

Econ 4329/7329
The Banking System and the Money Market

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office hrs: Wednesday 3:00pm – 4pm and by appt.

Text: Modeling Monetary Economies, 5th ed. Champ, B., S. Freeman and J. Haslag, Cambridge: Cambridge University Press; The lectures will cover some material beyond the material covered in the textbook. Note that this additional material is required for the exams.

In this course, we start with the basics. People trade and the institutions, or technologies, which 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?

This is a three-credit hour course. The official prerequisites for this course are ECONOM 1015 or ABM 1042 or ECONOM 1000 or ECONOM 1051. 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 principal 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.

Writing Intensive Assignments

Assignment title I: Data collection and interpretation paper

Purpose and process of the assignment: To practice the important process of learning where to find data, download it, and plot the data. The students are required to collect two

different pieces of data (at least). The analysis will consist of documenting/describing any patterns (correlations) in the data and then carefully apply the lessons learned in class to interpret the correlations.

First/final draft # pages: 3

Instructor

Total length of the assignment: 3 pages (due September 21, 2023)

Assignment title II: Blog post on current topic

Purpose and process of the assignment: Blogs are valuable means used by practitioners to convey ideas on subjects that are extremely time sensitive. The most successful bloggers influence thinking and promote the expertise of the author. In this assignment, the student can either review another blog post or other media source or develop their thoughts on something that is presently in the news. At three pages, this is a rather lengthy blog post, but it can include data that either contradicts the conventional wisdom espoused in the other media posts and/or provides evidence that the student's point is valid.

First/final draft # pages: 3

Instructor

Total length of the assignment: 3 pages (Due October 19, 2023)

Assignment title: Term paper

Purpose and process of the assignment: In this term paper, I am asking the student to master the material provided in the class. In particular, analysts in the Federal Reserve System provide a briefing for the bank president prior to the FOMC meetings. The goal is to provide a comprehensive, but succinct, characterization of current economic conditions along with assessments of future conditions that bear on the current setting for monetary policy. The student will apply the models, data and analysis presented in class to characterize economic conditions and analyze how different monetary policy courses would generate future economic conditions. Then as a conclusion, the student will offer a policy recommendation to the bank president.

First draft # pages: 5-7 (due November 16, 2023)

Instructor

Revised draft # pages: 10 (due December 7, 2023)

Total length of the assignment: 15-17

Total pages for all assignments:

First draft: total # pages: 11-13

Revisions: total number of pages: 10

Total # of pages for all assignments: 21-23

Explain briefly the nature of the assignments which address a question for which there is more than one acceptable interpretation, explanation, analysis or evaluation: Each assignment provides the student with multiple options for interpreting current and historical economic conditions. Given that the macroeconomic are not generated in a laboratory, there are at least two "mainstream" interpretations of the conditions and

historical correlations. Thus, the student is asked to provide some “deep” rationale for the interpretation that they provide.

Percent of course grade determined by writing-intensive assignments: 45

Grading.

The grading in this course is based on performance in exams (midterm and final), writing assignments and problem sets. I will use the +/- grading metric.

Assignment	
Midterm Exam	20%
Final Exam	30%
Short-Writing Assignment I	10%
Short-Writing Assignment II	10%
Term Paper draft	5%
Term Paper Final Version	20%
Problem Sets	5%

Exams

Midterm Exam I October 26, 2023 and **Final (Comprehensive) Exam** Tuesday, December 12, 3-5 pm.

Problem Sets

I will assign 4-5 problem sets based on the material we have covered in class. Please return an original (handwritten or typed up) problem set solution on the due date. You may cooperate with your classmates on the problem sets (work in groups, discuss the solutions), but each student should return their own individual answers to problems (do individual write-ups).

Problem Sets will be assigned on the following dates:

August 29, 2023—Problem Set I (Due September 5, 2023)

September 19, 2023—Problem Set II (Due September 26, 2023)

October 3, 2023—Problem Set III (Due October 10, 2023)

October 31, 2023--Problem Set IV (Due November 7, 2023)

November 14, 2023--Problem Set V (Due November 28, 2023)

Statement regarding extra credit

There will be no extra credit assignments in this class.

Late-work policy

Assignment due dates are firm. For late-work, twenty percent of the total assignment points will be deducted from the score for each day late. For example, an assignment turned in one day late worth ten points will automatically be deducted two points. So if the student's score on the assignment is 8.5 points out of ten, one-day late means the student's score will be recorded as 6.5 points. Two days late and the same student score will be recorded as 4.5 points.

Attendance and Participation Policy

Attendance in class is purely voluntary but strongly recommended. I believe University students

should be treated as adults. Experience tells me that getting a passing grade without a stellar attendance record is very unlikely. If you miss a class for a non-emergency reason, it will be solely your responsibility to find out what was covered during that class. Please do not contact me for notes or assignments if you missed a class for a non-emergency reason. For the purpose of this policy participation in a university-sanctioned event such as an intercollegiate athletic event will be treated as an excused emergency.

