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# Session Three Reading

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- Capital

- Generation
- Distribution
- Recovery

- Current Approach

- Available budget drives policy
- This “supply constrained system” has created
  - Large Work Backlog
  - No Evaluation of Benefits
  - Budgets that do not respond to need

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# Current Financing Mechanisms

- General Tax Revenues, Property Assessments
- Dedicated Tax Revenues (Trust Funds, Enterprise Accounts)
- Equity Investment
- Debt Financing (Bonds, Notes, Other I.O.U.'S)
- Tolls, Usage Fees

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# Current Trends

- Turnkey Projects
  - Design-Construction
  - Project Finance Integration
- Export Credits
  - Materials and Equipment
  - Feasibility Studies
  - Project Finance
- Consumer Credits
  - User Finance
- Counter Trade (Barter)
  - Counter purchase (Buy Local Products)
  - Compensation Agreement (Cash and Goods)
  - Buy-Back Transaction (Buy Project Products)
- Equity Position
  - Build and Operate
  - Joint Ventures
  - Economic Risks

# New Financing Mechanisms and Ideas

- Sale/Leaseback Arrangements
- Linkage Payments, Development or impact fees
- New types of trust funds for public construction (E.G., Public Assets Preservation Trust Fund)
- Infrastructure banks or revolving fund accounts
- Innovative Packaging of financing with design/construction services (e.g. B.O.T.)
- Broadening of scope for activities by public works authorities (e.g. involvement of transit agencies in real estate development; commercial development of air rights)
- Re-assertion of the private sector role in infrastructure construction and operation

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# Structure of Capital Market

Since Depression

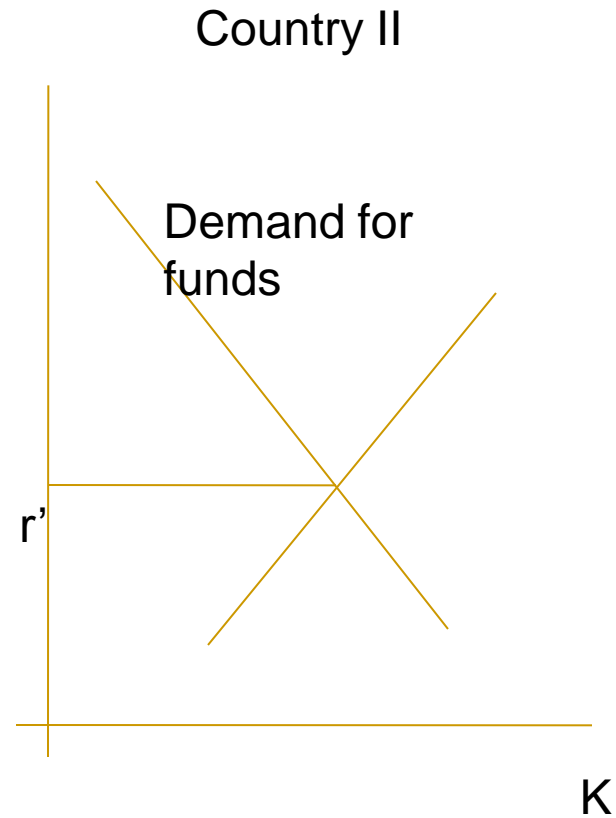
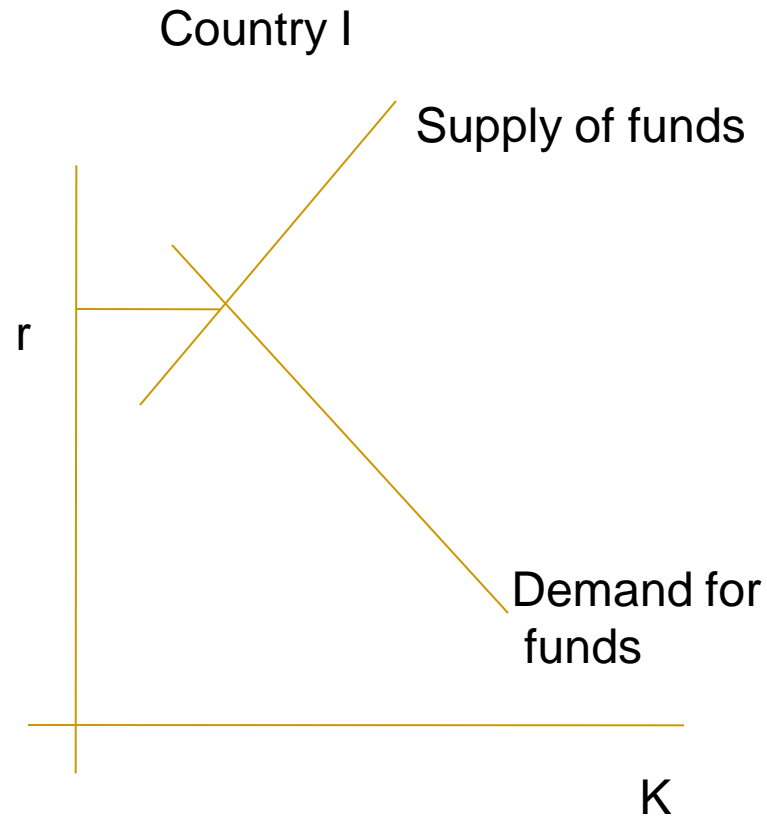
Capital Markets:

