

The Global Firm

Lecture 1

Facts and Issues about Multinational Enterprises (MNEs)

Paul Deng

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Logistics

- My office: PH 16A, 3.55 (3rd floor)
 - Appointment by email, pdd.eco@cbs.dk
 - Or walk in when door is open
 - The first-half lecture notes can be downloaded using the link below, right after each class:
 - www.pauldeng.com/teaching/global_firm
- Note: Niels will have his own way of distributing slides



Outline

- Basic facts about MNEs
 - 7 stylized facts
 - 5 major issues



Surprising Facts about MNEs - teaser

- Foreign-owned MNEs employ **one worker in every five (or 20%)** in European manufacturing, and **one in every seven (or 14.3%)** in US manufacturing.
- MNEs sell **one Euro in every four (or 25%)** of manufactured goods in Europe; and **one dollar in every five (or 20%)** in the US.
- The gross product (value added) of all MNEs was **roughly 25%** of the world's GDP in 1997.
- The **intrafirm trade** (or trade within MNE and between affiliates) accounts for **1/3** of world's total trade volume.
- Further, **another 1/3 of world trade** is accounted for by transactions in which MNEs are in one of the two sides of the exchange.
- **The 700 largest** MNEs account for roughly **50%** of world R&D spending, or **70%** of world business R&D spending (excluding government R&D).

Further on Intrafirm Trade

Table 1: Share of Imports into the U.S. that are Intra-Firm

| Year | <u>India</u> | | <u>China</u> | |
|------|------------------|-----------------------|------------------|-----------------------|
| | Intra-firm Share | Total Imports | Intra-firm Share | Total Imports |
| 1996 | .065 | 6.14×10^9 | .153 | 5.12×10^{10} |
| 1997 | .082 | 7.28×10^9 | .169 | 5.96×10^{10} |
| 1998 | .068 | 8.19×10^9 | .185 | 6.56×10^{10} |
| 1999 | .097 | 6.78×10^9 | .189 | 6.82×10^{10} |
| 2000 | .100 | 8.17×10^9 | .193 | 8.43×10^{10} |
| 2001 | .088 | 9.70×10^9 | .175 | 8.61×10^{10} |
| 2002 | .143 | 9.15×10^9 | .174 | 1.02×10^{11} |
| 2003 | .145 | 1.04×10^{10} | .204 | 1.19×10^{11} |
| 2004 | .149 | 1.26×10^{10} | .193 | 1.46×10^{11} |
| 2005 | .174 | 1.56×10^{10} | .195 | 1.71×10^{11} |
| 2006 | .214 | 1.61×10^{10} | .189 | 1.93×10^{11} |

→ Most trade tensions/disputes tend to focus on nations; The discussion of the importance of intrafirm trade is often missing in news headlines.

Stylized Facts about MNEs

- **Fact 1.** FDI grew dramatically in the last 15 years of the 20th century, far outpacing the growth of trade and income.

