocation of Capital, and the Business Cycle

- Information asymmetries as sources of amplification of shocks.
- Implications for macro-prudential policy.

Part 2: (Vladimir Asriyan)

2.1. Financial Frictions, Hedging and Amplification

- The theory of corporate saving and risk-management
- The balance sheet amplification mechanism and the business cycle

2.2. Pecuniary and Aggregate Demand Externalities, and Macro-prudential policy

- Pecuniary externalities in models with financial frictions
- Aggregate demand externalities in models with financial frictions and nominal rigidities
- Implications for macro-prudential policy

Part 3: (Alberto Martin)

3.1. Credit booms: stylized facts

3.2. The view of rational bubbles

- A workhorse model of bubbles and the macroeconomy
- Policy implications

3.3. Information during booms and busts

- Booms and busts: the role of information
- Dynamic implications

Part 4 (Andrea Caggese)

4.1. Introduction to Firm Dynamics and Misallocation

- Stylized facts on firm dynamics.
- Dispersion in productivity, frictions, and misallocation of resources: theoretical framework and empirical evidence.

4.2 Financial frictions and Firm Dynamics: empirical evidence and theory

- Micro foundation and empirical testing of firm level financial frictions, and of their aggregate implications.
- Firm dynamics and financial frictions: basic model and applications
  - Uncertainty, bankruptcy risk, and selection.
  - Radical and Incremental innovation.

Part 5 (Priit Jeenas)

5.1 Empirical developments in identifying financial frictions

- Firms' responses to (quasi-)natural experiments and identified shocks.
- The heterogeneous effects of aggregate shocks and economic policy.

5.2 Firms, financial frictions and aggregate shocks: theory and applications

- Financial crises through the lens of firm dynamics models.
- The effects of economic policy shocks when firms face financial frictions.

- **Assessment and Grading System**

  The grade for the course will be based on a final exam.

3. Programme of activities (preliminary)

The following outline sketches the topics covered in the course. Required readings are marked by a star. The reading list is subject to changes before and during the class.

Part 1.1 Financial intermediation, information frictions, and the macroeconomy

- * Stiglitz and Weiss, 1986, *Credit Rationing in Markets with Imperfect Information*, American Economic Review.
- * Holmstrom and Tirole, 1997, *Financial Intermediation, Loanable Funds, and The Real Sector,* the Quarterly Journal of Economics.
- * Farhi and Tirole, 2012, *Collective Moral Hazard, Maturity Mismatch and Systemic Bailouts*, American Economic Review.
- * Dang, Gorton, Holmstrom, Ordonez, 2017, *Banks as Secret Keepers*, American Economic Review.
- * Vanasco 2017, *The Downside of Asset Screening for Market Liquidity*, the Journal of Finance. Caramp N, 2018, *Sowing the Seeds of Financial Crises: Endogenous Asset Creation and Adverse Selection*, Working Paper.
- Neuhann, D., 2019. Inefficient Asset Price Booms. Working Paper, Available at SSRN 3095730.

Part 1.2 Asymmetric information, the allocation of capital, and the business cycle

- * Kurlat, 2013, *Lemons Markets and the Transmission of Aggregate Shocks*, American Economic Review.
- Asriyan, Fuchs and Green, 2019, *Liquidity Sentiments*, American Economic Review. Eisefldt, 2004, *Endogenous Liquidity in Asset Markets*, the Journal of Finance.
- Eisfeldt A. L., Rampini A. A., 2006, *Capital reallocation and liquidity*. Journal of monetary Economics.
- Fuchs, Green and Papanikolaou, 2016, *Adverse Selection, Slow-Moving Capital and Misallocation*, Journal of Financial Economics.
- Bigio, 2015, *Endogenous Liquidity and the Business Cycle*, American Economic Review.

