

Course description

This course is intended for graduate students interested in monetary economics and, more generally, macroeconomic models in which trade is decentralized.

The main goals are:

1. To study some techniques used in theoretical modeling of money;
2. To study existence of equilibrium and to characterize equilibrium;
3. To learn experimental methods helpful to study monetary economies in the laboratory.

The focus is on the modeling aspect, not the technical details. At the end of the course students will possess an expanded set of tools, which will be helpful to read critically the literature and to engage independent research. The student will be able to critically assess (i) the main modeling techniques and theoretical insights in the monetary literature and (ii) how new behavioral insights can be gathered from designing experiments and analyzing laboratory data.

Topics

1. The basic problem in modeling money in a standard neoclassical macro model.
2. How to build macroeconomic models in which trade processes are made explicit.
3. The basic problem in supporting trade without formal institutions.
4. The theoretical advantage of adopting a monetary system in a society.
5. How to design a laboratory monetary economy.
6. Behavioral properties of monetary systems.

The topics indicated above are a general pointer. At the end see a partial list of papers that are related, some of which are based on some of my recent work. More references will be provided in class and I will be happy to talk to you individually about specific related topics you are interested in.

Teaching Method

The lectures are divided into two segments: Theory and Experiments. The theory part will develop a theoretical platform for monetary models and decentralized trading models. This part will focus on models of strategic interaction and Nash equilibrium; these models have been adopted to study a variety of topics including labor, IO, money and finance. This overlap opens the door to exploring related applications, such as cooperation, collusion, trust, equilibrium selection, coordination. The experimental part will focus on discussing laboratory explorations of these class of models. Some of the lectures will be used for class presentations.

Technically, we will apply dynamic programming techniques and techniques from the theory of repeated games to study equilibrium outcomes in environments characterized by informational asymmetries, lack of

commitment and/or formal enforcement institutions. The center of attention will be a class of models known as matching models. The course will provide the students with the necessary tools, technical and conceptual, to understand this area of research.

Class meetings

Lecture dates: April 19, 20, 23, 26 and 27; May 2, 3, and 4. Meeting times: 15:00-17:00. The location is yet to be established.

Assessment methods

Your grade will be based on: (1) a 30-minutes class presentation of one paper to be done in pairs of students and (2) an individual paper that proposes an extension or an application of the paper surveyed. There are equal weights on these two components. Presentation slides must be submitted before the presentation. You will be graded both on the clarity and the content of the presentation and of your individual paper. Presentation papers will be assigned to each of you. There is no required text so you will have to take notes about what we will cover in class (I will also give you some notes, when feasible).

Any student who has a disability that may require some modification of seating, testing or other class requirements should see me after class or during office hours. Working with the Dean of Students, I will ensure that appropriate arrangements are made.

Relevant references

Camera, G. (2017). A perspective on electronic alternatives to traditional currencies. *Sveriges Riksbank Economic Review* 1, 126-148.

Camera, G., M. Casari, and M. Bigoni (2013). Money and trust among strangers. *Proceedings of the National Academy of Sciences* 110(37), 14889-14893.

Camera, G., and M. Casari (2014). The coordination value of monetary exchange: experimental evidence. *American Economic Journal: Microeconomics* 6(1), 290-314.

Camera, G., and A. Giorfrè. 2014. Game-theoretic foundations of monetary equilibrium. *Journal of Monetary Economics* 63, 51-63.

Diamond P., 1982. Aggregate Demand Management in Search Equilibrium. *Journal of Political Economy* 90, 881-894.

Ellison, Glenn. 1994. Cooperation in the prisoner's dilemma with anonymous random matching. *Review of Economic Studies*, 61, 567-88.

Kandori, Michihiro. 1992. Social norms and community enforcement. *Review of Economic Studies*, 59, 63-80.

Kiyotaki N., and R.Wright. 1989. On Money as a Medium of Exchange. *Journal of Political Economy* 97, 927-954.

Kocherlakota, N. 1998. Money is memory. *Journal of Economic Theory* 81, 232-251

Townsend, R. 1980. Models of Money with Spatially Separated Agents. In *Models of Monetary Economies*, J. Kareken and N. Wallace editors, p. 265-303