**Findings**

**Case 1: Agosin and Mayer (2000)**

- **"Crowding In Effect" in Asia: Proper Policies led to this effect**
  - Joint Ventures
  - Ways to Guarantee Technology Transfer
- **"Crowding Out Effect" in Latin America: A Lack of Policies**
  - Investment was very Liberal and Allowed to Flow Easily
  - Few to No Policies Abated Foreign Capital
  - This does not hold true for Chile
- **"Null Effect" in Africa**
  - Each Country was Substantially Different

**Case 2: Hanson (2001)**

- **Should Countries give Multinational Corporations (MNCs) Incentives to Setup Industries?**
  - Three effects from MNCs:
    1. Raises demand for labor and other factors; therefore factor income
    2. Crowds domestic firms of similar industries out
    3. Generates spillovers which may raise productivity
  - The effects are ambiguous
  - In both Brazil and Costa Rica the first and third conditions did not hold while the second did.
  - GM and Ford in Brazil should not have received incentives
  - Costa Rica was prudent in not offering incentives to Intel
**Foreign Capital Flows**

### Findings

**Case 3: Prasad, Rajan and Subramanian (2007)**

**major findings**

Financial Development is Key: With Weak Financial Systems an “Inappropriate” form of Investment Occurs

- Short Term forms of capital investments
- Large Inflows and Outflows
- Capital is not used efficiently (they do not find the most suitable projects to fund)
- Lack of Intellectual Property Rights Stifles Technological Progress

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**Foreign Capital Flows**

### Macroeconomic Summary

- ambiguous results
  - different effects among countries
  - policies to have a strong impact
  - impact of financial development

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**Foreign Capital Flows**

### The Firm’s Viewpoint

**FDI = O + L + I**

- **O**: Ownership Advantages
  - monopolistic
  - technological
  - economies of large size

- **L**: Location Advantages
  - economic
  - political
  - social

- **I**: Internalization Advantages


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**Foreign Capital Flows**

### The Country’s Viewpoint

- **Know-How Spillover Effect**

When should a spillover occur?

- Profit function: \( \pi_t = P_t^*Q_t - C_t^*Q_t \)
- Technology: \( T_t > 1, T_1 > 1 \)
- Cost function: \( C_t^*Q_t = P_t^*Q_t + 1/T_t^*Q_t \)
  \( P_t = 1/T_t \)
  \( C_t^* = 1/T_t^* + 1/T_t^*Q_t \)
- Profit maximization: \( \max \pi_t = P_t^*Q_t - 1/T_t^*Q_t + 1/T_t^*Q_t \)
  \( P_t = 1/T_t + 1/T_t \)

* = multinational company; d = domestic competitor; s = domestic supplier

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When should a not spillover occur?

- Competitors are less able to benefit from the technology transfer.
- The MNE is more able to internalize the business and keep the benefits to itself.

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Case 1: Djankov and Hoekman (1999)

Research summary:
- Czech Republic
- 1992-97
- 513 firms

Major findings:
- Foreign investors are attracted to firms with above average performance and size.
- Higher initial labor productivity.
- Higher average total factor productivity growth.
- FDI increases a firm's output, due to better technology and more capital stock.
- FDI decreases the output of other firms in the same industry.
### Findings

**Case 2: Atken and Harrison (1999)**

**Research Summary**
- **Venezuela**
- **1976-1989**
- **43010 samples**

**Major Findings**
- FDI increases the firm’s productivity (could stem from a selection bias)
- FDI decreases the productivity of other firms in the same sector (even long term) because other firms are relatively less competitive
- There is a positive spillover from foreign investment to the firm (but not to other domestic firms)

**Microeconomic Summary**
- FDI has a positive impact...
  - ...on the affected firm
  - ...on the supplier industry
  - ...but NOT on the firm’s competitors