- were highly fragmented.
- Government policies prevented cross border investment,
- prevented financial intermediaries from operating in different countries,
- In the United States, there was not even interstate banking until 1990.

For borrowers:

- Source of financing was mostly localized,
- rate of return on investment reflect local financial condition and capital availability.
- As a result the rate of return would vary between similar investments (with similar risk) based on availability of capital in different countries.
- For equity investors, P/E ratio was very high in certain countries

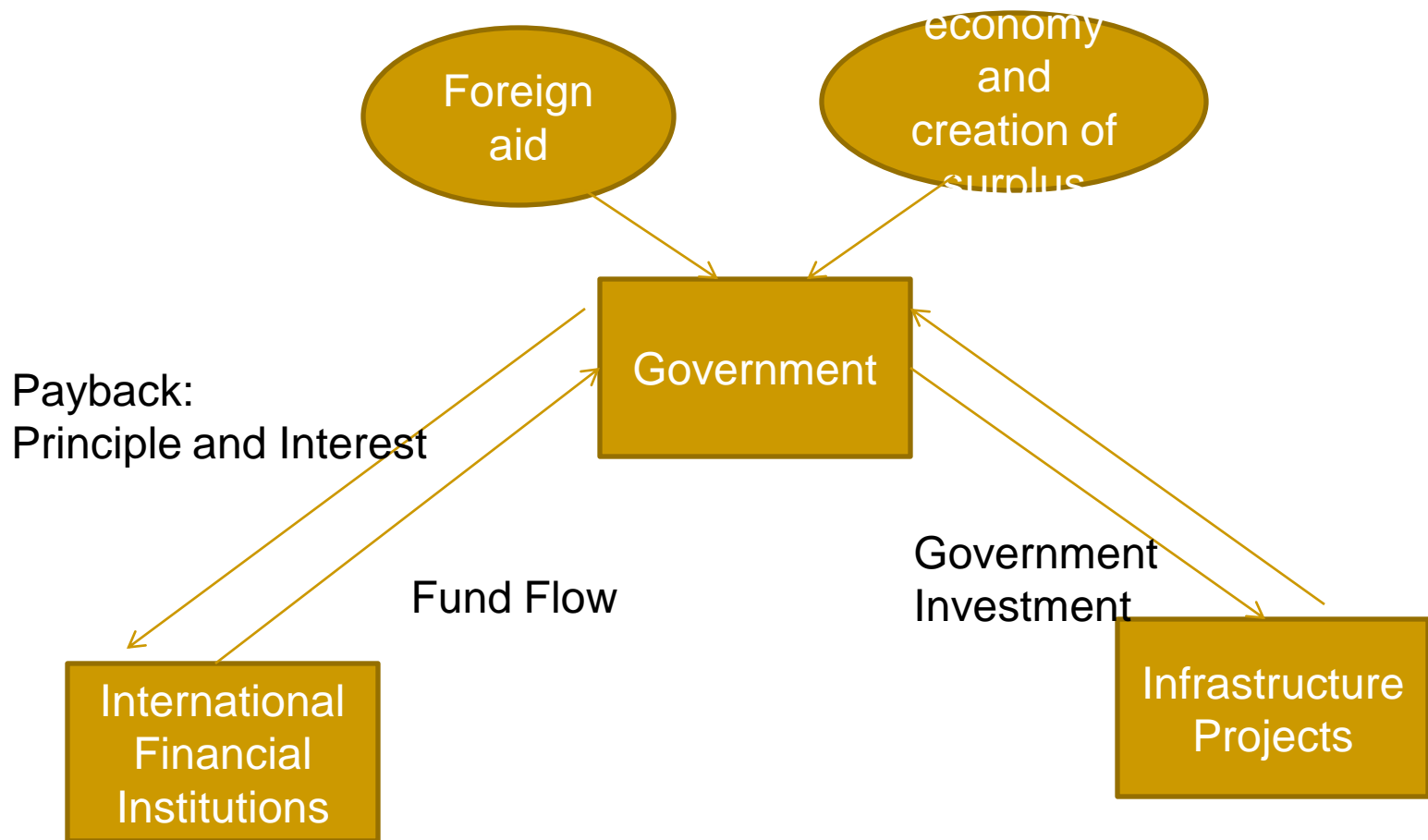
# Market Segmentation



Barrier to Capital Flow

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- Financial risks were highly localized and therefore there was not possibility of risk diversification. With a large project it meant huge exposure for lenders.
  - In the developing countries, international financing was based on sovereign borrowing and the backing was government credit rating.
  - Financing project (development financing) was based on borrowing from international financial institutions and multilateral agencies (such as world bank and regional development banks) by the sovereign country.
  - Government acted as financial intermediary. In many developing countries these investment were based on political and not effective rate of return.
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- Much of flow was from developed countries (to other developed economies or developing economies)
  - There was very little listing of equity in market outside home country. Therefore most of the financing was done through raising debt.
  - The system resulted in accumulation of debt by developing countries in 1980s with increase in possibility of default on their debt.
  - In mid 1990 South East Asian Economics collapsed:  
Created the first financial crisis since WWII

# Washington Consensus:

Washington consensus developed in 1980s as a result of potential default by developing countries after heavy borrowing in 1970s and early 1980s (because of availability of petrodollar and to support )

