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# ECN 160B Lectures 9 & 10

## International Macroeconomics

Galina A. Schwartz  
Department of Economics  
University of CA, Davis



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# Plan

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- Global Capital Markets (GCM)
- Costs and Benefits of Integrated International Financial System
- Securitization
  - Debt versus Equity
  - Riskaversion → Diversification is beneficial (but why people are risk-averse?)

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## Waking up at 8 am for Studying

- 21 century IM & 20 century IM differ due to
  - Globalization of financial markets
  - Trend for Securitization
- There are many new and complex concepts
- If you want to
  - get a good grade in ECN160B
  - make sound investment choices for your money
- You have to
  - know these new concepts
  - apply them to understand the subject of IM
- I will appreciate your feedback. Please, e-mail me

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Some tips on how to study for ECN160B effectively:

1. Read the assigned KO Chapters in advance (before the lecture). I will try to give you the specific pages to focus on.
2. Use the course website. I added notes to the past lectures and posted the lectures with added notes on the web. [in process]
3. The Course Web site has the links to financial web glossaries. The terms there are hyperlinked. The Glossaries make it easy (and fun!) to locate the terms that you have forgotten.
4. I will also post a tiny glossary with most of the terms that have been defined in class. Please, kindly e-mail me if you notice that some terms are missing from my glossary: I will add them.
5. Ask questions if you do not understand or have not heard part of my explanation.
6. Talk with me during my office hours

I hope this will help you to be better prepared for the MTs & the Final.

# Markets and Institutions

- International (or Global) Capital Markets (GCM) are the markets where residents of different countries trade assets (debt & equity instruments)
- The Players in International (Global) Capital markets are the same as
- Major Actors (Players or Participants) of ForEx market (see KO, pp. 328 & 641)

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## Major Actors (Players or Participants)

Commercial Banks

Interbank Trading

Corporations

Non-Bank Financial Institutions

Central Banks (and other government agencies)

? Individuals ?

Why KO mentions individuals only briefly?

they transact via intermediaries

volume is an insignificant fraction of total volume

KO, p. 640

Debt instruments: bonds & bank deposits specify their return regardless of economic conditions

Equity instruments: stocks (shares of a company) a claim to a firm's profits, the payoff varies with circumstances

# The Trend of Securitization

- Securitization is repackaging of financial assets in ready marketable forms
- Question: consequences?
- Answer: Integration of International Financial System
- Relation of Diversification and Risk Aversion
- Risk Aversion → gains from portfolio diversification KO, p. 639
- Asset Speculation: is it good or bad?

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What is Portfolio Diversification?

This is an idea of “Do not put all your eggs in one basket” (as expressed by James Tobin)

Fact: More than 90% of ForEx trading is interbank trading. Is it speculation? May be, but it also delivers an important product: liquidity

# Portfolio Diversification

- Relation of Diversification and Risk Aversion
- Risk Aversion → gains from diversification  
KO, p. 639
- What is Hedging? See notes for examples
- Portfolio Diversification & Securitization: a Connection. Both are driven by
  - Increase in trade volumes
  - The related increase in currency trading, which in turn related to:
    - Lower transportation costs
    - Lower Information costs
    - Financial inventions (such as Black-Scholes option pricing formula)

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1. Portfolio Diversification is an idea of “Do not put all your eggs in one basket” (as expressed by James Tobin). Hedging is an example of diversification, which reduces the risks.

We will consider LTCM hedging as an example. We will discuss why LTCM holdings included Danish mortgages. [See New York Times Magazine, January 24, 1999, with a citation from Richard Leary:

“Every rumor about the size of our positions was always double the truth. Except the rumor about our position in Danish mortgages. That was ten times what we actually had.”

Let us see how holding Danish mortgages provides a hedge for someone who holds Dutch guilders (i.e., Dutch currency in pre-euro times) or (related options) against Dutch interest rate fluctuations. This question can be addressed with a graph similar to KO, Figure 13.6.

Conclusion: Diversification (and hedging) permit to mitigate risk aversion by assuring that the returns in different future states stay close, i.e. the returns are less volatile when one’s portfolio is well diversified.

