1. Description of the global capital market

2. Gains from trade and global capital markets

3. International banking
1 Description of the global capital market

1.1 Interconnected markets in major financial centers

1.2 Assets traded

- Debt (bonds) denominated in different currencies
  - nominal returns guaranteed if firm remains solvent
  - can be indexed for inflation to guarantee real returns
  - traded on organized markets
- Portfolio equity
  - no effective control
  - returns depend on profitability of firm
  - traded on organized markets
• Bank deposits denominated in different currencies

• commodities (like petroleum, wheat, bauxite, gold)

• forward contracts, futures contracts, swaps, options contracts

• real estate and land

• factories and equipment
1.3 Actors

- Commercial banks
  - Accept deposits
  - Lend to commercial businesses, other banks, governments, and/or individuals
  - Buy and sell bonds and other assets
  - Some commercial banks underwrite new stocks and bonds by agreeing to find buyers for those assets at a specified price
Non-Bank Financial Institutions

- Securities firms specialize in underwriting stocks and bonds (securities)
- Pension funds accept funds from workers and invest them until the workers retire
- Insurance companies accept premiums from policy holders and invest them until an accident or another unexpected event occurs
- Mutual funds accept funds from investors and invest them in a diversified portfolio of assets
- Hold foreign assets to diversify portfolio
• Large corporations
  - Seek financing for investment
  - Sell bonds
  - Sell equity
  - Borrow from commercial banks

• Governments
  - Central banks sometimes intervene in foreign exchange markets
  - Governments issue bonds
1.4 Gains from trade and capital markets

1.4.1 Intratemporal trade – trade goods for goods at a point in time

- Specialize in production according to comparative advantage
- Trade according to preferences
- Increase utility – gains from trade
1.4.2 Intertemporal trade – trade assets for goods

- Goods today for goods tomorrow – trade across time

- Investment
  - Efficient resource allocation – investment occurs where capital has highest marginal product, not where funds are available
  - Developing economy – efficient to borrow to finance investment instead of reducing consumption because agents want smooth consumption
• Consumption

  – Since business cycles are not perfectly synchronized across countries, optimal for countries in recession to borrow from countries in a boom allowing smooth consumption in both
1.4.3 Portfolio diversification – trade assets for assets

- Risk aversion
  - fair gamble – refuse if risk averse
  - portfolio diversification reduces risk
  - "Don’t put all of your eggs in one basket."
Evidence on increasing portfolio diversification

<table>
<thead>
<tr>
<th>TABLE 21-1</th>
<th>Gross Foreign Assets and Liabilities of Selected Industrial Countries, 1983–2007 (percent of GDP)</th>
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<tbody>
<tr>
<td></td>
<td>1983</td>
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<td>Australia</td>
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<td>Liabilities</td>
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<td>Assets</td>
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<tr>
<td>Liabilities</td>
<td>25</td>
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</table>

2 International Banking

2.1 Growth of the international capital market

- Removal of capital controls to allow
  - Efficient allocation directed by relative prices
  - Controls breed corruption
• Trilemma
  – free capital mobility
  – independent monetary policy
  – fixed exchange rates

• Post-Bretton Woods
  – lose fixed exchange rates
  – gain capital mobility
2.2 Offshore Banking

- Business a bank’s foreign offices conduct outside home countries

- Three types of institutions
  - Agency office abroad – arranges loans and transfers funds but does not accept deposits
  - Subsidiary bank located abroad – subject to local regulations, not to regulations of parent bank’s country
  - Foreign branch bank – usually subject to local and home country regulations
2.3 Offshore Currency

- Bank deposit denominated in a currency different from that of a country in which bank is located

- Called Eurocurrencies although traded in many centers outside of Europe

- Eurobanks accept deposits in non-local currencies
• Growth

– 1957 Britain prohibited British banks from lending pounds to finance non-British trade – banks attracted dollar deposits and lent in dollars

– Cold War between Soviet Union and US – Soviets received dollars from sale of gold and oil and placed them in European banks, fearing they could be confiscated if placed in US

– Regulation Q – ceiling on interest rates US banks could pay on time deposits – as interest rates increased, US banks used dollars attracted to European branch banks (where no regulation Q) to make loans

– OPEC placed its oil dollars in Europe for fear of confiscation if placed in US
Regulatory asymmetries - reserve requirements apply only to onshore own-currency deposits

- Depository institutions in the U.S. and other countries are required to hold a fraction of domestic currency deposits on reserve at the central bank.