- Washington Consensus

- Minimizing role of government
- Emphasizing privatization
- Liberalization of trade, investment, and capital flow
- Deregulation of market
- Role of government is macroeconomic stabilization, with emphasis on inflation rather than output and employment
- Little emphasis on equity

- Alternative view:

- If markets are not well develop there will be movement toward monopolization
- More emphasis on employment, social justice, non-materialistic values (environment)
- Impotence of community

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*Margaret Thatcher, British P.M. took the lead*

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# International Capital Markets

- Justification
  - Efficiency of international capital markets
  - Less terms/controls imposed
- Government Lending
  - Financial, social and development programs
    - Economic infrastructure
    - Social Infrastructure
    - Budget Support
    - Stabilization Programs
- Government Agencies
  - Public Utilities
  - Natural Resource Exploration
  - “Key Industry”

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# International Capital Markets

- Risks for international lending institutions
  - World debt/creditworthiness
  - Country/Political Risks
  - Riskiness of Construction business
  - Developer if default (equity element)
- Co-Financing
  - With development banks
  - Commercial banks: short maturities
  - Development banks: long maturities
  - Lower Risks?
- Syndications
  - Risk Distribution

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# Areas of Comparative Advantages in International Competition

- Risks for international lending institutions
  - World debt/creditworthiness
  - Country/Political Risks
  - Riskiness of Construction business
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- Co-Financing
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  - Lower Risks?
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# Pricing Philosophy in Public Sector