Part 2.1 Financial frictions, hedging and amplification

- Asriyan, Vladimir. "Balance Sheet Channel with Information-Trading Frictions in Secondary Markets." *The Review of Economic Studies* 88.1 (2021): 44-90.
- Bocola, Luigi, and Guido Lorenzoni. "Financial crises, dollarization, and lending of last resort in open economies." *American Economic Review* 110.8 (2020): 2524-57.
- Bocola, Luigi, and Guido Lorenzoni. *Risk sharing externalities*. No. w26985. National Bureau of Economic Research, 2020.
- Di Tella, Sebastian. "Uncertainty shocks and balance sheet recessions." *Journal of Political Economy* 125.6 (2017): 2038-2081.
- * Froot, Kenneth A., David S. Scharfstein, and Jeremy C. Stein. "Risk management: Coordinating corporate investment and financing policies." *The Journal of Finance* 48.5 (1993): 1629-1658.
- Kehoe, Timothy J., and David K. Levine. "Debt-constrained asset markets." *The Review of Economic Studies* 60.4 (1993): 865-888.
- * Kiyotaki, Nobuhiro, and John Moore. "Credit cycles." *Journal of Political Economy* 105.2 (1997): 211-248.

- * Krishnamurthy, Arvind. "Collateral constraints and the amplification mechanism." *Journal of Economic Theory* 111.2 (2003): 277-292.
- Krugman, Paul. "Balance sheets, the transfer problem, and financial crises." *International Finance and Financial Crises*. Springer, Dordrecht, 1999. 31-55.
- * Rampini, Adriano A., and S. Viswanathan. "Collateral, risk management, and the distribution of debt capacity." *The Journal of Finance* 65.6 (2010): 2293-2322.

Part 2.2 Pecuniary and aggregate demand externalities, and macro-prudential policy

- * Bianchi, Javier. "Overborrowing and systemic externalities in the business cycle." *American Economic Review* 101.7 (2011): 3400-3426.
- Caballero, Ricardo J., and Arvind Krishnamurthy. "International and domestic collateral constraints in a model of emerging market crises." *Journal of Monetary Economics* 48.3 (2001): 513-548.
- * Dávila, Eduardo, and Anton Korinek. "Pecuniary externalities in economies with financial frictions." *The Review of Economic Studies* 85.1 (2018): 352-395.
- Di Tella, Sebastian. "Optimal regulation of financial intermediaries." *American Economic Review* 109.1 (2019): 271-313.
- Eggertsson, Gauti B., and Paul Krugman. "Debt, deleveraging, and the liquidity trap: A Fisher-Minsky-Koo approach." *The Quarterly Journal of Economics* 127.3 (2012): 1469-1513.
- Farhi, Emmanuel, and Iván Werning. "A theory of macroprudential policies in the presence of nominal rigidities." *Econometrica* 84.5 (2016): 1645-1704.
- Guerrieri, Veronica, and Guido Lorenzoni. "Credit crises, precautionary savings, and the liquidity trap." *The Quarterly Journal of Economics* 132.3 (2017): 1427-1467.
- * Korinek, Anton, and Alp Simsek. "Liquidity trap and excessive leverage." *American Economic Review* 106.3 (2016): 699-738.
- * Lorenzoni, Guido. "Inefficient credit booms." *The Review of Economic Studies* 75.3 (2008): 809-833.
- Schmitt-Grohé, Stephanie, and Martin Uribe. "Downward nominal wage rigidity, currency pegs, and involuntary unemployment." *Journal of Political Economy* 124.5 (2016): 1466-1514.

Part 3.1 Credit booms: stylized facts

- I will provide source material during the class.

Part 3.2 The view of rational bubbles

- Asriyan, V., Fornaro, L., Martin, A., and J. Ventura, “Monetary Policy for a Bubbly World”, forthcoming, Review of Economic Studies.
- Caballero, R. and A. Krishnamurthy, “Bubbles and Capital Flow Volatility: Causes and Risk Management”, Journal of Monetary Economics 2006.
- Martin, A. and J. Ventura, "Economic Growth with Bubbles", American Economic Review, 2012.
- *Martin, A. and J. Ventura, “The Macroeconomics of Rational Bubbles. A User’s Guide”.
- Tirole, J., “Asset Bubbles and Overlapping Generations.” Econometrica, 1985.

Part 3.3 Information during booms and busts

- * Asriyan, V., Laeven, L. and A. Martin, “Collateral Booms and Information Depletion”, The Review of Economic Studies, forthcoming.