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?

This material will be covered during the first four weeks of the semester. More specifically, the lectures between August 22 and ending the class meeting on September 14 (all dates are 2023).

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.

This material will be covered during the lectures between September 19-28, 2023

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.

This material will be covered during the lectures between October 3 and November 2, 2023.

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 meet 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.

This material will be covered during the lectures between November 7-16, We will have the week of Thanksgiving off and then resume the Week of November 28 through December 7, 2023.

Writing Requirements

There will be three major writing assignments in this class:

1. Data collection and interpretation paper (due in class 4th week of semester)
2. Blog post on current topic (due in class during 8th week of the semester)
3. Term Paper first draft due in class during 12th week of semester)

Please refer to the preliminary lecture plan above for deadlines for these assignments. All written assignments must be double-spaced 12-point font format, and with 1-inch margins and they must be submitted electronically via Canvas. More information about the submission will be provided later. The final versions of papers must use a consistent and formal style for acknowledging all sources. Missed or late work will receive the minimum score.

Let me be clear. Your writing assignments require that you demonstrate some mastery of the material presented in this semester. You will be docked if you apply IS/LM or versions of Aggregate demand and Aggregate supply that you learned in previous courses.

1. **Data Collection and interpretation paper** (3 pages): You will be asked to collect at least ten years' worth of two different macroeconomic data series and write a short essay discussing (i) how each series moved over time; and (ii) whether there is evidence of positive or negative

correlation between the two series and what the correlation means. For example, you may plot the PCE deflator and the monetary base.

2. **Blog post** (3 pages): Your assignment is to identify a current topic in the financial news and offer an analysis using one of the models we have developed in class to explain your take on the topic. It will be helpful to collect some data that matches with the topic. For example, why is the recent reports on bank profitability a surprise.

3. **Term Paper/Monetary policy briefing** (9-11 pages): Your goal is to write a document that could be used to brief a Federal Reserve Bank president on current economic conditions. This will involve between 5 and 7 charts that make your case of the current economic setting. In addition, you will provide a recommendation for what the president should advocate when he or she attends the next FOMC meeting. Your paper will be graded for the clarity of exposition, argumentation and the use of sources. You will be required to submit a preliminary outline of the data you plan on presenting for approval, as well as submit an (approximately 50% finished) first draft in addition, followed two weeks later by submitting the final paper. Note that the first draft is worth 5% of the course grade.

Suggested topics:

For the data collection, there are numerous options, but one could look at the relationship between money and prices (inflation scared us in 2022), money and output, different measures of money (monetary base compared with M1 or M2), the price of Bitcoin, and even exchange rates. If you want to do something completely different, I ask that you discuss it with me first.

For the blog post, the set of potential topics is as wide as the press stories. On a given day, there are always articles on the U.S. economy and recently, monetary policy has taken center stage. Your blog post should provide a clear presentation of the essence of a story and the conventional wisdom (journalists are not economists) that is being applied. You should then be able to explain why another interpretation of the evidence is valid so that people flock to your future blogs for your valuable insights.

ACADEMIC INTEGRITY

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 or the [Office of Academic Integrity](#).

Students are expected to adhere to this honor pledge on all graded work whether or not they are explicitly asked in advance to do so: "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."

ACADEMIC INQUIRY, COURSE DISCUSSION, AND PRIVACY

When students record something that happens in a course (a lecture, class discussions, meetings, etc.) it has an impact on the rights of the people captured in that recording. For example, the instructor and the University may have rights to the intellectual property contained in that recording. At the same time, another student who may have been recorded has the right to privacy. In order to protect these rights, MU employs a policy (called "[Executive Order No. 38](#)") to govern both situations you may encounter while taking a course – when an instructor allows recordings and when they do not.

Instructors should inform students which applies to their course:

- 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.
- In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded.

If the instructor doesn't specifically prohibit recording course activity, then the students are allowed to record and the same prohibitions regarding distribution apply.

Students who violate 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.

FERPA

The Family Educational Rights and Privacy Act (FERPA) of 1974 is a federal law designed to protect the privacy of educational records; to establish the rights of students to inspect and review their education records; and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. The law applies to any individual who is or has been in attendance at an institution and regarding whom the institution maintains educational records. Once students have matriculated to the University of Missouri, i.e. enrolled in course work, FERPA rights transfer to the student, regardless of the student's age.

Students can enable certain individuals to have access to their education records by signing a FERPA waiver. The consent must specify records to be disclosed, state the purpose of the disclosure and identify the party or class of parties to whom the disclosure must be made.

INTELLECTUAL PLURALISM

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the departmental chair or divisional director, the [Office of Academic Integrity](#), or the [MU Equity Office](#).