# Banking & Regulation

- Question: Why to regulate?
- Answer???
- Question: Means to regulate?
- Answer???
- More and More Limited
- But: may be, we just need a brand new World Central Banker?
- Question: What can countries (Central Banks) & regulators do?
- Answer: Their means are increasingly limited
- Question: Why? A: CBs Compete!
- See 1994 Greenspan on self-regulation of the markets

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Banking regulation (a reminder)

Why?

to reduce the vulnerability of international (national) financial system to bank failure on a massive scale.

How?

These safeguards were designed to make bank failures less likely and more difficult to propagate through the system.

Main tools, see KO p. 648

1. Deposit insurance (limited protection of depositors, full protection of deposits up to \$100,000)

2, 3, 4 Regulations to induce banks to limit the risks that they undertake (prohibit or make it costlier) [[Reserve requirements, Capital Requirements and Asset Restrictions, Bank Examination (by Fed, FDIC and the Office of the Comptroller of the Currency)]]

5. Fed is a lender of last resort (LLR) (Fed executes the role of LLR conditional on bank management)

Interdependence of these tools.

## Regulating GCM: Problems

- Regulation of GCM is subject to similar costs and benefits analysis as bank regulation in any specific country
- There are no principally new means to regulate GCM (relative to conventional bank regulation)
- The means to regulate GCM are worse than the means of conventional bank regulation
- The presence of GCM makes conventional banking regulations harder (and more costly) to implement due to CBs competition.

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Consider US Banking regulations (safeguards 1-5, see slides for lectures 14 and 15) and let us try to adopt these regulations to regulate GCM, KO, pp. 649 - 650

1. Interbank deposits are unprotected. GCM deposits are too big to be protected. But there is some limited insurance.
2. There is NO reserve requirement. Reasons:
  - 2A. Countries find it hard to agree on uniform set of regulations (political and technical difficulties).
  - 2B. Even if some regulations are adopted, there would be incentives to deviate (countries would compete to gain more business by making their regulations more lax) Consider the case of offshore currency trading. If a country prohibits offshore trading (unregulated), or attempts to regulate it, business would go to other places. Offshore markets are substantial and tightening regulations simply results in loss of business.
  - 2C. Social costs of this situation is decreased stability of financial services industry due to high volume of transactions performed by non-bank institutions
- 3 and 4. Even more difficult to implement than 2.
- 3A and 4A. It is hard to determine which regulator should monitor, and
- 3B and 4B. It is easy for financial institutions to mislead the regulator due to differences in national regulatory policies and requirements

Lastly, 5. who is LLR? Who would be the world's central banker?

In a sense, in LTCM bailout, Fed acted as world's CB. Still, there was no public funds involved. If there are public funds involved (as LLR role requires). It is difficult to reconcile CB role of central banker with its role of setting the monetary policy and controlling money supply.

## GCM & International Competition

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- Competition among CBs prevents them from having high levels of cooperation
- The need to make GCM more stable necessitates countries' efforts of cooperating more effectively (result - Basel committee)

## GCM & International Cooperation

- Realistic cooperation of different countries with respect to regulating GCM is LOW - each country finds it optimal to deviate (Agency problem again) BUT
- There are several promising areas of cooperation
  - Standardization of banking information
  - Enforcement of violations
  - Creation of more efficient (and fast) clearing system
- But all these tasks can be successfully gone by financial industry bodies (not by government bodies)

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CBs discussed LLR, and CBs do cooperate with each other. But their actions are extremely secretive to mitigate the threat of moral hazard. There are NO binding laws on the subject of which CB does what and under what circumstances.