- Boissay, F., Collard, F., and F. Smets, “Booms and Banking Crises”, Journal of Political Economy, 2016.
- Farboodi, M. and Kondor, P., “Rational Sentiments and Economic Cycles”, LSE Working Paper, 2020.
- Fishman, M., Parker, J. and L. Straub, “A Dynamic Theory of Lending Standards”, Harvard Working Paper (2020).
- * Gorton, G. and Ordoñez, G., “Collateral crises,” American Economic Review, 2014.
- Gorton, G. and Ordoñez, G., “Good booms, bad booms,” Journal of the European Economic Association, 2019.

Part 4.1 Introduction to Firm Dynamics and Misallocation.

- *John Asker, Allan Collard-Wexler, and Jan De Loecker, Dynamic Inputs and Resource (Mis)Allocation, Journal of Political Economy 2014 122:5, 1013-1063
- *Mark Bils, Peter J. Klenow, Cian Ruane, Misallocation or Mismeasurement?, Stanford University, December 4, 2018
- Lucia Foster, Cheryl Grin, John C. Haltiwanger, Zoltan Wolf, 2018, Innovation, Productivity Dispersion and Productivity Growth. NBER Working Paper 24420
- *Hsieh, C. and P.J. Klenow (2009). "Misallocation and Manufacturing TFP in China and India", The Quarterly Journal of Economics 124, 1403-1448.
- *Joel David, Venky Venkateswaran, 2019, The Sources of Capital Misallocation, American Economic Review, forthcoming.
- *Haltiwanger, John, Robert Kulick and Chad Syverson. 2018. “Misallocation Measures: The Distortion that Ate the Residual.” NBER Working Paper No. 24199
- *John Haltiwanger, Ron S. Jarmin, Robert Kulick, Javier Miranda, High Growth Young Firms: Contribution to Job, Output, and Productivity Growth, Chapter in NBER book Measuring Entrepreneurial Businesses: Current Knowledge and Challenges (2017), John Haltiwanger, Erik Hurst, Javier Miranda, and Antoinette Schoar, editors (p. 11 - 62).
- *Restuccia, Diego, and Richard Rogerson. 2017. "The Causes and Costs of Misallocation." *Journal of Economic Perspectives*, 31 (3): 151-74.
- *Syverson, C. 2004, “Product Substitutability and Productivity Dispersion.” Review of Economics and Statistics, 86(2): 534–50.
- Syverson, C., 2011, What Determines Productivity?, Journal of Economic Literature 2011, 49:2, 326–365

Part 4.2: Financial frictions and Firm Dynamics: empirical evidence and theory

- Santiago Bazdresch, R. Jay Kahn, Toni M. Whited, Estimating and Testing Dynamic Corporate Finance Models, The Review of Financial Studies, Volume 31, Issue 1, January 2018, Pages 322–361
- Cabral, Luís M B, and José Mata. 2003. "On the Evolution of the Firm Size Distribution: Facts and Theory." American Economic Review, 93(4): 1075-1090.
- *Chen Lian, Yueran Ma, 2018, Anatomy of Corporate Borrowing Constraints, working paper.
- Dell'Ariccia, Giovanni, Detragiache, Enrica, and Rajan, Raghuram, 2008, "The real effect of banking crises," Journal of Financial Intermediation, Elsevier, vol. 17(1), pages 89-112.
- *Farre-Mensa, Joan, and Alexander Ljungqvist. "Do Measures of Financial Constraints Measure Financial Constraints?" Review of Financial Studies 29, no. 2 (February 2016): 271–308.

