

Department of Economics

ECON 5606 W
Foundations of Monetary Economics
2024 Winter

Instructor: [Christopher Gunn](#)
Office: D-891 Loeb
Telephone: 613-520-2600 x 3748
Email: chris.gunn@carleton.ca
Office hours: Wednesday, 5:25 pm – 6:25 pm

TA: N/A
Office: N/A
Email: N/A

Lectures: Wednesday, 2:35 pm – 5:25 pm
Course Website: [Brightsapce](#)

Course Description

This course introduces students to micro-founded theoretical models used by macroeconomics to study the functions and role of money in the macro-economy, focussing primarily on modern intertemporal general equilibrium models. This is a course of breadth as opposed to depth: rather than spending the entire course going deep into a given model, we will study various different frameworks macroeconomists use to study monetary issues, including OLG models of money, basic search models of model, flexible-price GE models of money, and the basic New Keynesian model.

Using these models, we will explore general questions such as why intrinsically worthless pieces of paper can have positive value in equilibrium, why agents hold money over time when other assets provide a higher return, how is the price-level and/or inflation determined, and how money can affect the real economy in the short-run.

Finally, we will culminate by using recent literature to address a very specific applied question current of recent relevance in 2024: What caused the post-pandemic inflation surge?

Course Format

This is an **in-person** course. All lectures and exams will be **in-class only** and lectures will not be recorded.

Recommended Texts

- Carl E. Walsh, *Monetary Theory and Policy*, fourth edition, MIT Press 2017.
- Jordi Gali, *Monetary Policy, Inflation and the Business Cycle*, second edition, Princeton University Press, 2015

Supplementary Resources

- Bruce Champ and Scott Freeman, *Modeling Monetary Economics*, Cambridge, 2001/2011. Note: the 2001 version is available as an Electronic Resource from the Carleton library. References to sections of this text in the outline below pertain to the 2001 version.
- David Romer, *Advanced Macroeconomics*, McGraw-Hill, 2012
- Olivier Jean Blanchard and Stanley Fischer, *Lecture on Macroeconomics*, MIT Press, 1989
- Gregor Smith notes <http://qed.econ.queensu.ca/pub/faculty/smithgw/econ815A/>

Evaluation

Each student's grade will be calculated as follows:

- | | |
|--|-----------------------------|
| • Three written assignments | 7.5% (2.5% each assignment) |
| • Midterm Exam | 25% |
| • Research paper proposal | 2.5% |
| • Research paper (including interview) | 45% |
| • Research paper presentation | 10% |
| • Class participation | 10% |

Assignments

The tentative assignment due-dates are as follows:

- Assignment 1 due: **Wednesday, February 7**
- Assignment 2 due: **Wednesday, February 28**
- Assignment 3 due: **Wednesday, March 20**

The assignments will typically consist of short-answer questions and mathematical derivations/calculations. While students are permitted to discuss the assignment material with classmates, each student must ensure that their submitted work is their own. Please see the statement on plagiarism below.

Assignments must be submitted by 11:59 pm on the due date as a soft-copy file upload **within Brightspace** (ideally as a pdf). Students who complete their assignment in hard-copy format (ie paper) should scan their hard-copy assignment and upload the soft-copy scan of the file (there are number free

scanning-apps for smartphones that will create pdf files from scans, such as “Genius Scan”). Late assignments will receive a mark of zero.

I will post the assignments approximately two weeks in advance, and therefore **only in rare cases** where a student can document a compelling reason for a **prolonged** absence will students be excused from handing in an assignment. In such a rare case, the weight of the assignment will be transferred to the final exam.

The assignments *may* be marked for completeness only.

Research Paper: Proposal, Paper & Presentation

One goal of this exercise is to start to learn how to do macroeconomic research. Another goal is to learn a little bit about an important current topic. Research ideas can originate in numerous ways, but one very common approach is to start with a question that needs an answer. The macroeconomic researcher then essentially generates new knowledge through empirical and/or theoretical analysis to answer that question. Sometimes the questions can be novel; other times the questions can be more common. In the latter cases, common questions worth pursuing are typically very pressing and important by necessity. For example, perhaps there is a pressing economic question puzzling society, and many other researchers have already addressed the question. An individual researcher’s task for such a question is to generate a novel take on that question, or generate new knowledge about aspects of the question that having not yet been explored or remain unresolved. Such an approach can be challenging because it can be difficult to create original knowledge when so many others have already attempted to answer the same question. This should not be a reason however to shy away from addressing such a question. Pressing questions need answers, and often getting to an answer requires countless economists tackling the same question, building off and challenging others’ results. In the process, as a by-product of pursuing the general question, the research process very often leads to other related and more specific novel questions that an individual researcher can address.

In this research paper, you will address a general and pressing question: what caused the post-pandemic inflation surge?

Students will write a paper that addresses this question by reading and synthesizing academic journal publications/working papers on the subject. The paper should be approximately 8-10 pages double-spaced. **MA students** must reference at least 8 articles, at least 6 of which were written after 2020. **PhD students** must reference at least 12 articles, at least 9 of which were written after 2020.

Additionally, PhD students should include an additional 4 pages outlining one or a combination of the following four components: (i) a detailed discussion of opportunities for new research to address this question, including a high-level sketch of a research plan, (ii) an analytical analysis of a theoretical model from the chosen literature (or modification thereof) to address this question, (iii) a computer simulation of a theoretical model from the chosen literature (or modification thereof) to address this question; (iv) an empirical analysis to address this question.