**Case 3: Javorcik (2004)**

**Research Summary**
- **Lithuania**
- **1996-2000**
- **11630 samples**

**Major Findings**
- FDI increases the output of the supplier industry: Suppliers benefit from a technology transfer, since the MNE needs to be supplied with sufficient quality goods in order to produce their products with high standards (e.g. exporting goods to rich countries requires higher technology than the prevailing supplier industry can offer)
- No evidence of intrasector spillovers
Foreign Capital Flows

### Financial System

- **Well Developed Financial System**
  - **Domestic Credit**
    - Financial Crisis of 1982-83 led to large capital outflows which taught Chile to not allow lax credit in times of large capital inflows which lead to consumption booms and their consequential bust.
  - **Efficient Allocation of Capital**
    - This is due to the well-developed financial system which gives the intermediaries the necessary skill to find superior projects.
  - **Multiple Equilibria**
    - Appreciated Exchange Rate with Large Capital Inflows
    - Depreciated Exchange Rate with Large Capital Outflows

### Inflow Management Policies

- **Focus on Long Term Investment over Short Term**
  - Reserve Requirement on Foreign Capital
  - Foreign Deposits Must be Maintained for 1 Year
  - Foreign Direct Investment (FDI) is Given Priority
    - Screen to make sure financial capital is not disguised as FDI
- **Ease Capital Outflows**
  - Pension Funds may invest 12% abroad
  - This lead to Chilean firms acquiring multiple firms abroad, particularly in neighboring countries.
Foreign Capital Flows

**Exchange Rate Policy**

- Peg to a Basket of Currencies
- Attempt to Limit Speculative Capital Flows
  - Dirty Float but fails to limit currency arbitrage
  - Increasing the reserve requirement might have softened appreciation trend

**Effectiveness of Policies**

- Short Term Financial Capital
  - Added Cost even with Evasion
- Higher Proportion of FDI inflows than other Countries

**Impact on Investment, Saving and Growth**

- Rise in Domestic Saving and Investment Rates
  - Capital Inflow
- Management of Inflows Improve Macroeconomic Stability
  - Keeps effective demand close to productive capacity
- Discouraged Volatile forms of Foreign Capital
  - Did not have same impact on FDI

Foreign Capital Flows

Introduction | Macroeconomics | Microeconomics | Case Studies | Conclusions

Spillovers: Study 1

• Foreign Owned Firms
  - Higher Subcontracting Rates over Domestic Firms
  - Subcontracting allows many third party domestic firms to be affected and employed for the MNC

• Maquiladora Industry
  - An industrial sector which employs many people in a capital intensive business for the sole purpose of export.
  - Gained Large Amounts of Foreign Investment
  - Associated with high Positive Spillovers and Technology Transfer


Spillovers: Study 2

• Increased Productivity of Foreign Owned Firm
  - Strong "Directed Effect"
  - The firm that comes under foreign ownership increases its own productivity while other firms do not benefit.
  - Usefulness questionable
  - This is because once the foreign ownership leaves the country all productivity benefits are lost and more importantly were never transferred to local firms.

• Spillovers Weak or Non-Existent
  - Blomstrom and Persson (1983) found spillovers
  - Possible selection bias (Causality problem)


Impacts of Foreign Capital

• Labor Productivity
  - Modest Upward Trend following return of Foreign Capital (1989)

• Blomstrom (1986)
  - Concluded entering MNC’s (1970-75) had no effect on Technological Efficiency

• Economic Liberalization of 1980’s
  - Led to large influx of foreign capital
  - Growth Rate increased from 6% a year in 1970’s to 12% a year in mid 1980’s

Foreign Capital Flows

**Policies**

- **Technology Adoption**
  - Focused on MNC’s which came with possibility for high technology transfer

- **Debt Conversion Mechanism of 1986**
  - Attracted FDI into “High Priority” Sectors
    - Significantly increase production capacity
    - New technology in export sector
    - Improve country’s infrastructure

- **Tax Concessions and Remittances Weaken Foreign Capital Usefulness**

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**Source:** Ramirez. 2000. FDI in Mexico: A Cointegration Analysis.

