

ECON 8200: TOPICS IN MACROECONOMIC THEORY

SPRING 2024

UNIVERSITY OF PENNSYLVANIA

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Lectures: Tuesday 5:15-8:15 PM in ***

Office Hours: by appointment.

Course description This half semester course will cover topics in macroeconomics touching on international finance, monetary policy, and public finance. We will be thinking about **government debt sustainability and fiscal-monetary interactions**. On the methodological side, we will study how to use tools from dynamic game theory and mechanism design to analyze optimal policy when the government lacks commitment and potentially there is private information. We will use similar tools to study the optimal market arrangements with lack of commitment and private information.

Expectations I will regularly assign you problem sets and there will be a take home exam at the end of the class. Some of you will be asked to present the solutions of the problem set to the class. I expect you to actively participate in class and to read the papers we cover in advance.

Plan This is the list of papers we are going to tentatively cover over the course:

1. Fiscal and monetary policy under commitment (Ramsey approach)
 - Correia, Isabel, Juan Pablo Nicolini, and Pedro Teles. "Optimal fiscal and monetary policy: Equivalence results." *Journal of political Economy* 116, no. 1 (2008): 141-170.
 - Correia, Isabel, Emmanuel Farhi, Juan Pablo Nicolini, and Pedro Teles. "Unconventional fiscal policy at the zero bound." *American Economic Review* 103, no. 4 (2013): 1172-1211.
2. Fiscal and monetary policy without commitment (sustainable plans approach)

- Chari, Varadarajan V., and Patrick J. Kehoe. "Sustainable plans." *Journal of political economy* 98.4 (1990): 783-802.
- Phelan, Christopher, and Ennio Stacchetti. "Sequential equilibria in a Ramsey tax model." *Econometrica* 69.6 (2001): 1491-1518.
- Atkeson, A., Chari, V. V., & Kehoe, P. J. (2007). On the optimal choice of a monetary policy instrument.
- Afrouzi, H., Halac, M., Rogoff, K. S., & Yared, P. (2023). Monetary Policy without Commitment (No. w31207). National Bureau of Economic Research.
- Piguillem, Facundo, and Anderson Schneider. Coordination, Efficiency and Policy Discretion. No. 1306. Einaudi Institute for Economics and Finance (EIEF), 2016.

3. Debt and default

- Aguiar, M., Amador, M., & Gopinath, G. (2009). Investment cycles and sovereign debt overhang. *The Review of economic studies*, 76(1), 1-31.
- Aguiar, M., & Amador, M. (2011). Growth in the Shadow of Expropriation. *The Quarterly Journal of Economics*, 126(2), 651-697.
- Dovis, A. (2019). Efficient sovereign default. *The Review of Economic Studies*, 86(1), 282-312.
- Atkeson, A. (1991). International Lending with Moral Hazard and Risk of Repudiation. *Econometrica*, 59(4), 1069-1089.

4. Unique implementation

- Atkeson, Andrew, Varadarajan V. Chari, and Patrick J. Kehoe. "Sophisticated Monetary Policies." *Quarterly Journal of Economics* 125.1 (2010).
- Wallace, N. (1981). A hybrid fiat—Commodity monetary system. *Journal of Economic Theory*, 25(3), 421-430.
- Nicolini, J. P. (1996). Ruling out speculative hyperinflations The role of the government. *Journal of Economic Dynamics and Control*, 20(5), 791-809.
- Sargent, T. J. (2023). Critique and Consequence.
- Dovis-Kirpalani (in-progress)

5. Monetary-fiscal interactions

- Sargent, T. J., & Wallace, N. (1981). Some unpleasant monetarist arithmetic. *Federal reserve bank of minneapolis quarterly review*, 5(3), 1-17.

- Bassetto, Marco, and Thomas J. Sargent. "Shotgun Wedding: Fiscal and Monetary Policy." *Annual Review of Economics* 12 (2020).
- Bocola-Chaumont-Dovis-Kipalani (in progress)
- Leeper, E. M. (1991). Equilibria under 'active' and 'passive' monetary and fiscal policies. *Journal of Monetary Economics*, 27(1), 129-147.
- Bianchi, F., Faccini, R., & Melosi, L. (2023). A Fiscal Theory of Persistent Inflation. *The Quarterly Journal of Economics*.