Note for PhD students: Starting a research process by addressing a general question that numerous other experienced researchers are currently addressing or have recently addressed isn't necessarily the optimal approach for PhD students beginning a PhD dissertation. Often it is helpful to begin with "little victories" to gain confidence, learn the process with lower risk (but lower reward) propositions so that one doesn't end up with nothing after a year. But for this project in this course we have the luxury of being somewhat shielded from the demands of a PhD dissertation. The project is more forgiving, and allows for more risk, and more creativity. It is OK if you end up with "no result". At the very least, you will learn about the particular question "what caused the recent inflation" based on the work of other researchers. At best, you will learn to stimulate some research creativity in yourself, and perhaps give rise to a corollary question that you can pursue on your own.

A paper proposal is due **Monday, March 13, 2023 (but can be submitted earlier)**. The proposal will consist of one-page indicating a topic of interest, expected scope/breadth of the review, and for PhD students, a high-level indication of the research extension (ie components (i)-(iv) above). The final paper is due **Wednesday, April 3, 2024**. In addition, students will present a 10-15 min overview of their literature review to the class during the last class (exact timing depends on number of students).

Proposals or final papers submitted after deadline will be deducted 5% marks per day late, beginning immediately after the deadline.

Important note: *In my marking of your paper I will place a fair amount of weight on creativity and originality. We live in an age where "information cheap", and indeed one can generate works from AI-based large language models, but I want to see you develop your own argument, voice and approach. Relying too much on simple internet searches or AI-generated arguments will invariably lead to you having an "average" and unoriginal argument and approach, and as a result, a poor mark on this paper. Finally, while AI-assisted research can be a very effective tool, the final product must be completely your own. To help incentivise this, I may choose to interview each student individually to ask them questions about their research findings weight part of the mark to this interview.*

In-class exam

There will be one in-class midterm exam. The exam will take place during regular class time, tentatively scheduled for **Monday, March 6, 2023**. Students who can document a compelling reason for missing the midterm exam must complete a Self-Declaration for Academic Considerations form (<https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf>) and will still be excused and the weight of the exam will be automatically added to the final exam. There will be no deferred exams.

Final exam

There will be no final exam this term.

Course Outline and Schedule

The outline below lists the topics that we will cover, and the related reading. Where there are exclusions to the readings, I will note them during the term in Brightspace.

1. Introduction
 - Course intro and objectives
 - A P.O.W. example monetary economy
 - *Radford, R.A., “The economic organisation of a P.O.W. camp”, *Economica*, 1945.
2. Empirical evidence
 - Overview of evidence on money, prices and output
 - *Walsh Ch.1
3. Money in an overlapping generations model
 - Independent review: 2-period model economies
 - *Smith notes, Chapter 2, Section (a), (b) and (c)
 - A simple OLG model of money
 - *Champ and Freeman Ch.1
 - Blanchard and Fischer Ch.4. Sec. 4.1
 - Barter and commodity money
 - Champ and Freeman Ch.2
 - Inflation
 - Champ and Freeman Ch.3
 - Blanchard and Fischer Ch.4. Sec. 4.1
 - Money and other assets
 - Champ and Freeman Ch.6
 - Blanchard and Fischer Ch.4. Sec. 4.1
4. Search
 - Search models of money
 - Walsh Ch.3
 - Kiyotaki, N. and R. Wright, “A search-theoretic Approach to Monetary Economics”, *American Economic Review*, 1993.
 - Lagos, R. and R. Wright, “A unified framework for Monetary Theory and Policy Analysis”, *Journal of Political Economy*, 2005.
5. Flexible price dynamic GE monetary models
 - Inflation-determination without money
 - Gali Ch.2
 - Short-cut frictions to motivate money holdings in GE
 - Money in the utility function
 - Aside: Neoclassical growth model and dynamic optimization
 - *Smith notes, Chapter 5 Section (a)

- Aside: The Real Business Cycle Model
 - *Smith notes, Chapter 5 Section (b)
 - Romer Ch.5
 - Money in the utility function in dynamic GE
 - Walsh Ch.2
 - Transaction costs
 - Transaction cost GE models
 - *Walsh Ch.3
 - Cash-in-advance
 - Cash-in-advance in dynamic GE
 - Walsh Ch.3
6. Fiscal theory of the price level
 - Various sources
 7. Money and output in the short-run: nominal rigidities
 - Exogenous nominal rigidity
 - Romer Ch.6 Sections 6.1 and 6.2
 - Micro-foundations of nominal rigidities
 - Walsh Ch.6
 - New Keynesian models and monetary policy
 - Gali Ch. 3
 - Walsh Chapter 8
 8. Money and output in the short-run: real rigidities
 - Lucas surprise model
 - Walsh Ch.5
 - Romer Ch.6 Section 6.9
 - Limited participation
 - Walsh Ch.5

*Please note that I reserve the right to make modifications to the list of content as the term proceeds. If I make a modification, I will provide advance warning through Brightspace.

Plagiarism

Please be aware that plagiarism is a serious offence at Carleton and should be recognized and avoided. The University Academic Integrity Policy defines plagiarism as “*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.*” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds,

artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one's own; and
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

I wish to emphasize that using AI tools to produce any assessed content in this course (including the any portion of the Research Paper) is considered violation of academic integrity standards.

Treatment of Course Materials

Student, teaching assistant or professor materials created for this course (including but not limited to lecture slides, presentations and posted notes, labs, case studies, assignments, exams and solutions to assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline