

Econ 9430 Advanced Money and Banking

Fall 2022
TuTh 2pm – 3:15pm
Middlebush 308

Instructor: Chao Gu
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Office hour: Th 3:30-4:30pm

In this course, we develop themes in monetary economics. In particular, we further our understanding of the functions of money and other means of payments in modern theories.

Reference book:

- [1] Rocheteau and Nosal, Money, Payments, and Liquidity, 2nd edition, MIT Press, 2017
- [2] Walsh, Monetary Theory and Policy, MIT Press, 2010
- [3] Friedman and Hahn, Editors, Handbook of Monetary Economics, North Holland, 2010.
- [4] Kareken and Wallace, Editors, Models of Monetary Economies, Minneapolis, Federal Reserve Bank of Minneapolis, 1980.

Course Requirements:

I assign problem sets periodically. Although problem sets are not part of your grade, you are urged to complete each of them as they are essential to understanding the course materials. Grade will be determined by two presentations (25% each), and the take-home final (50%). Select one paper from Unit 3 of “Course Outline” for Presentation 1. Select one paper from Unit 6 of “Course Outline” for Presentation 2. Presentation 1 will take place in the weeks of October 3 and 10. Presentation 2 will take place in the weeks of November 28 and December 5.

Make-up Policy:

Make-up exams will generally not be given. A request for alternative arrangements must be in writing and must be accompanied by appropriate documentation for not taking the scheduled exam.

Course Canvas:

There is a course canvas to support the class (<https://missouri.instructure.com>). Course information, homework and announcements can be found on the course canvas.

Technical Skills Required

You are expected to have minimal technical skills such as using Zoom, Canvas, scanning and uploading documents. Having reliable access to the Internet is necessary.

Online Course Materials

All online contents of this class are copyrighted and are not to be shared or used outside of this class.

Course Outline:

1. Introduction

Samuelson, "What Classical and Neo-classical Monetary Theory Really Was," *Canadian Journal of Economics*, 1968, 1-15.

Cass and Shell, "In Defense of a Basic Approach," Kareken and Wallace (eds.), *Models of Monetary Economies*, 251-260.

Baumol, "The Transaction Demand for Cash: An Inventory Theoretic Approach," *Quarterly Journal of Economics* 66, 1952, 546-556.

Shell, "Notes on the Economies of Infinity," *Journal of Political Economy* 79, 1971, 1002-1011.

Lucas, "Equilibrium in a Pure Currency Economy," Kareken and Wallace (eds.), *Models of Monetary Economies*, 131-145.

Bewley, "The Optimal Quantity of Money," Kareken and Wallace (eds.), *Models of Monetary Economies*, 169-210.

Townsend, "Models of Money with Spatially Separated Agents," Kareken and Wallace (eds.), *Models of Monetary Economies*, 265-303.

2. Matching model of money

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

Trejos, and Wright, "Search, Bargaining, Money and Prices," *Journal of Political Economy* 103, 1995, 118-141.

Largos, and Wright, "A Unified Framework for Monetary Theory and Policy Analysis," *Journal of Political Economy* 113, 2005, 463-484.

3. Money and credit

Kocherlakota, "Money is Memory," *Journal of Economic Theory* 81, 1998, 232-251.

Kocherlakota and Wallace, "Incomplete Record-Keeping and Optimal Payment Arrangements," *Journal of Economic Theory* 81, 1998, 272-289.

Cavalcanti and Wallace, "Inside and Outside Money as Alternative Media of Exchange," *Journal of Money, Credit and Banking* 31, 1999, 443-457.

Kehoe and Levine, "Debt-constrained Asset Markets," *Review of Economic Studies* 60, 1993, 865-888.

Alvarez and Jermann, "Efficiency, Equilibrium, and Asset Pricing with Risk of Default," *Econometrica* 68, 2000, 775-798.

Gu, Mattesini, Monnet, and Wright. "Endogenous Credit Cycles." *Journal of Political Economy* 121, 2013, 940-965.

Gu, Mattesini and Wright. "Money and Credit Redux." *Econometrica* 84, 2016, 1-32.

4. Banking

Diamond and Dybvig, "Bank Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy* 91 (1983), 401-419.

Berensten, Camera, and Waller, "Money, Credit and Banking," *Journal of Economic Theory* 135, 2007, 171-195.

Williamson, "Limited Participation, Private Money, and Credit in a Spatial Model of Money," *Economic Theory* 24, 2004, 857-875.

He, Huang, and Wright, "Money, Banking and Monetary Policy," *Journal of Monetary Economics* 55, 2008, 1013-1024.

Gu, Mattesini, Monnet, and Wright. "Banking: A New Monetarist Approach." *Review of Economic Studies* 80, 2013, 636-662.

5. Financial fragility

Diamond and Dybvig, "Bank Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy* 91 (1983), 401-419.

Wallace, "Another Attempt to Explain an Illiquid Banking System: The Diamond and Dybvig Model with Sequential Service Taken Seriously," *Federal Reserve Bank Minneapolis Quarterly Review* 12, 1988, 3-16.

