Econ 135: Monetary Economics

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  GauchoSpace is used as drop box for confidential items.

• Econ 135 in the Economics curriculum
  Monetary Economics = Advanced Macroeconomics
  Required prerequisite: Intermediate Macro (Econ 101).
  Other electives useful but not expected; e.g. finance, international.
Readings

• Mishkin: Economics of Money, Banking, and Financial Markets, 11\textsuperscript{th} ed.
  - Required = know everything in the chapter.
  - Optional/recommended = only as material covered in class.

• Class page:
  - Posted announcements considered known - no excuses.

• Financial News:
  - Wall Street Journal ($$. Free online data.)
  - Bloomberg.com (Free but limited)
Why take Monetary Economics?

- Understanding Monetary Policy
  - The economic role of the Federal Reserve and other central banks.
  - Their impact on inflation, interest rates, growth, unemployment, etc.

- Understanding Macroeconomics at a more advanced level.

- Understanding Interest Rates and Financial Markets
  - Stocks, Foreign Currencies. Financial institutions: Banks.

  Standing invitation: *Ask me about current economic issues!*
Outline

I. Financial System, Money, and Interest Rates
II. Macroeconomics and Financial Markets
III. Monetary Policy and Financial Institutions

• See the class page for detailed course outline and readings.
• See GauchoSpace for additional (non-public) documents.
Exams & Grading

(See class page for more details)

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
<th>Covered Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz #1</td>
<td>25%</td>
<td>About 1st third of course</td>
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<tr>
<td>Quiz #2</td>
<td>25%</td>
<td>About 2nd third of course</td>
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<tr>
<td>Final Part A = Quiz #3</td>
<td>20-25%</td>
<td>About last third of course</td>
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<tr>
<td>Final Part B = Problem Questions</td>
<td>25-30%</td>
<td>Cumulative</td>
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• Quizzes cover new material since previous quiz. Problems in final are cumulative.

Exams mandatory: missing an exam without valid excuse means zero points.

• Grade distribution:

  Target: 30-35% A-range. 70-75% A+B combined. Adjusted if appropriate.
  No target for grades < C. (Ideally everyone ≥ C, though not for outliers.)
  Extra points if/when deserved, always given without moving the curve.
Themes from Mishkin Ch.1: Why study Money & Banking?

1. Money Growth and Inflation

- Central banks are concerned about **price stability** – no inflation, no deflation.
- Inflation rate = Rate of change in the price level. Influence of money growth obvious in extreme cases (hyperinflation); additional factors at moderate inflation rates.
Central banking has evolved from targeting money growth to primarily targeting interest rates. Huge impact on financial markets – on bond prices, stock prices, foreign currency markets. Motivates “Fed watching”.

Multiple linkages between money growth, inflation, and interest rates.

(On chart: 10-year Treasury note).
3. Money Growth and Business Cycles

- Central bankers care about **financial stability** and the rate of **unemployment**.
  (Chart: Money growth is correlated with business cycles; shaded = recessions.)
- Macroeconomic Theory connects monetary policy to inflation, interest rates, output, and employment =⇒ *Monetary Economics is applied macroeconomics*
Macroeconomic Theory

• Provides conceptual framework. Main elements:
  1. Aggregate demand for goods; relation to savings & investment. (*)
  2. Aggregate supply of goods; relation to the labor market. (*)
      (* = items typically covered in Intermediate Macro; will be reviewed.)
  3. Demand for money; relation to velocity and inflation.
  4. Description of monetary policy: money supply or interest rate target.

• First application: A simple theory of inflation (Mishkin ch.19)

• Complication: “sticky” prices and wages.
  - Two coherent models of the economy: Classical and New-Keynesian.
  - Issues: price setting; sources of shocks; the role of expectations.

• Optional background readings:
  - Keynesian & classical analysis: Abel/Bernanke/Croushore, ch.7+9.
What do Central Banks do?

• Practical level: control several policy tools [Preview of ch.15—later]

1. **Impose Reserve Requirements** = Require banks to hold a fraction of customer deposits on reserve at the central bank. Original motive: financial stability; used to control the aggregate volume of bank deposits and the stock of money.

