

University of Waterloo
Department of Economics
Econ 406, Section 1
Money and Banking 2
Winter 2022

Instructor Information

Instructor: Jean-Paul Lam

Online class time: Monday 1:00-2:20 pm

Office hours (online): Wed 9:10-12:10 pm and by appointment

Email: jplam@uwaterloo.ca

Teaching assistant: TBA

Course Description

This course will be taught remotely using a combination of synchronous meetings and lectures on MSTeams on Monday from 1:00 to 2:20 pm and asynchronous lectures and videos posted on Learn. You are expected to attend to the synchronous meetings.

The lecture notes for the course will be posted on UW-LEARN. I will also post some videos that will cover specific parts of the lecture notes. In addition to the lecture notes and book chapters, there are several required readings for this class.

The course will cover various topics on money, monetary economics and monetary policy. Topics include: what is money? What forms does money take? The role of money in macro models, price rigidities, optimal monetary policy, liquidity traps, zero lower bound, rules versus discretion, what a central bank should target and how to identify a monetary shock in a VAR?

Prerequisites: Econ 306, Econ 393; Econ 332 or one of STAT 221, STAT 231, STAT 241

Course Learning Outcomes

- Describe what money is and why money is a special asset
- Understand how money solves the double coincidence of wants in a simple model
- Identify why money is neutral and sometimes superneutral in the long-run
- Identify optimal monetary policy in the presence of sticky prices
- Understand optimal monetary policy in the presence of the zero-lower bound
- Identify monetary policy shocks in a vector autoregression model with short-run identification

Office Hours

I will hold virtual office hours every Wednesday from 9:10-12:10 pm for both sections of Econ 406. You can also make an appointment with me by email. When making an appointment, please be mindful of the time difference if you are in a different time zone.

I will use MSTEAMS as the main platform for office hours and for teaching synchronously. As this course is relatively technical and involves macro models and econometrics. In addition to the class topics, I am also happy to answer questions about current economic events, as I would often do in class.

Often, I will use the office hours to go over sample questions and examples that I will post.

I will answer any email within two business days. If I cannot answer to your questions by email, I will schedule a virtual call with you by Teams within two business days.

Textbooks

There are no specific textbooks that I will use for this course. However, if you plan to go to grad school, I recommend buying the textbook by Carl Walsh.

- Walsh, Carl E., *Monetary Theory and Policy*, 4th edition, Cambridge: MIT (the third edition is also acceptable)

Evaluation

- 5 assignments worth 55%
- Data project worth 20%
- 2 midterms held during class time, each worth 12.5% for a total of 25%

2 midterms worth 25 percent of your total marks.

The midterms will be held during class time:

- Midterm 1: Monday February 14, 1:00-2:20 pm (worth 12.5%)
- Midterm 2: Monday, April 4, 1:00-2:20 pm (worth 12.5%)

5 assignments worth 55 percent of your total marks.

You are expected to complete the assignments and the data project on your own. I am happy to answer any questions you may have on the assignments.

- Assignment 1: due Monday, January 24, 4 PM EST, worth 7%
- Assignment 2: due Monday, February 7, 4 PM EST, worth 12%
- Assignment 3: due Monday, February 28, 4 PM EST, worth 12%
- Assignment 4: due Monday, March 14, 4 PM EST, worth 12%
- Assignment 5: due Monday, March 28, 4 PM EST, worth 12%

The assignments will be a mixture of math problems, data collection and analysis, short answer questions and open-ended questions. I understand and recognize all the intricacies and challenges of learning remotely. For this reason, I am providing you with one slip day that you can use at your discretion to hand in your assignment one day late. I will not accept any late assignment or grant any other extensions unless you are sick (documentation is needed for the whole period) for the assignment's duration.

A data project worth 20 percent of your total marks.

- Due on Thursday April 14, 2022, 4 pm, EST, worth 20%

The project will involve using data and Vectorautoregressions to answer a specific macroeconomic question. Details about the project will be posted well in advance. macroeconomic data and one of the tools we will learn to answer a specific question or issue.

How to hand in assignments and the data project?

Please hand in all your assignments and the short data project via Dropbox in Learn. There will be dedicated folders for each assignment, midterm and the data project. If you have technical difficulties with Learn and cannot submit your assignment by the deadline, please send me an email. I will be checking my email until midnight the day the assignments are due. Remote teaching has many challenges, and since this is a big class, I will ask for your cooperation to submit your assignments on time.

Lecture Topics and Readings

I will post the lecture notes and readings in advance on UW LEARN (<https://learn.uwaterloo.ca>). I will also post videos on various parts of the lecture notes and topics.

1 Covid-19: Effects on the Canadian economy and the response of the Bank of Canada

Readings:

- Covid-19: Actions to Support the Economy and Financial System.
<https://www.bankofcanada.ca/markets/market-operations-liquidity-provision/covid-19-actions-support-economy-financial-system/>

2 What is money?

- Why is money important?
- Barter economy versus a monetary economy
- Correlation: money, output and prices in the short-and-long-run
- Central bank digital currency and cryptocurrencies

Readings:

- Gabriel Chodorow-Reich, Gita Gopinath, Prachi Mishra and Abhinav Narayanan, 2019. “Cash and the Economy: Evidence from India’s Demonetization.” NBER Working Paper No 25370
- Walsh, Ch 1, sections 1.2, 1.3.4, 1.3.6, 1.4, 1.4.1 and 1.4.2

3 General Equilibrium Models with money and Optimal Inflation

- Monetary neutrality and superneutrality
- What is the optimal rate of inflation?