- When infrastructure supported by broadly based taxes
  - Treat very large number of constituents as “investors”
  - Not all constituents are users of facility
  - Financing is “pay as you go”
- As a result
  - Taxpayers do not perceive immediately the benefits of their taxes
  - Tax funds may be diverted to other purposes
  - No direct correlation between tax and benefit
  - Once facilities are completed, they are priced essentially as a free good (no capital recovery provision)
- Thus pricing fails to act as a controlling mechanism with respect to either capacity or demand in public facilities (e.g., highways, transit, water)

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# Pricing Philosophy in Private Sector

- Predicted upon balancing adequate rate of return with attraction and satisfaction of sufficient demand
- Market mechanisms regulate not only price but also available capacity and adequacy of services
- Users select desired services and quantities from set of already available options, with demonstrated track records and known prices.
- Users' willingness to pay supported by readily perceived benefits, quality and reliability of service
- Examples; housing; airlines; freight carriers, utilities (telephone electricity); toll roads



# Financing Aspect of Construction

- Owner Financing
  - Financing Public Projects
  - Financing of Private Projects
  
- Contractor Financing
  - Financial Implications of Bidding and Contract Methods
    - Lump Sum or Fixed Price Contract
    - Unit Price Contract
    - Cost Plus Fee Contract
    - Target Price Plus Profit Contract
    - Guaranteed Maximum Price Contract
  
  - Typical Cash Flows of a Construction Project
    - Pre-Bid Expenses
    - Bonds
      - Types of Bonds
      - Cost of Bonds
      - Benefits of Bonds
      - Bond Underwriting

# Financial and Management Issues of Interest to Commercial Banks

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## Financial Issues

Growth record  
Trends in profits  
Credit rating  
Fixed payments  
Bonding capacity  
Other bank references  
Purpose of credit  
Source of repayment  
Timing of repayment  
Cash flow projections  
Business exposure  
Political exposure

## Management Issues

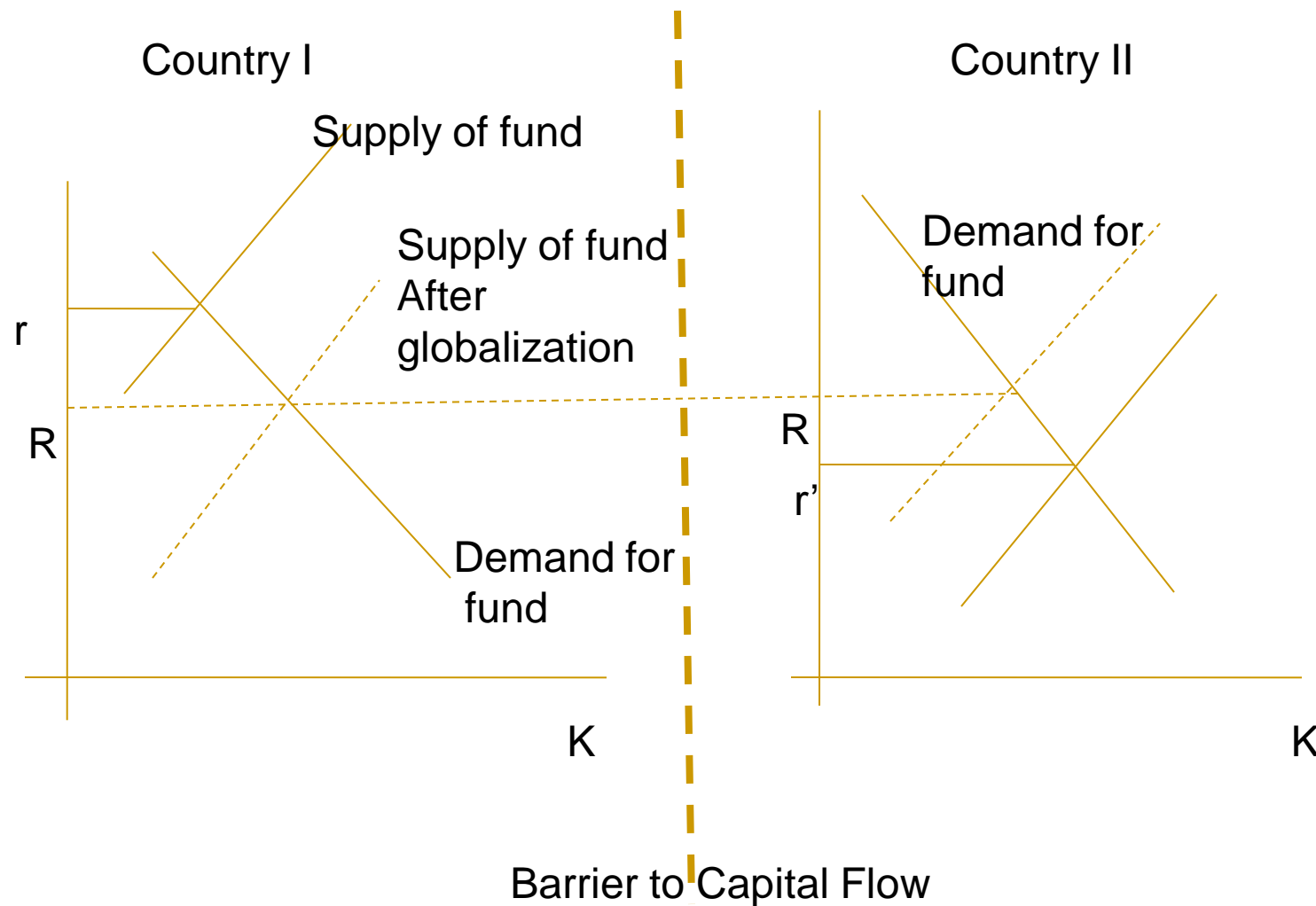
Management structure  
Management capabilities  
Management information systems  
Management practices  
Equipment policies  
Types of projects  
Countries working  
Outlook of operations  
Reputation among clients  
Reputation among subcontractors

