Money and Banking Syllabus

*Instructor: Nancy Hammond, Ph.D., Adjunct Professor of Finance*

*Classroom:*

*Office Hours: Wednesdays 2:00pm-4:00pm and by appointment*

*Telephone: 312.362.xxxx*

*Email: nahammond@gmail.com*

Course Objectives (Learning Goals)

With the advent of shadow banking and multiple payment systems, money and banking have gone through tremendous change. This course will capture those changes for central banks, traditional deposit banks, the role of central counterparties, and other actors. How central banks, counterparties, and financial services firms are the core of finance and interact to create liquidity in the financial system. We will learn: (1) the role of the central bank in the economy and the conduct of monetary policy; (2) the economic functions of financial services firms; (3) how the shadow banking sector works and the problems it poses for our financial system; (4) how financial markets determine interest rates and why different assets earn different rates of return, (5) The sharp decline of balance sheets and leverage of primary dealers and rise in other platforms and (6) how shocks like financial crises, flash crashes, the March 202 dash for cash challenge our financial system and the role of regulation of financial services firms.

In the words of Zoltan Pozsar: The rapid growth of the market-based financial system since the mid-1980s changed the nature of financial intermediation in the United States profoundly. Within the market-based financial system, “shadow banks” are particularly important institutions. Shadow banks are financial intermediaries that conduct maturity, credit, and liquidity transformation without access to central bank liquidity or public sector credit guarantees.

REQUIRED TEXTBOOKS

Frederic Mishkin. The Economics of Money, Banking, and Financial Markets, 13th edition

<https://www.pearson.com/store/p/the-economics-of-money-banking-and-financial-markets/P100003054016>

The MyEconLab course ID.

Matthias Doepke, Andreas Lehnert, and Andrew Sellgren. Macroeconomics [Matthias Doepke (northwestern.edu)](https://faculty.wcas.northwestern.edu/~mdo738/book.htm)

Perry Mehrling The New Lombard Street: How the Fed became the dealer of last resort (Princeton 2011).  Recent papers and video are available on his website <http://sites.bu.edu/perry/>

REQUIRED NEWS SOURCE

Recommended News Sources

Bloomberg News: <http://www.bloomberg.com>

Financial Times (free subscription available through Finance Department): https://registration.ft.com/corporate/signup/32N1HnaKZBMY1

CME Group **InFOCUS: What’s trending in futures and options?**  newsletter

*https://www.cmegroup.com/activetrader/offers/infocus?gclsrc=aw.ds&gclid=Cj0KCQjw5uWGBhCTARIsAL70sLJz2qYv2AxBMo4uCS\_wNHW11qUDPLRXgq\_ERGvDMXgqgcpUGdlYNV8aAtKYEALw\_wcB&gclsrc=aw.ds*

Teaching Philosophy

My goal is make you aware of the depth of our financial system, the importance of financial stability for the economy, the rich variety of money like assets like Fed Funds, Eurodollars, and US Treasury bills, and the central role of these money-like assets in our economy. In Chicago, we have neighbors like the CBOT and the CME Group which trade these assets daily. In this course, we cover how financial markets and financial institutions work, how to calculate interest rates for different assets, and understand what the term structure of yields of US Treasury bills, notes, and bonds means for the economy. and how fragilities like the run on repo and securitized banking in the 2008 financial crisis, the September 2019 repo spike, and the March 2020 dash for cash challenge central banks. Recommended textbooks are a framework and context for the course. Podcasts, articles by market participants, academics, financial markets, and Fed officials bring the text to life.

Other notable papers:

Hyun Song Shin  [Hyun Song Shin](https://www.hhs.se/en/houseoffinance/outreach/conferences/annual-conferences/money-markets-in-a-new-era-of-central-bank-policies/participants/2021/hyun-song-shin/) (Bank for International Settlements) "Non-bank financial intermediaries and the post-crisis landscape"

Amir Sufi and Alan Taylor. Financial Crises: A Survey NBER Working paper 29155

[Darrell Duffie](https://www.hhs.se/en/houseoffinance/outreach/conferences/annual-conferences/money-markets-in-a-new-era-of-central-bank-policies/participants/2021/darrell-duffie/) (Stanford University) ["How much central bank money does it now take to run the financial system?"](https://www.hhs.se/globalassets/swedish-house-of-finance/conference/annual-conference-2021/stockholm-copeland-duffie-yang-august2021.pdf)  From work with Adam Copeland and David Yilin Yang "[Reserves Were Not So Ample After All](https://www.newyorkfed.org/research/staff_reports/sr974.html)," with Adam Copeland and Yilin (David) Yang, Federal Reserve Bank of New York Staff Report Number 974, July, 2021.