- Hadlock, Charles J., and Joshua R. Pierce, 2010, New evidence on measuring financial constraints: Moving beyond the KZ Index, Review of Financial Studies 23, 1909–1940.
- Kaplan, Steven N., and Luigi Zingales, 1997, Do investment-cash flow sensitivities provide useful measures of financing constraints?, Quarterly Journal of Economics 115, 707–712.
- Simon Gilchrist, Jae Sim and Egon Zakrajsek, 2013, ``Misallocation and Financial Frictions: Some Direct Evidence from the Dispersion in Borrowing Costs'', Review of Economic Dynamics, January 2013.
- *Nikolov, Boris and Schmid, Lukas and Steri, Roberto, The Sources of Financing Constraints (November 30, 2018). Swiss Finance Institute Research Paper No. 18-74. Available at SSRN: https://ssrn.com/abstract=3293849 or http://dx.doi.org/10.2139/ssrn.3293849
- *Hopenhayn, Hugo A, 1992. "Entry, Exit, and Firm Dynamics in Long Run Equilibrium," Econometrica, Econometric Society, vol. 60(5), pages 1127-1150, September.
- *Buera, Francisco J., Joseph P. Kaboski, and Yongseok Shin. 2011. "Finance and Development: A Tale of Two Sectors." American Economic Review, 101(5).
- Buera, Francisco J. and Benjamin Moll. 2015. "Aggregate Implications of a Credit Crunch: The Importance of Heterogeneity." American Economic Journal: Macroeconomics, 7(3): 1-42.
- *Caggese, A., and V. Cuñat, 2013, “Financing Constraints, Firm Dynamics, Export Decisions, and Aggregate Productivity”, Review of Economic Dynamics, Special Issue on Misallocation and Productivity, edited by Diego Restuccia & Richard Rogerson, vol. 16(1), pages 177-193, January 2013.
- *Caggese, A., 2019, “Financing Constraints, Radical versus Incremental Innovation, and Aggregate productivity”, American Economic Journal: Macroeconomics.
- G. Clementi, H.Hopenyain, A Theory of Financing Constraints and Firm Dynamics, Quarterly Journal of Economics, Volume 121, Issue 1, February 2006, pages 229-265
- *Midrigan, Virgiliu, and Daniel Yi Xu. 2014. "Finance and Misallocation: Evidence from Plant-Level Data." American Economic Review, 104(2): 422-58
- *Arellano, C., Yan, Bai, and Patrick Kehoe, 2019, Financial Frictions and Fluctuations in Volatility, Journal of Political Economy, Forthcoming.
- Moll, Benjamin. 2014. "Productivity Losses from Financial Frictions: Can Self-Financing Undo Capital Misallocation?" American Economic Review, 104(10): 3186-3221.
- Oberfield, Ezra, 2013. Productivity and misallocation during a crisis: Evidence from the Chilean crisis of 1982. Review of Economic Dynamics 16 (1), 100–119
- Hsieh, Chang-Tai and Klenow, Peter J., 2014, The Life Cycle of Plants in India and Mexico, Quarterly Journal of Economics, Vol. 129, Issue 3
- Acemoglu, D., U. Akcigit, N. Bloom, and W. R. Kerr (2013). Innovation, Reallocation and Growth. National Bureau of Economic Research WP 18993.
- Daron Acemoglu, Ufuk Akcigit, Murat Alp Celik, 2014, Young, Restless and Creative: Openness to Disruption and Creative Innovations, NBER Working Paper No. 19894
- Ufuk Akcigit, William R. Kerr, 2010, Growth Through Heterogeneous Innovations, NBER Working Paper No. 16443
- Albert, C., and A. Caggese, 2019, Cyclical Fluctuations, Financial Shocks, and the Entry of Fast Growing Entrepreneurial Startups, working paper.
- Caggese, A., Metzger, D., and V. Cunat, 2016, “Firing the Wrong Workers: Financing Constraints and Labor Misallocation”, forthcoming, Journal of Financial Economics.
- Caggese, A., 2012, "Entrepreneurial Risk, Investment and Innovation", Journal of Financial Economics, n.106, November 2012, 287-307.

- Klette, T. J. and S. Kortum (2004). Innovating Firms and Aggregate Innovation. Journal of Political Economy, 112, 986-1018.
- Daniel Garcia-Macia, Chang-Tai Hsieh, Peter J. Klenow, 2019, How Destructive is Innovation?, working paper.
- Pugsley, Benjamin, Petr Sedlacek, and Vincent Sterk, "The Nature of Firm Growth," CEPR Discussion Papers 12670, C.E.P.R. Discussion Papers January 2018.
- Sedlacek, P., and V. Sterk, 2016, The Growth Potential of Startups over the Business Cycle, American Economic Review.