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# What Happened as a Result of Globalization of Financial Market

- Flow of capital increased across regions to where capital can receive the highest return relative to risk.
- Capital flow across regions resulted in convergence of rate of return internationally
- There was a tendency toward equalization of rate of return (adjusted for risk) in various markets across globe.

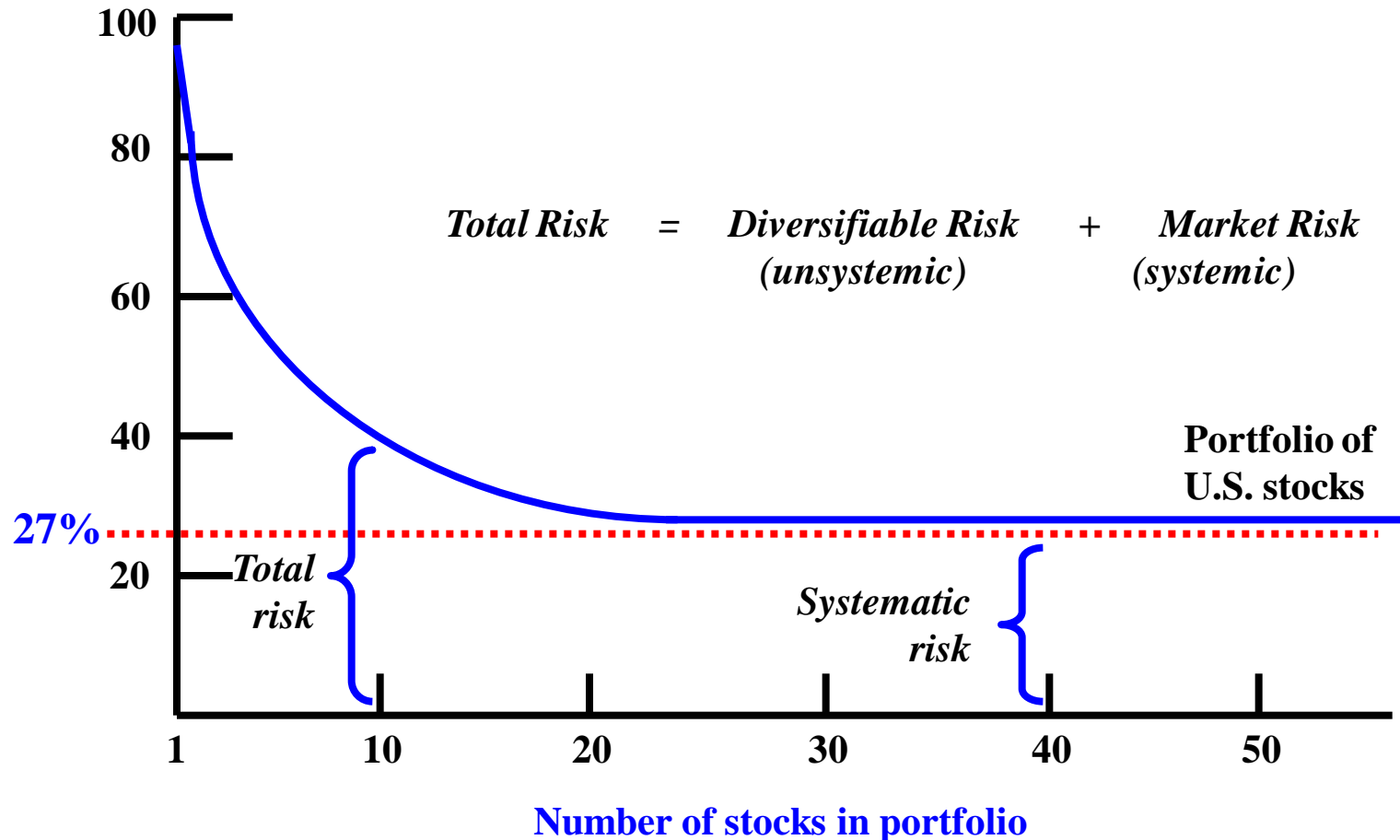
# Market Capital Market Integration



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- A great deal of lending was for specific project and using securitization of asset and less of lending to government.
  - Syndication resulted in risk diversification for lenders reducing total exposure to specific country –sector-and project.
  - Financial availability increased globally and there was a great deal of cross boarder financial activities.
  - A reverse flow from emerging economies to developed economies and to other developing countries.
  - Financial Innovations played a major role in growth and globalization of financial market.
  - Technological advancement integrated the global markets

# Portfolio Risk Reduction Through Diversification

$$\text{Percent risk} = \frac{\text{Variance of portfolio return}}{\text{Variance of market return}}$$



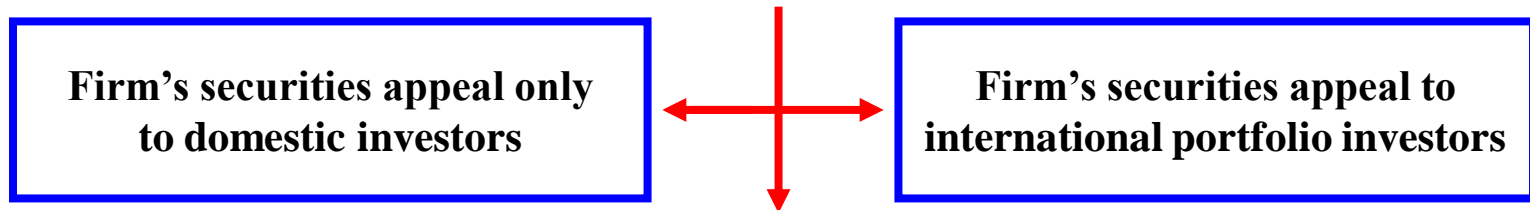
*By diversifying the portfolio, the variance of the portfolio's return relative to the variance of the market's return (beta) is reduced to the level of systemic risk -- the risk of the market itself.*