Wallace, "A Banking Model in which Partial Suspension is Best," *Federal Reserve Bank Minneapolis Quarterly Review* 14, 1990, 3-16.

Peck and Shell, “Equilibrium Bank Runs,” *Journal of Political Economy* 111, 2003, 103-123.

Green and Lin, “Implementing Efficient Allocations in a Model of Financial Intermediation,” *Journal of Economic Theory* 109, 2003, 1-23.

Andolfatto, Berentsen and Martin, “Money, Banking and Financial Markets,” *Review of Economic Studies*, forthcoming.

Gu, Monnet, Nosal and Wright, “On the Instability of Banking and Other Financial Intermediation,” working paper.

6. Additional readings

Aruoba, “Money, Search and Business Cycles.” *International Economic Review* 52, 2011, 935-959

Aruoba, Waller, and Wright, “Money and capital,” *Journal of Monetary Economics* 58, 2011, 96-116.

Berentsen, Menzio, and Wright, “Inflation and Unemployment in the Long Run,” *American Economic Review* 101, 2011, 371-398.

Chiu, Davoodalhosseini, Jiang and Zhu, “Bank Market Power and Central Bank Digital Currency: Theory and Quantitative Assessment,” 2019, working paper.

Choi and Rocheteau, “Money Mining and Price Dynamics,” *American Economic Journal: Macroeconomics*, forthcoming.

Head, Liu, Menzio, and Wright, “Sticky Prices: A New Monetarist Approach,” *Journal of the European Economic Association* 10, 2012, 939-973.

Keister and Sanches, “Should Central Banks Issue Digital Currency?” 2020, working paper.

Lagos and Rocheteau. “Liquidity in Asset Markets with Search Frictions.” *Econometrica* 77, 2009, 403-26.

Lagos, Rocheteau and Wright. “Liquidity: A New Monetarist Perspective,” *Journal of Economic Literature* 55, 2017, 371-440.

Lester, Postlewaite, and Wright. “Liquidity, Information, Asset Prices, and Monetary Policy.” *Review of Economic Studies* 79, 2012, 1209-1238.

Li, Rocheteau, and Weill, "Liquidity and the Threat of Fraudulent Assets," *Journal of Political Economy* 120, 2012, 815-846.

Rocheteau and Wright. "Money in Search Equilibrium, in Competitive Equilibrium, and in Competitive Search Equilibrium." *Econometrica* 73, 2005, 175-202.

Sanches and Williamson. "Money and Credit with Limited Commitment and Theft." *Journal of Economic Theory* 145, 2010, 1525-1549.

Williamson and Wright, "Barter and monetary exchange under private information," *American Economic Review* 84, 1994, 104-123.

Williamson. "Liquidity, Monetary Policy, and the Financial Crisis: A New Monetarist Approach." *American Economic Review* 102, 2012, 2570-2605.

Williamson and Wright. "New Monetarist Economics: Models." Benjamin Friedman and Michael Woodford, eds., *Handbook of Monetary Economics*. Volume 3A.

Williamson and Wright. "New Monetarist Economics: Methods." *Federal Reserve Bank of St. Louis Review* 92, 2010, 265-302.

Williamson, "Central Bank Digital Currency: Welfare and Policy Implications," 2019, working paper.

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."

ACCOMMODATION OF 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.

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](#).

ACADEMIC INQUIRY, COURSE DISCUSSION, AND PRIVACY

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.

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.

NONDISCRIMINATION POLICY

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.

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. Download Sanvello, a phone app that teaches skills and strategies to help you maintain good mental health. Log in with your Mizzou e-mail to unlock all the tools available through Sanvello at no additional cost to you.

LAST DATE OF ATTENDANCE AND IMPACT ON FINANCIAL AID

Federal regulations for financial aid require the student financial aid office to document the attendance of students who have received federal financial aid if they do not successfully complete any courses during the term. As a result, the last day of attendance (or activity) for any student receiving an F, U, or FN in this course will be recorded in the grade roster and reported to the financial aid office. **Based on the last day of attendance, students may be required to repay a portion of their financial aid award for the semester.**

A student's last day of attendance (or activity) is the last day on which a student participates in an academically-related activity at the University. These include:

- Attendance in class, lab, or an instructor's office hours
- The completion of an assignment or examination
- An appointment with a professor or e-mail correspondence regarding course material
- (Online courses only) For online courses, the last day a student submits an assignment or exam. Only logging into an online class without participating is not acceptable for last day of attendance

Please note that discussing a course withdrawal or notifying the instructor of an absence in class does not constitute participation for financial aid purposes. Moreover, any office hour visits or email correspondence must be related to the course material.

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 standard.

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.

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 note that sub-groups of students may have specific needs during COVID or online learning. One group is international students, who may be participating in class from their home countries and in different time zones. The instructor may be able to make reasonable accommodations to support the success of international students currently living in time zones that differ significantly from that of Columbia, MO. International students are expected to consult with their instructor about possible accommodations as soon as possible after the start of the course.

- [Info for Students & Families](#)
- [Info for Faculty](#)
- [Info for Staff](#)