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**Foreign Capital Flows**

**China**

**Annual FDI (USD millions)**

- **1970**
- **1972**
- **1974**
- **1976**
- **1978**
- **1980**
- **1982**
- **1984**
- **1986**
- **1988**
- **1990**
- **1992**
- **1994**
- **1996**
- **1998**
- **2000**
- **2002**
- **2004**
- **2006**

**Number of Projects**

- **Joint Venture**: 140165
- **Cooperative**: 52565
- **Solely Foreign Owned**: 225883
- **Others**: 133

**Contract Amount (USD bn)**

- **Joint Venture**: 333
- **Cooperative**: 306
- **Solely Foreign Owned**: 163
- **Others**: 5

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**Source:** World Economic Report, 2008.

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**FDI Patterns in China (2002)**

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**Source:** China Ministry of Commerce, 2003.
China’s FDI Policies

1. Strengthen industrial base
2. Promote linkages
3. Increase export level
4. Balance trade
5. Promote regional development
6. Transfer technology

Reasons for Export-Oriented FDI

- Small domestic market
- Restrictive FDI policy/limiting domestic sales
- Ideal low-cost production location
- Competition boost supporting industries
- Formation of industrial clusters
- Helps to attract an increasing amount of FDI
- Attracts more FDI

Export Tendency

- 1998
- 1999
- 2000
- 2001
- 2002

Tariff Policy

- Imports
  - VAT
  - Processing trade with materials supplied by clients (PTS)
  - Processing trade with imported materials (PTI)
  - Normal imports
domestically sold PTS and PTI

- If the MNE exports, no standard VAT applies on its imports of supply goods.
- If the MNE does not export, standard VAT applies.
- If the MNE buys from a domestic supplier, PTS tariff applies.
- If the MNE buys from an overseas supplier, PTI tariff applies.

Source: Moran, 2005. Does FDI Promote Development?
Foreign Capital Flows

**Tariff Policy 2**

**Value Increment Rate**
- Value increment rate as a measure of profit to the company resulting from adding value to imported goods
- Using goods from domestic supplier (PTS applies) result in higher profits, than using imported goods
- This implies that PTS and PTI tariff are different
- China achieves that a MNE would by goods from domestic suppliers, boosting the domestic industry

**Source:** Moran. 2005. Does FDI Promote Development?

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**R&D-Oriented FDI**

- **Jiang 2002:** 65% of 127 MNEs adopted technology that filled in gaps in China.
- **Wang 1995:** 52% of 33 MNEs employed technology that filled in gaps in China.
- **Wang 1998:** 95% of 40 Japanese enterprises filled certain technological gaps in China or adopted some advanced technology.
- **He and Zhang 1999:** Among all Beijing’s FDI projects 81% ushered in advanced technology from abroad.
- **Jiang 2004:** 60% of MNEs have the same technological level as parent company while 40% lag 2-3 years behind.

**Reasons for R&D-Oriented FDI**

- meet business needs
- use China’s scientific talents (low-cost)
- required by policy, improves relations with government

**Crowding-Out**

- FIE recruit talents through higher wages
- Restructured SOEs meet current market requirements
- More developed private enterprises attract talents
- Students abroad return back to China

**Spillovers**

**Source:** Moran. 2005. Does FDI Promote Development?
Foreign Capital Flows

Spillovers or Crowding-Out?

**Spillovers**
- Foreign investors restrict technological development of domestic partners
- Well-developed industrial foundation encourages domestic input purchases
- Competition spur technology spillover

**Crowding-Out**
- Foreign investors restrict technological development of domestic partners
- Domestic investors of joint-ventures unable to set up R&D centers


Technology Policy 1

Swap Market for Technology

- China requires a MNE to import advanced technology in order to enter the domestic market
- This is called a swap market for technology

Technology Policy 2

Negative Effects

- In order to force the import of advanced technology, China needs to control the access to the domestic market
- This results in high tariffs and barriers, which in turn prohibits competition in the domestic market
- This leads to a low motivation to pursue technological advances domestically