# Players I

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- *GCM* Players
- Commercial Banks (in FOREX Interbank Trading) in *GCM* )
  - Liabilities time deposits (deposits of various maturities)
  - Assets Loans (to corporations & governments) and Bonds (corporate & government) NET of deposits at other banks (interbank deposits)
  - Multinational Banks (MNB) may underwrite issues of stocks and bonds **IMPORTANT** - this feature of commercial banks is a **KEY** to understanding the characteristics of of modern *GCM*

Commercial Banks are prohibited from underwriting at home but they are permitted to be involved in underwriting abroad

## Players II

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- Corporations
  - Multinational corporations (MNC) issue foreign stocks and bonds
- Non-Bank Financial Institutions
  - There is a regulatory asymmetry with Commercial Banks. This asymmetry focally shapes the ways GCM have been operating in the last half a century
- Central Banks and other government agencies (in FOREX only CBs matter)

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In the case of GCM government owned enterprises and other government entries can issue bonds denominated in foreign currencies. Thus, limiting attention by CBs only as in the case of FOREX, would be imprecise for GCMs.

# Debt versus Equity

- The division between Debt and Equity
- In practice the division is not a clear-cut, because in REAL terms the payouts which are the same in nominal terms may differ (they depend on national price levels and exchange rates, see KO p. 640)
- Examples:
  1. Junk Bonds (low grade corporate bonds)
  2. The Debt of many developing countries (and even Russian debt)

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## Equity:

An example: Consider IBM stock as an example of equity. There are several kinds of stocks, such as common stock, preferred stock and more complex instruments such as stock options. Let

S1 denote IBM common stock,

S2 - IBM preferred stock,

S3 - IBM stock options

## Debt

An example: Consider IBM bonds as an example of Debt. IBM bonds may be of different maturities, and they can be denominated in different currencies. Let

B1 denote IBM 1 year bond denominated in dollars,

B2 - IBM 10 year bond denominated in dollars,

B3 - IBM 1 year bond denominated in Euros.

Let financial instrument F1 be defined as an asset, which the time of its purchase is composed of S1 & S2 and B1 & B2. Every \$100 of the asset F1 include \$25 worth of S1, \$25 worth of S2, and \$30 worth of B1 and \$20 of B2. We can shortcut this as:

$$F1=25\% S1+ 25\%S2+ 30\%B1+20\%B2$$

Similarly, one can introduce other financial assets, such as

$$F2=20\%S1+ 20\%S2 +10\%S3 +25\%B1+25\%B3$$

Many other similar instruments exist. These instruments differ in their risk characteristics and volatilities. They have different expected returns. It is difficult to tell whether these complex instruments, F1 and F2, are debt or equity, because they include both.

Securitization is a trend when numerous composite financial instruments (or assets) (such as F1 and F2) are introduced by financial intermediaries (banks and non-banks)).

# International & National Banking: Differ or Similar

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- Similarities:
  1. the role - financial intermediation
  2. the problems - contagion
  3. Offshore (unregulated) banking & onshore (regulated) banking
- Differences:
  1. The presence of national CB versus International - No international CB

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We will talk more about offshore and onshore banking in the next lectures

# Bank Regulation I

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- 1. Deposit insurance (limited protection of depositors, full protection of deposits up to \$100,000) What does it mean too-big-to-fail? KO, p. 648, footnote 4.
- 2, 3, 4 Regulations to induce banks to limit the risks that they undertake (prohibit or make it costlier)

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In 1984, Fed extended its coverage to all large (>\$100,000) deposits at Continental Illinois National Bank when this bank started to lose its uninsured deposits. The too-big-to-fail is market believe based on this and several later episodes that Fed will fully protect ALL depositors in large banks.

The too-big-to-fail cause of Fed actions at the moment of a threat of LTCM failure is mentioned in the LTCM case study. It seems relevant to Fed decision of bailout, although only indirectly as NO FDIC funds (i.e., no taxpayer money) were used in the bailout.

## Bank Regulation II

- 2, 3, 4 Regulations to induce banks to limit the risks that they undertake (prohibit or make it costlier)
- 2. Reserve requirements
- 3. Capital Requirements and Asset Restrictions
- 4. Bank Examination (by Fed, FDIC and the Office of the Comptroller of the Currency)

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2. Reserves requirements are Fed's tool central to monetary policy implementation. BUT: reserve requirement forces banks to keep certain percent of the assets in cash (liquid form) to mobilize them in the case of deposit outflow. Reserve requirement is a TAX that bank regulation imposes, and that unregulated (offshore operating financial institutions) do not have.