[Imène Rahmouni-Rousseau](https://www.hhs.se/en/houseoffinance/outreach/conferences/annual-conferences/money-markets-in-a-new-era-of-central-bank-policies/participants/2021/imene-rahmouni-rousseau/) (European Central Bank) ["Money markets at the crossroads"](https://www.hhs.se/globalassets/swedish-house-of-finance/conference/annual-conference-2021/imene-rahmouni-shof-annual-conference-23-25-august-2021.pdf)

Quentin Vandeweyer (organizer of this money markets conference, one of many good papers)

ShadowBanks\_fundrisk.pdf

Repo\_Madness\_Draft.pdf

ShortTermAssetsjmp\_qv.pdf

Perry Mehrling The New Lombard Street: How the Fed became the dealer of last resort (Princeton 2011).  Recent papers and video are available on his website <http://sites.bu.edu/perry/>

Lecture notes Economics of Money and Banking Coursera.

Grading [to be completed]

1. Preliminaries: Changes in money markets and central banking

[Darrell Duffie](https://www.hhs.se/en/houseoffinance/outreach/conferences/annual-conferences/money-markets-in-a-new-era-of-central-bank-policies/participants/2021/darrell-duffie/) (Stanford University) ["How much central bank money does it now take to run the financial system?"](https://www.hhs.se/globalassets/swedish-house-of-finance/conference/annual-conference-2021/stockholm-copeland-duffie-yang-august2021.pdf) https://www.newyorkfed.org/research/staff\_reports/sr974  
From work with Adam Copeland and David Yilin Yang "[Reserves Were Not So Ample After All](https://www.newyorkfed.org/research/staff_reports/sr974.html)," with Adam Copeland and Yilin (David) Yang, Federal Reserve Bank of New York Staff Report Number 974, July, 2021.

Shin

Merhling course notes, the New Lombard

Stiegerwald Counterparties vs primary dealers

The old Central banking story

Mishkin 8 An Economic Analysis of Financial Structure

Mishkin 9 Banking and the Management of Financial Institutions

Mishkin 10 Economic Analysis of Financial Regulation

Mishkin 11 Banking Industry: Structure and Competition

Mishkin 13 Central Banks and the Federal Reserve System

1. The financial system: Financial Institutions and wholesale banking

Shadow banking, counterparties vs primary dealers, payment systems and big tech

See Duffie graphs: Dealers, banks, hedge funds, asset managers, cash pools

Morgan Ricks,

Pozsar, Shadow Banking

[FRB of New York Staff Report No. 458](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1645337)

81 Pages Posted: 20 Jul 2010 Last revised: 9 Aug 2014

Gorton and Metrick 2008 GFC slides

Doepke 17 Financial intermediation 17.1 Banking Basics

[Zoltan Pozsar](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=1219536), [Tobias Adrian](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=93743), [Adam B. Ashcraft](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=282089), [Haley Boesky](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=1511133) July 1, 2010

Abstract

Examples of shadow banks include finance companies, asset-backed commercial paper (ABCP) conduits, limited-purpose finance companies, structured investment vehicles, credit hedge funds, money market mutual funds, securities lenders, and government-sponsored enterprises.

Shadow banks are interconnected along a vertically integrated, long intermediation chain, which intermediates credit through a wide range of securitization and secured funding techniques such as ABCP, asset-backed securities, collateralized debt obligations, and repo. This intermediation chain binds shadow banks into a network, which is the shadow banking system. The shadow banking system rivals the traditional banking system in the intermediation of credit to households and businesses. Over the past decade, the shadow banking system provided sources of inexpensive funding for credit by converting opaque, risky, long-term assets into money-like and seemingly riskless short-term liabilities. Maturity and credit transformation in the shadow banking system thus contributed significantly to asset bubbles in residential and commercial real estate markets prior to the financial crisis.

We document that the shadow banking system became severely strained during the financial crisis because, like traditional banks, shadow banks conduct credit, maturity, and liquidity transformation, but unlike traditional financial intermediaries, they lack access to public sources of liquidity, such as the Federal Reserve’s discount window, or public sources of insurance, such as federal deposit insurance. The liquidity facilities of the Federal Reserve and other government agencies’ guarantee schemes were a direct response to the liquidity and capital shortfalls of shadow banks and, effectively, provided either a backstop to credit intermediation by the shadow banking system or to traditional banks for the exposure to shadow banks. Our paper documents the institutional features of shadow banks, discusses their economic roles, and analyzes their relation to the traditional banking system. **Keywords:** shadow banking, financial intermediation

Lasalle Street podcast: <https://www.chicagofed.org/publications/lasalle-street-podcast/clearinghouse-risk>. Christophe Giancarlo, "CryptoDad", visits LaSalle Street to discuss his reflections a year after leaving the CFTC, key issues he faced during his tenure, and emerging issues shaping the markets today. The conversation includes discussion of clearinghouse risk and the work of the Financial Stability Board, the risks embedded in reference rates, and why regulators should be investing time in the future of digital currency.

