

International Macroeconomics

Module 2, 2021-2022

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Course information

Instructor's Office Hours: by appointment

TA: TBA

Course description

The US dollar plays the central role in the global trade, financial and monetary systems today. As a result, the US enjoys an “exorbitant privilege” from the hegemon status of its currency. What are these benefits? Why it is the US that receives them and not someone else? What makes the US dollar a safe asset? How stable is the international monetary system with the one global currency at its center? Who will replace the US dollar as the hegemon currency?

For a long time, the Chinese yuan was considered to be the main contender to replace the dollar as the hegemon currency. However, a recent and ongoing revolution in payment systems threatens to make both the dollar and the yuan obsolete. Private companies like Amazon and Alibaba issue digital tokens that potentially compete with bank debit accounts. To overcome this challenge, many central banks are planning to issue their own digital currencies. What is their optimal design? Are they going to disrupt the existing banking sector?

Methodologically, much of this course will rely on continuous time tools and stochastic calculus. Thus, it provides a good illustration of how these methods are used in economics and finance.

Course requirements, grading, and attendance policies

Class attendance and participation are encouraged, but not required. The course grade will be based on homework assignments (40% of the grade) and a final project (60% of the grade). Homework assignments may include problem sets, questions on some of the assigned papers, coding assignments, and referee reports. In the final project, students will try to replicate and extend a result from one of the papers. Topics for final projects have to be approved by the instructor. The final projects may be completed in teams of up to three people.

Course contents

1. Traditional currencies: a risk perspective
 - 1.1. Real models with financial frictions and uninsurable idiosyncratic risk
 - 1.2. Money as a store of value against idiosyncratic risk
 - 1.3. The role of intermediaries in monetary transmission
 - 1.4. Determination of safe assets, competition among currencies
 - 1.5. Runs and sudden stops, stability of the international monetary system
2. Private and digital currencies
 - 1.1. Initial coin offerings: sales and pricing strategies, design of digital tokens
 - 1.2. Central bank digital currencies: optimal design, disruption in the banking sector

Sample tasks for course evaluation

Assume that discount rates for experts in the baseline real model with financial frictions are different from those of households. Derive closed-form expressions for all endogenous variables as a function of the state variable. Write a code to solve this model numerically. Show that in this model asset price movements mitigate exogenous risk.

Course materials

- Auer, R., Monnet, C. and Shin, H.S., 2021. Permissioned distributed ledgers and the governance of money.
- Bocola, L. and Lorenzoni, G., 2020. Financial crises, dollarization, and lending of last resort in open economies. *American Economic Review*, 110(8), pp.2524-57.
- Brunnermeier, M.K. and Payne, J., 2021. Money, credit and platforms.
- Brunnermeier, M.K. and Sannikov, Y., 2015. International credit flows and pecuniary externalities. *American Economic Journal: Macroeconomics*, 7(1), pp.297-338.
- Brunnermeier, M.K. and Sannikov, Y., 2016. On the optimal inflation rate. *American Economic Review*, 106(5), pp.484-89.
- Brunnermeier, M.K. and Sannikov, Y., 2016. The I theory of money.
- Brunnermeier, M.K., James, H. and Landau, J.P., 2019. The digitalization of money.
- Farhi, E. and Maggiori, M., 2018. A model of the international monetary system. *The Quarterly Journal of Economics*, 133(1), pp.295-355.
- Goldstein, I., Gupta, D. and Sverchkov, R., 2019. Initial coin offerings as a commitment to competition.
- Gopinath, G. and Stein, J.C., 2021. Banking, trade, and the making of a dominant currency. *The Quarterly Journal of Economics*, 136(2), pp.783-830.
- Gourinchas, P.O., 2021. The Dollar Hegemon? Evidence and Implications for Policymakers.
- He, Z., Krishnamurthy, A. and Milbradt, K., 2019. A model of safe asset determination. *American Economic Review*, 109(4), pp.1230-62.
- Jiang, Z., Krishnamurthy, A. and Lustig, H., 2020. Dollar safety and the global financial cycle.

- Keister, T. and Sanches, D.R., 2019. Should central banks issue digital currency?.
- You, Y. and Rogoff, K.S., 2019. Redeemable platform currencies.

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.