2. **Grant Discount Loans** = Loans to banks (and sometimes other institutions) at an interest rate called **discount rate**. Enables central banks to serve as “**Lender-of-Last Resort**” in financial crises.

3. **Execute Open Market Operations** = Buy or sell securities on the open market, usually government bonds. Direct impact on bond demand and interest rates, plus impact on bank reserves: Purchases are paid by crediting the seller’s reserve account; sales are paid from the buyer’s reserve account.

4. **Offer interest on reserve balances (IOR)** – on all bank reserves or only on excess reserves (in excess of required balances). IOR-rate sets a lower bound for wide range of market interest rates. Recent tool for the Federal Reserve – authorized by Congress in 2008.
How are Central Banks organized?

(Mishkin ch.13)

• Leading Example: The Federal Reserve System
  Reading = Mishkin Ch.13:
  - Origins of the Federal Reserve System (Fed)
  - Structure of the Federal Reserve System (formal and informal)
  - Central bank independence: How much? Good or bad?
  - Organization and authority of other central banks.

• Motivation for creating the Fed in 1914: avoiding financial crises
  - Decentralized structure due to mistrust of centralized power

• Evolution of Fed policy:
  - Financial integration (national, then international) => Centralization
  - End of the Gold Standard => Need for “nominal anchor” for prices/wages
  - Keynesian macro => Monetary policy effects on the real economy/employment
  - New policy tools: Open market operations in 1920s. IOR in 2008.
Decision Making in the Federal Reserve System

**Board of Governors**
Seven members, including the chairman, appointed by the president of the United States and confirmed by the Senate

**Twelve Federal Reserve Banks (FRBs)**
Each with nine directors who appoint president and other officers of the FRB

**Member Banks**
Around 2,900 member commercial banks

**Federal Open Market Committee (FOMC)**
Seven members of Board of Governors plus presidents of FRB of New York and four other FRBs

**Federal Advisory Council**
Twelve members (bankers), one from each district

**Reserve requirements**
Sets (within limits)

**Open market operations**
Advises

**Discount rate**
Advises

[**Econ 135: Monetary Economics - Introduction**]
Actual Operation

• **Federal open market committee (FOMC):** Center of decision-making
  
  See Minnesota Fed article (recommended; dated but still good).

• **Role of the Chairman: Does s/he run the show?**
  
  - History of strong leadership:
    
    Paul Volcker (1979-1987)
    Alan Greenspan (1987-2006)
    Ben Bernanke (2006-2014)
    Janet Yellen (2014-2018)
  
  - Currently: Jerome Powell (2018—)
Central Bank Independence

- Foundations of Fed independence: Governors have long 14-year terms. FRB Presidents have votes in the FOMC. Independent budget and revenues.
- Limitations of Fed independence: Federal Reserve Act is subject to change; no constitutional protection. Reporting to Congress.
- Critique of central bank independence since the 2007-09 financial crisis:
  - Is large-scale emergency lending consistent with central bank independence?
    Invites coordination with governments. Creates winners/losers => political lobbying.
  - Why were financial institutions “bailed out” and bank borrowers were not?
    Fed emergency loans were very profitable. Bagehot principle: Lender-of-last-resort should charge penalty rates. (Contrast: FNMA, Freddie Mac – taxpayer losses.)
  - Why did central bankers fail to prevent the financial crisis?
    Debatable: Lack of foresight vs. political power of the housing/banking industry
Conclusion: Agenda for Monetary Economics

- The Financial System – source of instability, central banks as regulators.
- Interest rates and asset prices – understanding demand and supply.
- Traditional monetary policy – focus on a supply-determined stock of money.
  - Classical reasoning: Money => Prices level. Money growth => Inflation.
  - Keynesian reasoning: Money => Interest rates => Aggregate Demand => Influences output, employment, and inflation.
  - Technical side: how central banks control the money supply.
- Recent trends in central banking – focus on interest rates & away from money:
  - Management level: Policy choices re-framed as setting real interest rates.
  - Technical level: Policy implemented via interest rates on reserves (since 2008) => Money is sidelined – determined by demand at the target interest rate.
  - Caveat: assumes central bankers act appropriately – enough information and political authority to vary interest rates as aggressively as needed.