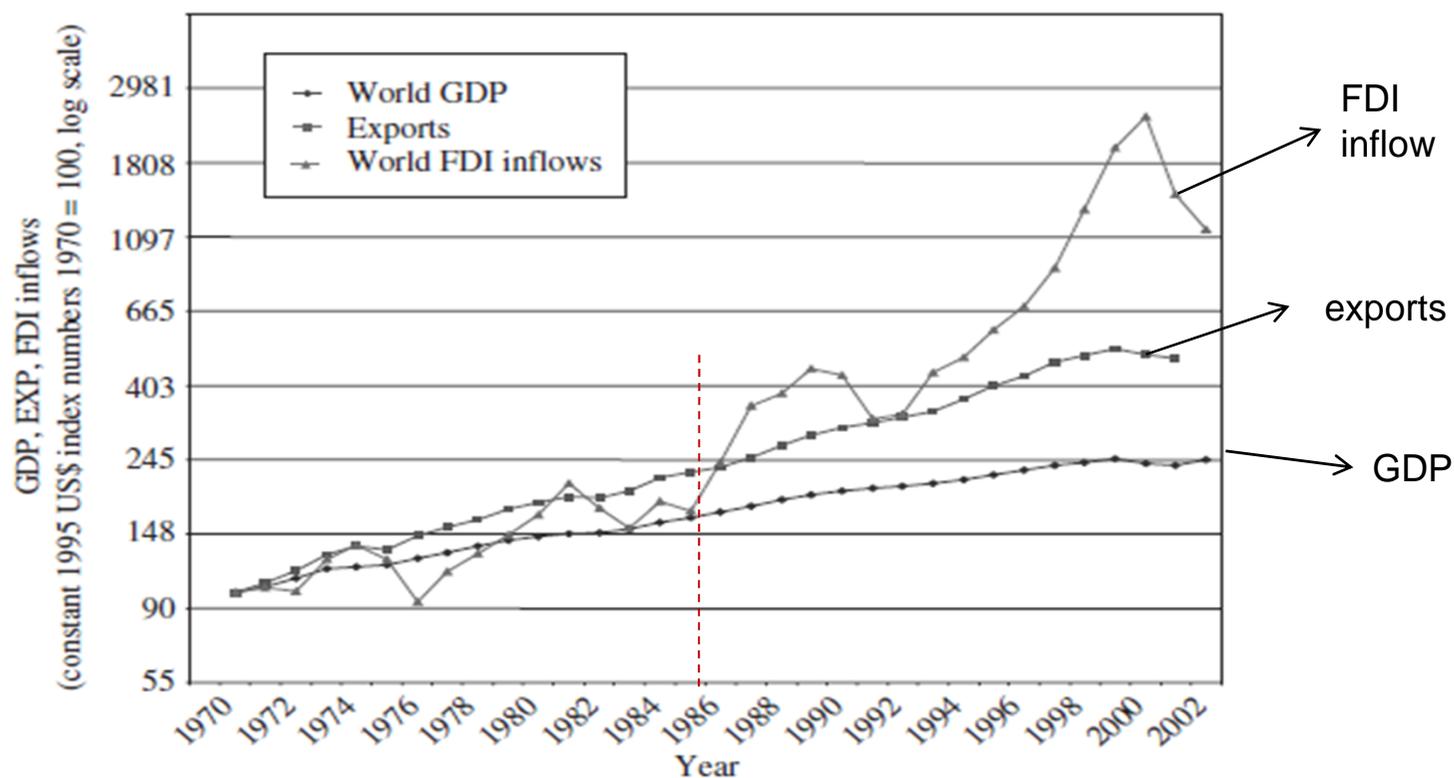


Figure 1.1. Trends in world GDP, exports and FDI inflows, which are index numbers set equal to 100 in 1970 and transformed into a logarithmic scale. *Source:* authors' calculations on World Bank WDI and UNCTAD data.



Further on Fact 1

- The period of 1986-2000 saw an enormous growth of MNE activities: the FDI inflow grew much faster than either trade or income.
- During this period, world real GDP (i.e., nominal GDP minus inflation) increased by 2.5% per year, exports increased by 5.6% per year, while FDI inflows increased by **17.7%** per year.
- However, despite the rapid growth, FDI flows remain much smaller than trade flows: In 2001, world exports were \$7,666 billion, whereas world FDI inflows were \$823 billion, or just a little over 10% of world total exports (note the difference between growth rate and level) – another sharp comparison: the yearly value of world exports is only worth 2-3 days foreign exchange transactions!!!

Stylized Facts about MNEs

- **Fact 2.** FDI originates (or outflow) predominantly from advanced countries

Table 1.2. FDI outflow, % share by area of origin.

| Area of origin | 1970–73 | 1974–78 | 1979–83 | 1984–88 | 1989–91 | 1992–94 | 1995–97 | 1998–2001 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Advanced countries</i> | | | | | | | | |
| USA | 49.78 | 42.19 | 30.94 | 16.56 | 15.44 | 26.95 | 22.68 | 15.74 |
| Europe | 41.01 | 43.64 | 46.91 | 53.32 | 54.67 | 46.07 | 51.02 | 69.73 |
| Japan | 4.23 | 6.56 | 7.97 | 14.45 | 19.29 | 7.12 | 5.97 | 3.14 |
| Oceania | 0.89 | 0.92 | 1.38 | 3.75 | 1.39 | 1.77 | 1.21 | 0.26 |
| Total advanced countries | 99.62 | 98.33 | 94.87 | 93.27 | 93.39 | 84.71 | 84.93 | 92.87 |
| <i>Developing and transition countries</i> | | | | | | | | |
| Latin America | 0.12 | 0.52 | 1.03 | 0.83 | 0.93 | 2.22 | 2.19 | 2.17 |
| Africa | 0.19 | 0.62 | 2.29 | 1.41 | 0.63 | 0.74 | 0.66 | 0.10 |
| Asia (excluding Japan) | 0.07 | 0.51 | 1.78 | 4.47 | 5.03 | 12.23 | 11.81 | 3.99 |
| Oceania | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central and Eastern Europe | 0.00 | 0.03 | 0.02 | 0.01 | 0.01 | 0.09 | 0.38 | 0.34 |
| Total developing and transition countries | 0.38 | 1.67 | 5.13 | 6.73 | 6.61 | 15.29 | 15.07 | 7.13 |
| World (%) | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| World (yearly average, million US\$) | 17 588 | 29 768 | 49 002 | 104 790 | 219 429 | 237 132 | 404 289 | 928 458 |

Source: UNCTAD.