6. Price of government debt

- Jiang, Z., Lustig, H., Van Nieuwerburgh, S., & Xiaolan, M. Z. (2023). Fiscal capacity: An asset pricing perspective. *Annual Review of Financial Economics*, 15.
- Jiang, Z., Lustig, H., & Xiaolan, M. (2021). The US Public Debt Valuation Puzzle (No. 16082). *CEPR Discussion Papers*.
- Jiang, Z., Lustig, H., Van Nieuwerburgh, S., & Xiaolan, M. Z. (2020). Manufacturing risk-free government debt (No. w27786). *National Bureau of Economic Research*.

7. Optimal maturity structure and central bank balance-sheet policies

- Wallace, Neil. "A Modigliani-Miller theorem for open-market operations." *The American Economic Review* 71, no. 3 (1981): 267-274.
- de Lannoy, L. R. A., Bhandari, A., Evans, D., Golosov, M., & Sargent, T. J. (2022). Managing Public Portfolios (No. w30501). *National Bureau of Economic Research*.
- Debortoli, D., Nunes, R., & Yared, P. (2022). The commitment benefit of consols in government debt management. *American Economic Review: Insights*, 4(2), 255-270.
- Bocola, Luigi, and Alessandro Dovis. "Self-fulfilling debt crises: A quantitative analysis." *American Economic Review* 109.12 (2019): 4343-4377.
- Eggertsson, Gauti, and Michael Woodford. "The zero bound on interest rates and optimal monetary policy," *Brookings Papers on Economic Activity*. (2003).
- Saroj Bhattarai, Gauti B Eggertsson, Bulat Gafarov, Time Consistency and Duration of Government Debt: A Model of Quantitative Easing, *The Review of Economic Studies*, 2022.

- Vayanos, Dimitri, and Jean-Luc Vila. A preferred-habitat model of the term structure of interest rates. No. w15487. National Bureau of Economic Research, 2009.

8. Delegating to fiscal/monetary policies and fiscal rule design

- Halac, M., & Yared, P. (2022). Fiscal rules and discretion under limited enforcement. *Econometrica*, 90(5), 2093-2127.
- Athey, S., Atkeson, A., & Kehoe, P. J. (2005). The optimal degree of discretion in monetary policy. *Econometrica*, 73(5), 1431-1475.
- Halac, M., & Yared, P. (2022). A Theory of Fiscal Responsibility and Irresponsibility (No. w30601). National Bureau of Economic Research.
- Dovis, A., & Kirpalani, R. (2021). Rules without commitment: Reputation and incentives. *The Review of Economic Studies*, 88(6), 2833-2856.
- Dovis, A., & Kirpalani, R. (2020). Fiscal rules, bailouts, and reputation in federal governments. *American Economic Review*, 110(3), 860-888.
- Dovis-Kirpalani-Sublet (in progress)

9. Intergenerational transfers

- Lancia, F., Russo, A., & Worrall, T. S. (2022). Optimal sustainable intergenerational insurance.
- Dovis, A., Golosov, M., & Shourideh, A. (2016). Political economy of sovereign debt: A theory of cycles of populism and austerity (No. w21948). National Bureau of Economic Research.

Background readings

Here is a non-exhaustive list of related papers I will not be able to cover in class in detail.

An important reference for the class is RMT4: Ljungqvist, Lars, and Thomas J. Sargent. *Recursive macroeconomic theory*. MIT press, 2018.

1. Optimal fiscal and monetary policy with and without commitment

Policy with commitment:

- Ch. 16, RMT4. Optimal Taxation with Commitment
- Ch. 20, RMT4. Two Ramsey Problems Revisited

- Chari, and Patrick J. Kehoe. "Optimal fiscal and monetary policy" in Handbook of Macroeconomics, 1999, vol. 1C, ed. John B. Taylor and Michael Woodford, 1671-1745. Amsterdam: North-Holland.
- Lucas, Robert E., and Nancy L. Stokey. "Optimal fiscal and monetary policy in an economy without capital." Journal of monetary Economics 12.1 (1983): 55-93.
- Angeletos, George-Marios. "Fiscal policy with noncontingent debt and the optimal maturity structure." The Quarterly Journal of Economics 117.3 (2002): 1105-1131.
- Buera, Francisco, and Juan Pablo Nicolini. "Optimal maturity of government debt without state contingent bonds." Journal of Monetary Economics 51.3 (2004): 531-554.
- Aiyagari, S. Rao, Albert Marcet, Thomas J. Sargent, and Juha Seppälä. "Optimal taxation without state-contingent debt." Journal of Political Economy 110, no. 6 (2002): 1220-1254.
- Werning, Ivan. "Optimal fiscal policy with redistribution." The Quarterly Journal of Economics 122.3 (2007): 925-967.
- Bhandari, Anmol, David Evans, Mikhail Golosov, and Thomas J. Sargent. Taxes, debts, and redistributions with aggregate shocks. No. w19470. National Bureau of Economic Research, 2013.
- Chari, Varadarajan V., Lawrence J. Christiano, and Patrick J. Kehoe. "Optimality of the Friedman rule in economies with distorting taxes." Journal of Monetary Economics 37.2 (1996): 203-223.
- Bhandari, Anmol, David Evans, Mikhail Golosov, and Thomas J. Sargent. "Inequality, Business Cycles, and Monetary-Fiscal Policy." (2020).