3. Capital requirements. Bank capital is a difference of its assets and liabilities. The Bank capital is its net worth. The higher this net worth, the safer are the depositors. High capital requirement is another TAX on regulated banks (cost), but this makes banking safer (benefit).

And Asset Restrictions. Regulated banks cannot:

- I. Hold assets with high volatility such as common stock.
- II. Lend a high fraction of its assets to a single customer.

Thus, asset restriction is another TAX

4. Bank Examination. Examiners have a right to demand bank to sell some of the assets that they see as too risky. It can be TAXing. Also, examiners have access to the bank's books, i.e. information, which banks may be reluctant to share (hedge funds and other non-banks fiercely fight for the right to be secretive – they do not want to be inspected)

## Bank Regulation III

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- 5. Fed is a lender of last resort (LLR) (Fed executes the role of LLR conditional on bank management) FED permits to borrow currency via discounted window
- Interdependence of these tools, see KO, pp. 648 - 649

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Bank regulation and ICM: Banks can borrow from Fed's discounting window. But: who can be a world's central banker???

We will continue to discuss the problems of international financial regulations in the next lectures.

# Offshore Banking and Offshore Currency Trading

- **Offshore banking**

- The business that banks' foreign offices conduct outside of their home countries
- Banks operate offshore through any of three types of institution:
  - Agency office
  - Subsidiary bank
  - Foreign branch

- **Offshore currency trading**

- Trade in bank deposits denominated in currencies of countries other than the one in which the bank is located
- It is referred to as **Eurocurrency** trading.

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How it started and why London is a major center

1958 – Due to pressure on pound, British Authorities ask their merchant banks to cut back on the use of sterling to finance trade transactions that do not involve Britain directly

Cold war:

Russians – prefer to deposit their money outside of US

Result: Euromarket grows (& fast)

1973; US freeze on bank accounts of Libia

American Bank Bankers Trust refuses to honor Libia's request for funds from the London Branch of Bankers Trust

Court battle follows. Ruling is: deposits in Britain are subject to British Law & Bankers Trust was wrong to follow the freeze

# Offshore Terms: Eurodollars, Eurobanks, Eurocurrency

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- **Eurodollars**
  - Dollar deposits located outside the U.S.
- **Eurobanks**
  - Banks that accept deposits denominated in Eurocurrencies
- Eurocurrency trading has grown due to:
  - Growth in world trade
  - Evasion of financial regulations like reserve requirements
  - Political concerns

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## Growth of Eurocurrency Trading

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- London is the main center of Eurocurrency trading.
- The early growth in Eurodollar market was due to:
  - Growing volume of international trade
  - Cold War
  - New U.S. restrictions on capital outflows and U.S. banking regulations
  - Federal Reserve regulations on U.S. banks (e.g., the Fed's Regulation Q)
  - Move to floating exchange rates in 1973
  - Reluctance of Arab OPEC members to place surplus funds in American banks after the first oil shock

# International Banking and the International Capital Market

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- **International banking facilities (IBFs)**
  - Banks that accept time deposits and make loans to foreign customers.
  - They are not subject to reserve requirements or interest rate ceilings.
  - They are exempt from state and local taxes.

## Summary

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- When people are risk averse, countries can gain through the exchange of risky assets.
- International portfolio diversification can be carried out through the exchange of debt instruments or equity instruments.
- One important component in the international capital market is the foreign exchange market.
  - Banks are at the center of the international capital market, and many operate offshore.
- Regulatory and political factors have encouraged offshore banking and currency trading.
- The Basel Committee has worked to enhance regulatory cooperation in the international area.
  - Uncertainty about a central bank's obligations as an international lender of last resort.

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## Next Lecture

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- Chapter 21 continued
- Review for the midterm
- Your preparation: review KO, Ch 12-13 and read KO, Chapter 21

# Summary of Today

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- Markets and institutions relevant for IM
  - LTCM is an example of current problems that CBs face with respect to International Financial System
- Costs and Benefits of regulating GCM
- International Finance and Financial regulations
- Importance and connections of
  - Securitization
  - Diversification
  - Riskaversion
- Eurodollars: Policy coordination versus competition
  - Acute need for coordination
  - But competition rules
- Have a nice day

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