MENTAL HEALTH

The University of Missouri is committed to supporting student well-being through an integrated network of care, with a wide range of services to help students succeed. The MU Counseling Center offers professional mental health care and can help you find the best approach to treatment based on your needs. Call to make an appointment at 573-882-6601. Any student in crisis may call or go to the MU Counseling Center between 8:00-5:00 M-F. After hours phone support is available at 573-882-6601.

Visit our website at <https://wellbeing.missouri.edu/> to take an online mental health screening, find out about workshops and resources that can help you thrive, or learn how to support a friend.

NETIQUETTE

Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Our differences, some of which are outlined in the University's nondiscrimination statement, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course ambiance.

RELIGIOUS HOLIDAYS & ACCOMMODATIONS

Many religious faiths are represented in the student body. The University of Missouri does not restrict student free exercise of religion, unless 1) the restriction is in the form of a rule of general applicability, and does not discriminate against religion or among religions; and 2) it can be demonstrated that the application of the restriction is essential to furthering a compelling university interest, and is not unduly restrictive considering the relevant circumstance. The policy of the University attempts to strike a reasonable balance between accommodating the religious practice of students and meeting academic needs and standards.

Consult IDE's Guide to Religions for the form that can be used to notify an instructor of an absence associated with religious practice. Students are expected to notify their instructor(s) by completing and submitting this form in a manner that is consistent with the procedure outlined in the university's policy on student religious accommodation. Providing false information regarding sincerely held religious practice is a violation of the university's Standard of Conduct and will not be tolerated.

NONDISCRIMINATION POLICY (PROHIBITED DISCRIMINATION)

The University of Missouri does not discriminate on the basis of race, color, national origin, ancestry, religion, sex* (including gender), pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. Discrimination includes any form of unequal treatment such as denial of opportunities, harassment, and violence. *Sex discrimination includes rape, sexual assault, sexual harassment, unwanted touching, stalking, dating/domestic violence, stalking, and sexual exploitation. Retaliation for making or supporting a report of discrimination or harassment is also prohibited.

If you experience discrimination or sexual violence, you are encouraged (but not required) to report the incident to the MU Office for Civil Rights & Title IX. Learn more about your rights and options at civilrights.missouri.edu or call 573-882-3880. You also may make an anonymous report online.

If you are a survivor, or someone concerned about a survivor, and need immediate information on what to do, see [RSVP Resources page](#). Both the [Office for Civil Rights & Title IX](#) and the [RSVP Center](#) can provide assistance to students who need help with academics, housing, or other issues.

In the event that you choose to write or speak about having experienced any of these forms of prohibited discrimination or harassment, Mizzou policies require that, as your instructor, I share this information with the MU Office for Civil Rights & Title IX. They will contact you to offer information about resources, as well as your rights and options as a member of our campus community.

STUDENTS WITH DISABILITIES

The goal of the University of Missouri is to ensure an inclusive learning environment for all students. [The University of Missouri Disability Center](#) provides services and accommodations for students to participate fully in the learning experience and to experience equitable evaluation of their performance. Students (including online students) with a documented disability can contact the Disability Center to establish an [Accommodation Plan](#). Documented disabilities include *hearing, vision, mobility, learning and attention, psychological health, and physical health*. Students' accommodations are implemented with the input of students to maximize the learning experiences. The MU Disability Center keeps information about a student's disability confidential.

Please notify me of your eligibility for accommodations as soon as possible. Additionally, if there are aspects of the course that present as barriers, such as inaccessible course content (e.g., learning assessments, PowerPoints, non-captioned videos, images, tables, PDFs) or if you need an immediate accommodation due to an injury, please contact me or the Disability Center as soon as possible.

DECREASING THE RISK OF COVID-19 IN CLASSROOMS AND LABS

If you have tested positive for COVID-19 or have been identified as someone who needs to quarantine, do not attend class in person until the mandated period for isolation or quarantine has passed. Your instructor will work with you on arrangements to access class material while you are in isolation or quarantine.

Additionally, if you are experiencing any COVID-related symptoms, or are otherwise feeling unwell, do not attend in-person classes and contact your health care provider and/or student health immediately. COVID symptoms include: fever greater than 100.4 or chills; cough, shortness of breath or difficulty breathing; fatigue; unexplained muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea or vomiting; diarrhea.

Instructors or students with concerns about how a student is following any University-mandated COVID-19 policies and protocols should report those concerns to the Office of the Dean of Students. Concerns can be documented on a COVID Safety Measures Reporting Form.

Please consult Show Me Renewal for further guidelines. This statement will be updated as information changes.

OPTIONAL STATEMENT FOR FACE-TO-FACE COURSES

This course is listed in the course catalog as a face-to-face course. The instructional activities planned for this course are designed for face-to-face interactions with your classmates and instructors. These activities often do not translate well over online video platforms. Because of this, it is up to instructor discretion whether asynchronous instruction or recordings of class activities are an appropriate substitute for regular

classroom attendance. For specifics regarding excused absences or disabilities accommodations, please see the relevant section of this syllabus.