Readings:

- CW, Chapter 2, sections 2.1, 2.2 (and sub-sections), 2.5 (and sub-sections)
- Claudio Borio, 2015. “Revisiting Three Intellectual Pillars of Monetary Policy Received Wisdom”, the whole paper is an interesting read but if you have limited time, read parts II and III. <https://www.bis.org/speeches/sp151112.pdf>

4 New Keynesian Models and Optimal Monetary Policy

- The New Keynesian model
- Optimal policy under commitment and discretion
- What to target? IT, PLT, Average inflation, NGDP?
- Effective lower bound and balance sheet policies

Readings:

- Clarida, R., J. Galí, and M. Gertler. 1999. “The Science of Monetary-Policy: A New Keynesian Perspective.” Journal of Economic Literature.
- “What Academics Think of Central Banks’ Current Inflation Targets and Other Objectives” <https://voxeu.org/article/what-academics-think-central-banks-current-inflation-targets-and-other-objectives>
- “The Fed’s New Policy Framework: A Major Improvement but More Can be Done” <https://voxeu.org/article/fed-s-new-policy-framework-major-improvement-more-can-be-done>
- Walsh, Ch 8, sections 8.1-8.4, Ch 11, section 11.1-11.5

5 Structural Vector Autoregressions

- Short-term identification
- What happens after a monetary policy shock?

Readings:

- Lutz Kilian and Helmut Lütkepohl, 2019. “Structural Vector Autoregressive Analysis”, Cambridge University Press, 2017, chapter 1, section 1.1, chapter 4, sections 4.1, 4.2, chapter 8, sections 8.1-8.4.4

Software

I will use Matlab (<https://uwaterloo.ca/information-systems-technology/news/matlab-access-faculty-researchers-students-and-staff>) for this course. You can also use the online version of Matlab but some toolboxes may not work with the online version.

A good place to start learning Matlab is the Mathworks website where there are plenty of examples and a tutorial. The website can be accessed at (<https://matlabacademy.mathworks.com/R2020a/portal.html?course=gettingstarted>)

Policy of Remarking Tests

If you want me to remark your work because you suspect a mistake, all regrade requests must be submitted within one week of receiving your work back. In your request, you must clearly indicate the reasons why you want your work to be regraded. Note that your grade may go up, down or stay the same as a result of regrading your work.

Statements and links to be included on all course outlines:

[Economics Department Deferred Final Exam Policy](#)

Cross-listed course

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. See the [UWaterloo Academic Integrity Webpage](#) and the [Arts Academic Integrity](#) webpage for more information.

Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70, Student Petitions and Grievances, Section 4](#). When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline

A student is expected to know what constitutes academic integrity to avoid committing academic offenses and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. For information on categories of offenses and types of penalties, students should refer to [Policy 71, Student Discipline](#). For typical penalties check the [Guidelines for the Assessment of Penalties](#).

Appeals

A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 - Student Appeals.

Accommodation for Students with Disabilities

Note for students with disabilities: The [AccessAbility Services office](#), located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

Academic freedom at the University of Waterloo

Policy 33, Ethical Behaviour states, as one of its general principles (Section 1), “The University supports academic freedom for all members of the University community. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base teaching and research on an honest and ethical quest for knowledge. In the context of this policy, 'academic freedom' refers to academic activities, including teaching and scholarship, as is articulated in the principles set out in the Memorandum of Agreement between the FAUW and the University of Waterloo, 1998 (Article 6). The academic environment which fosters free debate may

Mental Health Support

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health supports if they are needed.

On Campus

- Counselling Services: <mailto:counselling.services@uwaterloo.ca>/ 519-888-4567 ext. 32655
- [MATES](#): one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services

- Health Services Emergency service: located across the creek from Student Life Centre

Off campus, 24/7

- [Good2Talk](#): Free confidential help line for post-secondary students. Phone: 1- 866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519- 749-433 ext. 6880
- [Here 24/7](#): Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- [OK2BME](#): set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online at the Faculty of ARTS [website](#)

Download [UWaterloo and regional mental health resources \(PDF\)](#)

Download the [WatSafe](#) app to your phone to quickly access mental health support information

Intellectual Property

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo.

Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course
- (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The

intellectual property rights owner deserves to know (and may have already given their consent).

Chosen/Preferred First Name

Do you want professors and interviewers to call you by a different first name? Take a minute now to verify or tell us your chosen/preferred first name by logging into WatIAM.

Why? Starting in winter 2020, your chosen/preferred first name listed in WatIAM will be used broadly across campus (e.g., LEARN, Quest, WaterlooWorks, WatCard, etc). Note: Your legal first name will always be used on certain official documents. For more details, visit [Updating Personal Information](#).

Important notes

- If you included a preferred name on your OUAC application, it will be used as your chosen/preferred name unless you make a change now.
- If you don't provide a chosen/preferred name, your legal first name will continue to be used.

Territorial Acknowledgement

We acknowledge that we are living and working on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes six miles on each side of the Grand River.