Part 5.1: Empirical developments in identifying financial frictions

- *Gan, J. (2007), "Collateral, debt capacity, and corporate investment: Evidence from a natural experiment", Journal of Financial Economics, vol. 85, no. 3, 709- 734.
- Almeida, H. M. Campello, B. Laranjeira and B. Weisbenner (2012). "Corporate Debt Maturity and the Real Effects of the 2007 Credit Crisis", Critical Finance Review, vol. 1, no. 1, 3-58.
- Benmelech, E., C. Frydman and D. Papanikolaou (2019). "Financial frictions and employment during the Great Depression", Journal of Financial Economics, vol. 133, no. 3, 541-563.
- Chodorow-Reich, G. (2014), "The Employment Effects of Credit Market Disruptions: Firm-Level Evidence from the 2008–9 Financial Crisis", The Quarterly Journal of Economics, vol. 129, no. 1, 1-59.
- Catherine, S., T. Chaney, Z. Huang, D. Sraer and D. Thesmar (2021 March), "Quantifying Reduced-Form Evidence on Collateral Constraints", Working Paper.
- *Chaney, T., D. Sraer and D. Thesmar (2012), "The Collateral Channel: How Real Estate Shocks Affect Corporate Investment", American Economic Review, vol. 102, no. 6, 2381-2409.
- Bahaj, S., A. Foulis and G. Pinter (2020), "Home Values and Firm Behavior", American Economic Review, vol. 110, no. 7, 2225-2270.
- Almeida, H., D. Carvalho and T. Kim (2018), "The Working Capital Credit Multiplier", 29th Annual Conference on Financial Economics & Accounting 2018, Available at SSRN: https://ssrn.com/abstract=3071018.
- Melcangi, D. (2020 September), "The marginal propensity to hire", Working Paper.
- Bermejo, V., M. Ferreira, D. Wolfenzon and R. Zambrana (2021 April), "Entrepreneurship and Regional Windfall Gains: Evidence from the Spanish Christmas Lottery", Working Paper.
- Roberts, M. and T. Whited (2012). "Endogeneity in Empirical Corporate Finance", Handbook of the Economics of Finance, vol. 2, 493-572.
- *Zwick, E. and J. Mahon (2017), "Tax Policy and Heterogeneous Investment Behavior", American Economic Review, vol. 107, no. 1, 217-48.

- Lee, M. (2021 August), "Government Purchases and Firm Growth", Working Paper.

- Jeenas, P. (2019 July) "Monetary Policy Shocks, Financial Structure, and Firm Activity: A Panel Approach", Working Paper.

- *Anderson, G. and A. Cesa-Bianchi (2021 March), "Crossing the Credit Channel: Credit Spreads and Firm Heterogeneity", Working Paper.

- Bahaj, S., A. Foulis, G. Pinter and P. Surico (2021 May), "Employment and the Collateral Channel of Monetary Policy", Working Paper.

- Jeenas, P. and R. Lagos (2022 April), "Q-Monetary Transmission", Working Paper.

- Di Giovanni, J., M. García-Santana, P. Jeenas, E. Moral-Benito and J. Pijoan-Mas (2022 June), "Government Procurement and Access to Credit: Firm Dynamics and Aggregate Implications", Working Paper.

Part 5.2: Firms, financial frictions and aggregate shocks: theory and applications

- *Khan, A. and J. Thomas (2013), "Credit Shocks and Aggregate Fluctuations in an Economy with Production Heterogeneity", Journal of Political Economy, vol.121, no. 6, 1055-1107.

- Buera, F. and B. Moll (2015), "Aggregate Implications of a Credit Crunch: The Importance of Heterogeneity", American Economic Journal: Macroeconomics, vol. 7, no. 3, 1-42.

- Guo, X. (2020 November), "Reassessing the Relevance of Financial Shocks in an Estimated Heterogeneous Firm Model", Working Paper.

- Melcangi, D. (2021 July), "Firms' precautionary savings and employment during a credit crisis", Working Paper.

- Bernanke, B., M. Gertler and S. Gilchrist (1999), "The Financial Accelerator in a Quantitative Business Cycle Framework", Handbook of Macroeconomics, vol. 1, 1341-1393.

- *Ottonello, P. and T. Winberry (2020), "Financial Heterogeneity and the Investment Channel of Monetary Policy", Econometrica, vol. 88, no 6., 2473-2502.

- Jeenas, P. (2019 June), "Firm Balance Sheet Liquidity, Monetary Policy Shocks, and Investment Dynamics", Working Paper.