# Dimensions of the Cost and Availability of Capital Strategy

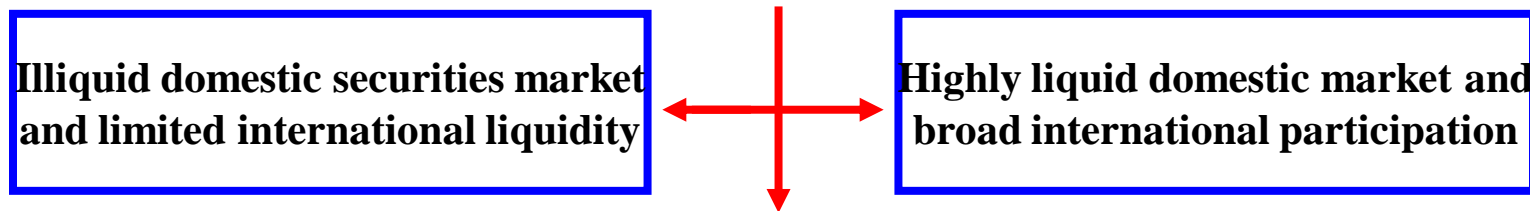
## Local Market Access

## Global Market Access

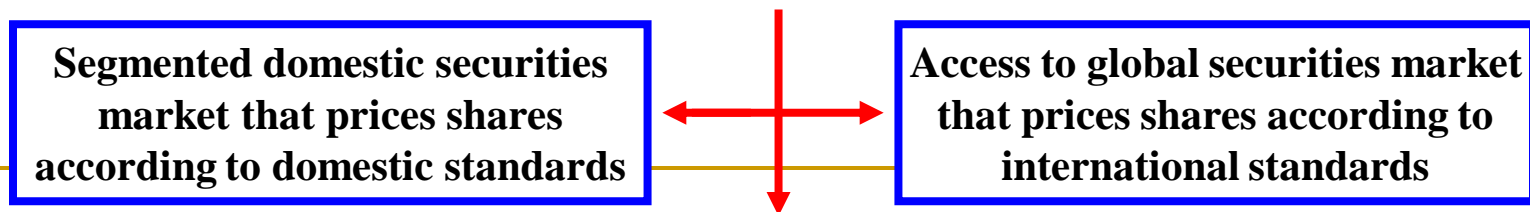
### *Firm-Specific Characteristics*



### *Market Liquidity for Firm's Securities*



### *Effect of Market Segmentation on Firm's Securities and Cost of Capital*



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# Globalization and Risk

- Risk Diversification
- Systemic risk: global financial contingent



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# Designing a Strategy to Source Equity Globally

- Most firms raise their initial capital in their own domestic market.
- However, most firms that have only raised capital in their domestic market are not well known enough to attract foreign investors.
- Incremental steps to bridge this gap include conducting an international bond offering and/or cross-listing equity shares on more highly liquid foreign stock exchanges.

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# Foreign Equity Listing and Issuance

- Cross-listing attempts to accomplish one or more of many objectives:
  - Improve the liquidity of its existing shares and support a liquid secondary market for new equity issues in foreign markets
  - Increase its share price by overcoming mis-pricing in a segmented and illiquid home capital market
  - Increase the firms visibility
  - Establish a secondary market for shares used to acquire other firms

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# Private Placement

- One type of directed issue with a long history as a source of both equity and debt is the *private placement* market.
- For example, a private placement is the sale of a security to a small set of qualified institutional buyers under SEC Rule 144A.
- Since the securities are not registered for sale to the public, investors have typically followed a “buy and hold” policy.
- Private placement markets now exist in most countries.

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# Alternative Instruments to Source Equity in Global Markets

- Private equity funds are usually limited partnerships of institutional and wealthy individual investors that raise their capital in the most liquid capital markets.
- These investors then invest the private equity fund in mature, family-owned firms located in emerging markets.
- The investment objective is to help these firms to restructure and modernize in order to face increasing competition and the growth of new technologies.
- Private equity funds differ from traditional venture capital funds as private equity funds operate in many countries, fund companies in many industry sectors and have often have a longer time horizon for exiting.

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1.463J The Impact of Globalization on the Built Environment  
Fall 2009

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