Prof Joe Haslag
Spring Semester 2020

Econ 4329/7329
The Banking System and the Money Market

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office hrs: T 1:30 – 3:00pm and by appt.

Text: Modeling Monetary Economies, 4th ed. Champ, B., S. Freeman and J. Haslag, Cambridge: Cambridge University Press

In this course, we start with the basics. People trade and the institutions, or technologies, that are critical to facilitating those trades is at the heart of what we are studying. Monetary economics examines the process of exchange. For example, why is it that intrinsically useless pieces of paper are held by rational people? What other means of payment exist in the world and how does this competition play out? And, not to be forgotten, what roles do banks play in helping with transactions? As we grow in our understanding of what money does in an economy, we can ask more difficult questions. For example, how important is money for controlling the business cycle fluctuations? More generally, what can a central bank do?

Though the course does not require Econ 4351, it is extremely helpful if you have seen an indifference curve. What you will immediately notice is that while the nature of this course is inherently about societal, or aggregate, economic behavior, the tools for analysis will not be the aggregate demand, or IS-LM, framework. Indeed, the principle tools will be borrowed from you might think is *microeconomics.* (At the end of the semester, I will try to convince that there is just economics.) We will study the behavior of people that maximize utility subject to a budget constraint. The geometry is simple if you have had intermediate micro. Everything about this economy will be completely described. Specifically, we will know everything about the people that populate this economy, their means of production, the ability to trade with one another and their endowments. Given these pieces, it is possible to characterize their behavior by specifying an equilibrium. Here, equilibrium describes a recipe for figuring out what is going in the economy. Without the discipline of the equilibrium, we are left just throwing ingredients in and we can get anything (literally). Without equilibrium defined well, we are hard pressed to do any analysis.

Since everything will build from this basic setup, it is important that you grasp the first couple of weeks of material. I will be available for extra office hours during these first several weeks. I encourage you to ask questions in class. I think that once you see an economy described in such detail that monetary economics will be easier to understand. But this framework is a substantial departure from what you have seen in previous money and macro classes.

Grading. There are 100 semester points available in this class. Grades will depend on the accumulation of semester points through four specific means: class participation, problems sets, a midterm and a comprehensive final. Class participation counts for 5% of your grade. I will measure class participation by interactions in class and by the number of times you are not in class to pick up your problem sets. For the latter, the relationship is inverse; that is, the more times I leave class with your problem set unreturned, the fewer class participation points you will receive.(Note that typically, problems sets will be returned at the beginning of class following their due date.) The problem sets account for 20 semester points, the midterm exam counts for 30 semester points and the final exam counts for 45 semester points. You should expect 8-10 problems sets during the semester

Course Outline: references to chaps are for those in Champ and Freeman

I. The Basics—Chaps 1-5

Here, we develop the basic economy and examine what money does. Money is a store of value, it facilitates trade and the government uses it to buy things. Chapter 1 develops the economic environment in detail describes what trade would look like without money. Chapter 2 introduces money. Chapter 3 asks whether other means of exchange could be lower cost than using money; specifically, use barter or commodity money for exchange. Chapter 4 asks about the consequences of using money growth to pay for government operations. So you see the connection between fiscal and monetary policy and why the inflation tax is harmful. Chapter 5 looks at currency exchange across countries. What kind of exchange rate policies make sense?

II. Money and capital—chaps 7-8

We expand the basic model to consider a case in which people will hold a diversified portfolio of with money—which does not pay interest—and capital—which does pay interest. Toward the end of this section we introduce the notion of a bank into the model. Chapter 7 describes how money and capital compete against each other as stores of value. In Chapter 8, money is treated as being more liquid than capital. Money's liquidity advantage raises important questions about mechanisms in the economy that arbitrage two assets in ways that make people better off; in other words, we will offer banks as such a mechanism.

III. Banking—chaps 9-14

Here, we turn our attention to various aspects of commercial banks and their impact on the money supply. It is crucial that we differentiate between government, or outside, money and bank, or inside, money. We begin by looking at a structure in which banks are important for financing capital accumulation. Outside money is valued because banks have to hold some of it. Not terribly satisfying. We move to cases in which banks—both the central bank and the commercial bank—provide more interesting arrangements, showing how each contributes to making people better off by offering simple services. We conclude with a discussion of the risks that banks face in a fractional reserve setting.

Chapter 9 reviews the tools of monetary policy. In Chapter 10, we review some basic facts about business cycles and explain the differences between causes and effects. In doing so, we question the importance of central bank policies in driving business cycle phenomena. Chapter 11 gives us insight into the recent policy to pay interest on reserves. In doing so, we see how this action undoes the link between changes in the money supply and changes in prices. The basic operations of the payment system are described in Chapter 12. This chapter permits us to look at the role that the payment system played in the 2007 Financial Crisis.