Policy without commitment:

- Ch. 24. Credible Government Policies, I
- Ch. 25. Credible Government Policies, II
- Chari, Varadarajan V., Patrick J. Kehoe, and Edward C. Prescott. Time consistency and policy. No. 115. Federal Reserve Bank of Minneapolis, 1988.
- Farhi, Emmanuel, Christopher Sleet, Ivan Werning, and Sevin Yeltekin. "Non-linear capital taxation without commitment." Review of Economic Studies 79, no. 4 (2012): 1469-1493.

Unique implementation:

- Bassetto, Marco. "Equilibrium and government commitment." *Journal of Economic Theory* 124.1 (2005): 79-105.
- Barthelemy, Jean, and Eric Mengus. "Time-consistent implementation in macroeconomic games." (2022).

2. Debt and default

- Chari, Varadarajan V., and Patrick J. Kehoe. "Sustainable plans and debt." *Journal of Economic Theory* 61.2 (1993): 230-261.
- Passadore, Juan, and Juan Pablo Xandri. "Robust Conditional Predictions in Dynamic Games: An Application to Sovereign Debt."
- Aguiar, Mark, et al. "Quantitative Models of Sovereign Debt Crises." *Handbook of Macroeconomics* 2 (2016): 1697-1755.
- Cole, Harold L., and Timothy J. Kehoe. "Self-fulfilling debt crises." *The Review of Economic Studies* 67.1 (2000): 91-116.
- Aguiar, M., Amador, M., Hopenhayn, H., and Werning, I. (2016). Take the short route: Equilibrium default and debt maturity (No. w22847). National Bureau of Economic Research.
- Chari, V. V., Alessandro Dovis, and Patrick J. Kehoe. "On the optimality of financial repression." *Journal of Political Economy* 128, no. 2 (2020): 710-739.

3. Monetary policy

Monetary policy and risk premia:

- Alvarez, Fernando, Andrew Atkeson, and Patrick J. Kehoe. "Money, interest rates, and exchange rates with endogenously segmented markets." *Journal of political Economy* 110, no. 1 (2002): 73-112.
- Alvarez, Fernando, Andrew Atkeson, and Patrick J. Kehoe. "If exchange rates are random walks, then almost everything we say about monetary policy is wrong." *American Economic Review* 97, no. 2 (2007): 339-345.
- Alvarez, Fernando, Andrew Atkeson, and Patrick J. Kehoe. "Time-varying risk, interest rates, and exchange rates in general equilibrium." *The Review of Economic Studies* 76, no. 3 (2009): 851-878.

- Itskhoki, O., & Mukhin, D. (2023). Optimal exchange rate policy (No. w31933). National Bureau of Economic Research.

Debt sustainability and convenience yields

- Krishnamurthy, Arvind, and Annette Vissing-Jorgensen. "The aggregate demand for treasury debt." *Journal of Political Economy* 120.2 (2012): 233-267.
- Jiang, Zhengyang, et al., "Bond Convenience Yields in the Eurozone Currency Union" (2021)
- Woodford, Michael. "Public debt as private liquidity." *The American Economic Review* 80.2 (1990): 382-388.
- Collard, Fabrice, Harris Dellas, and George-Marios Angeletos. "Public Debt as Private Liquidity: Optimal Policy." (2020).
- Jiang, Zhengyang, Arvind Krishnamurthy, and Hanno Lustig. Dollar safety and the global financial cycle. No. w27682. National Bureau of Economic Research, 2020.
- He, Zhiguo, Arvind Krishnamurthy, and Konstantin Milbradt. "A model of safe asset determination." *American Economic Review* 109.4 (2019): 1230-62.
- J Caballero, Ricardo, and Emmanuel Farhi. "The safety trap." *The Review of Economic Studies* 85.1 (2018): 223-274.