1. Money markets

https://www.kansascityfed.org/documents/7030/Duffie\_JH2016.pdf

<https://research-doc.credit-suisse.com/docView?source_id=eqgl&document_id=1062139621&format=PDF&language=ENG&serialid=%2B34IQFGvCnFl8ybPF3ulo8n2%2FgFW0kk32BBl3xGG8S4%3D&serialid=lhxRQDkw0sIn9I0eQ%2fOFNDdZz6rCp4eZ8t7ySLpjCwo%3d>

Pozsar, Zoltan. 2016. “Money Markets after QE and Basel III,” Credit Suisse, June.

\_\_\_\_\_. 2016. “A Tool of Their Own—The Foreign RRP Facility,” Credit Suisse, Global Money Notes, no. 4, February.

\_\_\_\_\_, and Sarah Smith. 2016. “Japanese Banks, LIBOR and the FX Swap Lines,” Credit Suisse, Global Money Notes, no. 7, August.

Gorton and Metrick Run on Repo

4. Interest rates, money market instruments, and financial derivatives

Mishkin 6 The risk and term structure of interest rates

[Web Chapter 4: Financial Derivatives](https://media.pearsoncmg.com/ph/bp/bp_mishkin_econmbfm_11/webchapters/Mishkin11_Ch04_Web.pdf)

https://media.pearsoncmg.com/ph/bp/bp\_mishkin\_econmbfm\_11/webchapters/MiMshkin11\_Ch04\_Web.pdf

Chicago Mercantile Exchange (CME) Short term interest rate (STIR) money like assets: Fed Funds, Eurodollars, commercial paper, Tbills

Exercises Doepke, Mishkin, Veronesi

Veronesi 2 Basics of fixed income securities Discount factors, interest rates, term structure

1. Interest rate risk management

Wholesale banking” Treasury repos and reserves of BHCs held at the Fed

Treasury repos and balances held at the Fed are nearly equivalent risk-free overnight investments available to banks. Actors include counterparties, primary dealers, asset managers, hedge funds, shadow banks: insurance, money market funds

Short term funding for banks and non banks: TBills and repos vs reserves

Duration, cash flow matching and immunization, convexity

Interest rate derivatives: forwards and swaps, futures and options

1. Monetary policy, the Fed’s toolkit, US Treasury, fiscal policy

This module sets out the US monetary system and the role of the Fed. Treasuries, Fed funds, and the new overnight interest rate (OIS) SOFR, Eurodollars, and other short term interest rates

Central banks, monetary and fiscal policy. Doepke, Mehrling,

Mishkin 14 The Money Supply Process

Mishkin 15 Tools of Monetary Policy

Mishkin 16 The Conduct of Monetary Policy: Strategy and Tactics

Mishkin 23 Monetary Policy Theory

Stiegerwald

CME Fed Watch Tool, many sites

<https://www.cmegroup.com/education/courses/understanding-stir-futures/introduction-to-cme-fed-watch.html>

8 Financial crises

Gorton and Metrick the GFC

Amir Sui

Duffie Ample reserves

Gorton and Metrick Run on Repo <https://www.nber.org/system/files/working_papers/w15223/w15223.pdf>

Events: September 2019 Repo rates, March 2020 Dash for Cash

LaSalle Street podcast: Treasury market structure

<https://www.chicagofed.org/publications/lasalle-street-podcast/treasury-market-structure>+

The Treasury Market is an excellent overview of what happened. Asset managers traded basis Flight to quality to quality to Treasuries then to basis trade. People were moving to cash, no dealer cash quotes.

Case study: <https://www.chicagofed.org/publications/lasalle-street-podcast/treasury-market-structure> Experts from industry, academia, and government discuss the operations of and recent stresses in the U.S. Treasury market. This market has a huge impact across the financial system—from determining the borrowing costs for governments to serving as a key benchmark within the financial system to helping to keep credit flowing to people who need it.

So when stresses emerged in recent years, many people sat up and took notice. First in September 2019, repo rates shot up by hundreds of basis points as a tax due date and a Treasury auction strained the supply of liquidity. Then in March 2020, the functioning of the Treasury market became severely stressed amid the widening pandemic.