Chapters 13 and 14 focus on unexpected liquidity needs. In Chapter 13, we develop the Diamond-Dybvig model to study bank runs, essentially a model with multiple equilibria. Chapter 14 builds on this notion of liquidity shocks in which currency (money) plays a more explicit role. After discussing monetary policy, we talk about liquidity crises in a setting in which aggregate shocks exist.

IV. Government debt—Chaps 15, 16, and 18

This part of the course focuses on government financing considerations. In particular, how the government can borrow from people to finance current expenditures. Under what conditions does this borrowing violate the ability of the government to meets its interest obligations in the long run. We will study how government borrowing affects a society's ability to accumulate capital. Lastly, we discuss the government's incentive to inflate away its nominal obligations, after it has issued the debt. When government debt policy is involved, there is an explicit link between fiscal policy and monetary policy. There is a chance to talk about the fiscal theory of the price level.

Chapter 15 introduces government bonds and ability to permanently rollover government debt. Chapter 16 develops a simple model to illustrate Ricardian Equivalence; that is, the timing of taxes may not matter. Chapter 18 emphasizes the game of chicken between the central bank and the treasury that exists. We see the fiscal pressures to inflate. In this chapter, we are introduced to the concept of time inconsistency.

ACADEMIC INTEGRITY POLICY

Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor.

Academic Dishonesty includes but is not necessarily limited to the following:

A. Cheating or knowingly assisting another student in committing an act of cheating or other academic dishonesty.
B. Plagiarism which includes but is not necessarily limited to submitting examinations, themes, reports, drawings, laboratory notes, or other material as one's own work when such work has been prepared by another person or copied from another person.
C. Unauthorized possession of examinations or reserve library materials, or laboratory materials or experiments, or any other similar actions.
D. Unauthorized changing of grades or markings on an examination or in an instructor's grade book or such change of any grade report.

ACADEMIC INTEGRITY PLEDGE: *"I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work."* Students are expected to adhere to this pledge on all graded work whether or not they are explicitly asked in advance to do so.

The University has specific academic dishonesty administrative procedures. Although policy states that cases of academic dishonesty must be reported to the Office of the Provost for possible action, the instructor may assign a failing grade for the assignment or a failing grade for the course, or may adjust the grade as deemed appropriate. The instructor also may require the student to repeat the assignment or to perform additional assignments. In instances where academic integrity is in question, faculty, staff and students should refer to Article VI of the Faculty Handbook. Article VI is also available in the M-Book. Article VI provides further information regarding the process by which violations are handled and sets forth a standard of excellence in our community.

STUDENTS WITH DISABILITIES:

If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share with me, or if you need to make arrangements in case the building must be evacuated, please let me know as soon as possible.

If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please register with the Office of Disability Services (http://disabilityservices.missouri.edu), S5 Memorial Union, 882-4696, and then notify me of your eligibility for reasonable accommodations. For other MU resources for students with disabilities, click on "Disability Resources" on the MU homepage.

THE DEPARTMENT OF ECONOMICS EXAM ACCOMMODATION PROCEDURE FOR STUDENTS WITH DISABILITIES:

1. A disabled student who wants accommodations for an exam in Economics course must present the course instructor with a Letter of Accommodation from the Office of Disability Services (ODS) that documents the accommodations the student is entitled to receive. This should be done as early in the semester as possible.

2. For each accommodated exam, the student should bring the course instructor an Adaptive Examination Request Form from ODS. The course instructor is not required to accept such a request unless the student has first provided you with a Letter of Accommodation. ODS policies require that this form be provided to you at least 7 business days in advance for hourly examinations and by Thanksgiving Break (Spring Break) for fall (spring) final examinations.

3. The student section of the form must be properly filled out (including consistency with the Letter of Accommodation regarding the accommodations) and signed by the student. The course instructor must fill out the instructor portion including a note in the SPECIAL INSTRUCTIONS box and sign the form.

4. The white and pink copies of the form are given back to the student and the student must submit the white copy to ODS.

RECORDING LECTURES

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may not make audio or video recordings of course activity, except students permitted to record as an accommodation under Section 240.040 of the Collected Rules. All other students who record and/or distribute audio or video recordings of class activity are subject to discipline in accordance with provisions of Section

200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

Those students who are permitted to record are not permitted to redistribute audio or video recordings of statements or comments from the course to individuals who are not students in the course without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.