- These reserves cannot be lent to customers and do not earn interest in many countries, therefore the reserve requirement reduces income for banks.

- But offshore currency deposits in many countries are not subject to this requirement, and thus can earn interest on the full amount of the deposit.
• Does unregulated growth in Euro-currency create inflation?

  – Near-money not money because short-term time deposits

  – No evidence that it has contributed to inflation

  – Regulation would be difficult

    * Countries with least regulation would attract most business

    * All countries would have to agree
3 Bank Regulation

3.1 Bank Failure

- Role of a bank is to accept deposits with short-term maturity and make loans with longer-term maturity

- Assets are long-term (loans)

- Liabilities are short-term (deposits)
• Problem:
  – if depositors fear bank has bad loans, can demand deposits
  – since assets are long-term cannot be sold without capital loss, forcing bankruptcy
  – rumors of a bank run can cause a run and failure even if the bank is sound as everyone tries to get their deposits before the bank runs out of short-term assets

• Alternatively, too many loans which default can reduce value of assets below liabilities
3.2 Bank Safety Net in US

- Deposit insurance - deposits are insured up to $250,000 by FDIC, eliminating the incentive to run for small depositors

- Reserve requirements assure that a portion of assets is held in liquid form
• Capital requirements

  – Bank capital = bank net worth = assets - liabilities

  – Minimum capitalization requirements

    * serve as a buffer against bankruptcy

    * assets would be lost in bankruptcy, giving owners incentive to reduce risk

  – Banks cannot hold assets considered to be very risky
• Bank examination
  
  – Moral Hazard

  * banks have an incentive to take on risky behavior knowing that the government will pay depositors in the event of loss

  * depositors have no incentive to monitor the bank to prevent this since they have deposit insurance

  * monitoring falls to government
• Lender of last resort

  – Fed creates currency and lends to banks facing massive deposit withdrawals

  – if Fed believes the banks are sound

  – must monitor to have information on the bank’s soundness
3.3 Bank Safety in Other Countries

- Deposit insurance is virtually absent
  - deposit insurance is implicit
  - desire to avoid macroeconomic instability caused by large bank failures

- Absence of reserve requirements in Euro-currency

- Bank examination to enforce rules is inconsistent and at times weak

- No international lender of last resort
• Non-bank financial intermediaries are behaving more like banks and do not have the supervision
3.4 Regulatory Cooperation – Basle Committee

- 1975 Concordat
  - Response to 1974 banking crisis
  - allocated supervision responsibility between parent and host

- 1988 capital requirements
  - 8% of risk-weighted assets
  - hard to enforce
  - Japan values equity at purchase price instead of at market value
• 1997 Core Principles for Effective Banking Supervision
  – established minimum requirements for effective bank supervision
  – no clear responsibility for lender of last resort

• 2006 Basle agreement developed risk-based capital requirements, where more risky assets require a higher amount of bank capital.
3.5 Importance of Non-Bank Financial Institutions

3.6 Long Term Capital Management Crisis

- Banks had loans to Long Term Capital – failure of Long Term Capital could lead to non-performing loans threatening solvency of banks
• Strategy

  – sell short new issues of 30 year Treasury bonds –very liquid

  – use proceeds to buy previously issued 30-year Treasury bonds –slightly cheaper due to less liquidity

  – only slightly cheaper, so tiny spreads mean need large trades to make money
• Problem when Russia defaulted in 1998
  – increase in world demand for safe assets
    * raised price of newly-issued Treasuries
    * LTCM had to buy them to execute contracts
  – Long-Term capital was short in safe assets
  – and long in slightly more risky assets whose price fell

• NY Fed organized a rescue
  – 14 American and European financial institutions (excluding Bear Stearns) provided new capital
– in exchange for 90% of profits and control
3.7 Financial Crisis 2008-2009

- March 2008, institutional lenders refused to roll over loans to Bear Stearns, an investment bank

- Early September 2008, federal government took control of Fannie Mae and Freddie Mac, privately owned but government-sponsored mortgage intermediaries

- September 15, 2008, Lehman Brothers, an investment bank, filed for bankruptcy

- September 16, 2008, American International Group (AIG with over $1 trillion in assets) suffered a run
AIG had issued $400 billion in Credit Default Swaps (CDS) which pay off in the event of default of a particular asset.

After fall of Lehman, agents expected the CDS to be required to pay.

However, AIG did not have the funds to pay.

Fed made AIG an $85 billion loan and later US government increased loans.

Non-bank financial institutions were at the center of the financial crisis and were lightly regulated.