*LaSalle Street* explores these episodes of volatility as well as the Treasury market’s structure, operations, and history

In this episode, experts from industry, academia, and government discuss the operations of and recent stresses in the U.S. Treasury market. First in September 2019, repo rates shot up by hundreds of basis points as a tax due date and a Treasury auction strained the supply of liquidity. Then in March 2020, the functioning of the Treasury market became severely stressed amid the widening pandemic.

Doepke notes on monetary and fiscal policy

Financial Institutions and wholesale banking

Mishkin [Web Chapter 3: Nonbank Finance](https://media.pearsoncmg.com/ph/bp/bp_mishkin_econmbfm_11/webchapters/Mishkin11_Ch03_Web.pdf)

Mishkin 8 An Economic Analysis of Financial Structure

Mishkin 12 Financial Crises

9 Regulation

Morgan Ricks. The Money Problem Rethinking Financial Regulation

<https://press.uchicago.edu/ucp/books/book/chicago/M/bo22438821.html>

Zoltan Poszar, Tobias Adrian, [Adam Ashcraft](https://www.newyorkfed.org/research/economists/ashcraft/index.html), and Hayley Boesky Shadow banking <https://www.newyorkfed.org/research/epr/2013/0713adri.html>

nImplications of big tech in finance Chair: Hyun Song Shin (Economic Adviser and Head of Research, BIS) “Big tech banking” Big Tech Banking 20 Dec 2018

[Jorge Padilla](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=47132), [Miguel de la Mano](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=483396) Compass Lexecon. implications of the entry of Big Tech platforms into retail banking and the appropriate response of regulators and policy makers to this new industry development.

Should central banks offer digital currencies and accounts to retail clients? Watch @MarkusEconomist discuss how technological advances might transform traditional approaches to money and central banking: <https://t.co/D0eiabBRKM>  
(<https://twitter.com/PrincetonEcon/status/1405875443463385098?s=03>)

Crypto and monetary policy J.C. Pieters

Rauch <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/2nd-global-cryptoasset-benchmark-study/#.YMI2LPlKhlM>

Blandin, Peters … …

https://www.researchgate.net/publication/344626767\_2020\_CCAF\_3rd\_Global\_Cryptoasset\_Benchmarking\_Study/link/5f856237299bf1b53e23071c/download

ww.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/3rd-global-cryptoasset-benchmarking-study/

10 Case presentations: Issues/analysis of tour country’s central bank policies

References, contracts:

 Robert.stiegerwald@chi.frb.org

+1 (312) 320-6989 (bank mobile) – I generally keep the ringer turned off on this phone, but activate it when I expect a call; and

+1 (312) 420-6215 (personal mobile)

Robert S. Steigerwald

Senior Policy Advisor

Financial Markets Group

Federal Reserve Bank of Chicago

+1 (312) 322-2414

[Robert.Steigerwald@chi.frb.org](mailto:Robert.Steigerwald@chi.frb.org)

“Principles for the Development of a Complete Mind: Study the art of science. Develop your senses – especially learn how to see. Realize that everything connects to everything else.” – Leonardo da Vinci

Monika Piazzesi  The short rate disconnect in a monetary economy.  Stanford <https://web.stanford.edu/~piazzesi/disconnect.pdf>

Quentin Vandemeyer. Chicago Booth Treasury Debt and the Pricing of Short term assets <https://www.dropbox.com/s/x2wj9dxemwlzfnf/jmp_qv.pdf?dl=0>



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| |  | | --- | | Matthew Cohn <mdcohn@uchicago.edu> | | Jul 21, 2021, 3:34 PM |  |  |
| |  | | --- | | to me | | | |

Hi Nancy,

I see you applied last month for an adjunct instructor position within University of Chicago Professional education. My name is Matt, and my team leads certain efforts around new non-degree program development. Your professional experiences and education around finance and economics are aligned with some areas that we are investigating, and I would love to connect and learn more about your background and interests. I can also tell you about our units and its initiatives. Would you be open to connecting sometime soon? If so, feel free to send along a few windows that might work.

Best wishes, and hope to talk sometime soon,

Matt

Matt Cohn, PhD  
Director, Teaching and Learning  
e: [mdcohn@uchicago.edu](mailto:mdcohn@uchicago.edu)  
p: 773.834.2958  
  
University of Chicago – Professional Education  
455 N. Cityfront Plaza Dr., Suite 950  –  Chicago, IL 60611  
[professional.uchicago.edu](https://professional.uchicago.edu/)

Nicole Hansen-Rayes [nhrayes@uchicago.edu](mailto:nhrayes@uchicago.edu)