Stylized Facts about MNEs

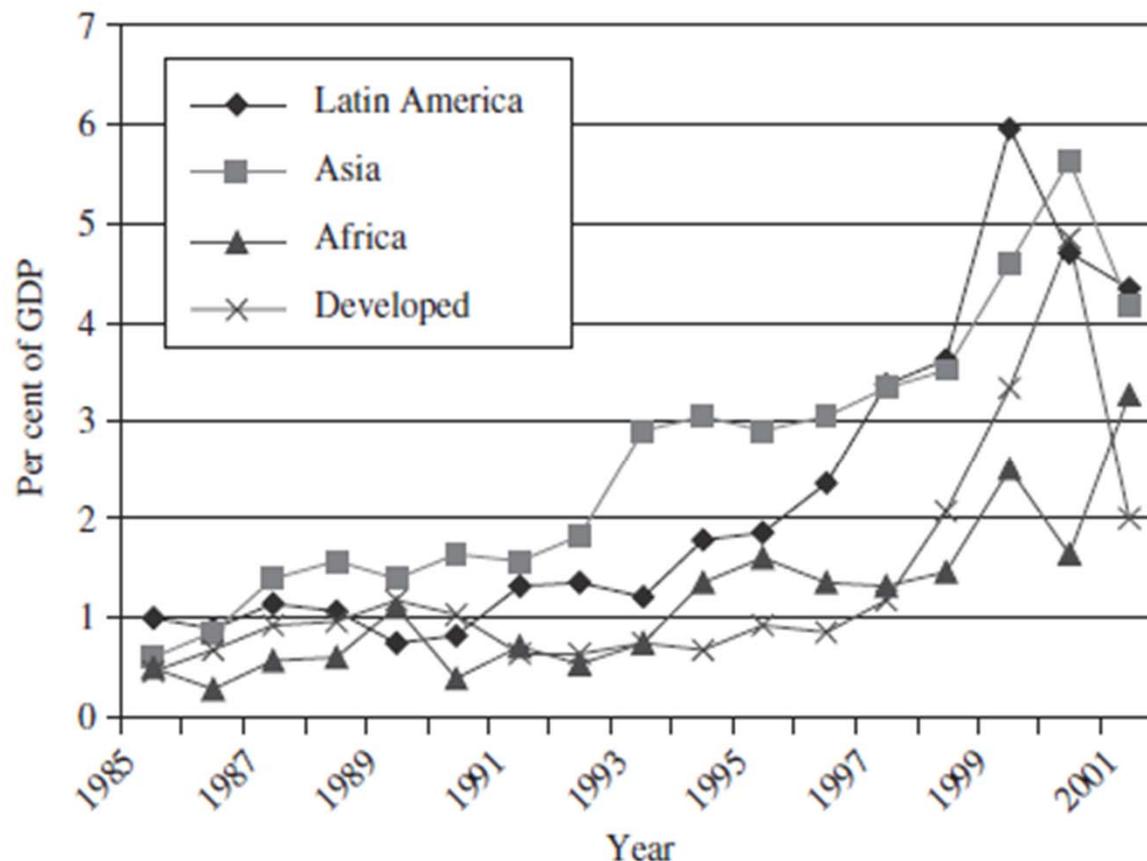
- **Fact 3.** FDI goes (or inflow) predominantly to advanced countries, but the share of developing countries has been rising

Table 1.3. FDI inflow, % share by area of destination.

| Area of origin | 1970-73 | 1974-78 | 1979-83 | 1984-88 | 1989-91 | 1992-94 | 1995-97 | 1998-2001 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Advanced countries</i> | | | | | | | | |
| USA | 8.97 | 13.40 | 26.04 | 39.07 | 24.59 | 17.27 | 20.44 | 22.60 |
| Europe | 44.20 | 43.38 | 32.44 | 28.11 | 46.36 | 35.12 | 31.34 | 49.91 |
| Japan | 0.79 | 0.47 | 0.59 | 0.38 | 0.39 | 0.68 | 0.24 | 0.78 |
| Oceania | 6.82 | 5.11 | 4.56 | 5.24 | 4.33 | 3.53 | 3.01 | 0.45 |
| Total advanced countries | 76.60 | 75.25 | 69.34 | 77.53 | 78.69 | 59.58 | 57.98 | 78.12 |
| <i>Developing and transition countries</i> | | | | | | | | |
| Latin America | 11.63 | 13.69 | 12.74 | 7.93 | 6.38 | 11.12 | 12.66 | 9.53 |
| Africa | 5.17 | 3.41 | 2.49 | 2.57 | 1.89 | 2.11 | 1.92 | 1.22 |
| Asia (excluding Japan) | 5.84 | 7.36 | 15.10 | 11.76 | 12.14 | 24.24 | 23.23 | 8.51 |
| Oceania | 0.70 | 0.20 | 0.23 | 0.16 | 0.13 | 0.11 | 0.08 | 0.02 |
| Central and Eastern Europe | 0.00 | 0.02 | 0.03 | 0.03 | 0.71 | 2.66 | 3.88 | 2.60 |
| Total developing and transition countries | 23.40 | 24.75 | 30.66 | 22.47 | 21.31 | 40.42 | 42.02 | 21.88 |
| World (%) | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| World (yearly average, million US\$) | 15 392 | 26 521 | 54 875 | 102 211 | 184 665 | 215 624 | 397 965 | 976 933 |

Source: UNCTAD.

Time Trends in FDI Inflow



→ The share of FDI inflow received by the developing and transition economies jumped from 24.6% during 1998-93 to 40% during 1992-1997, then fell to 21.3% following Asian financial crisis.

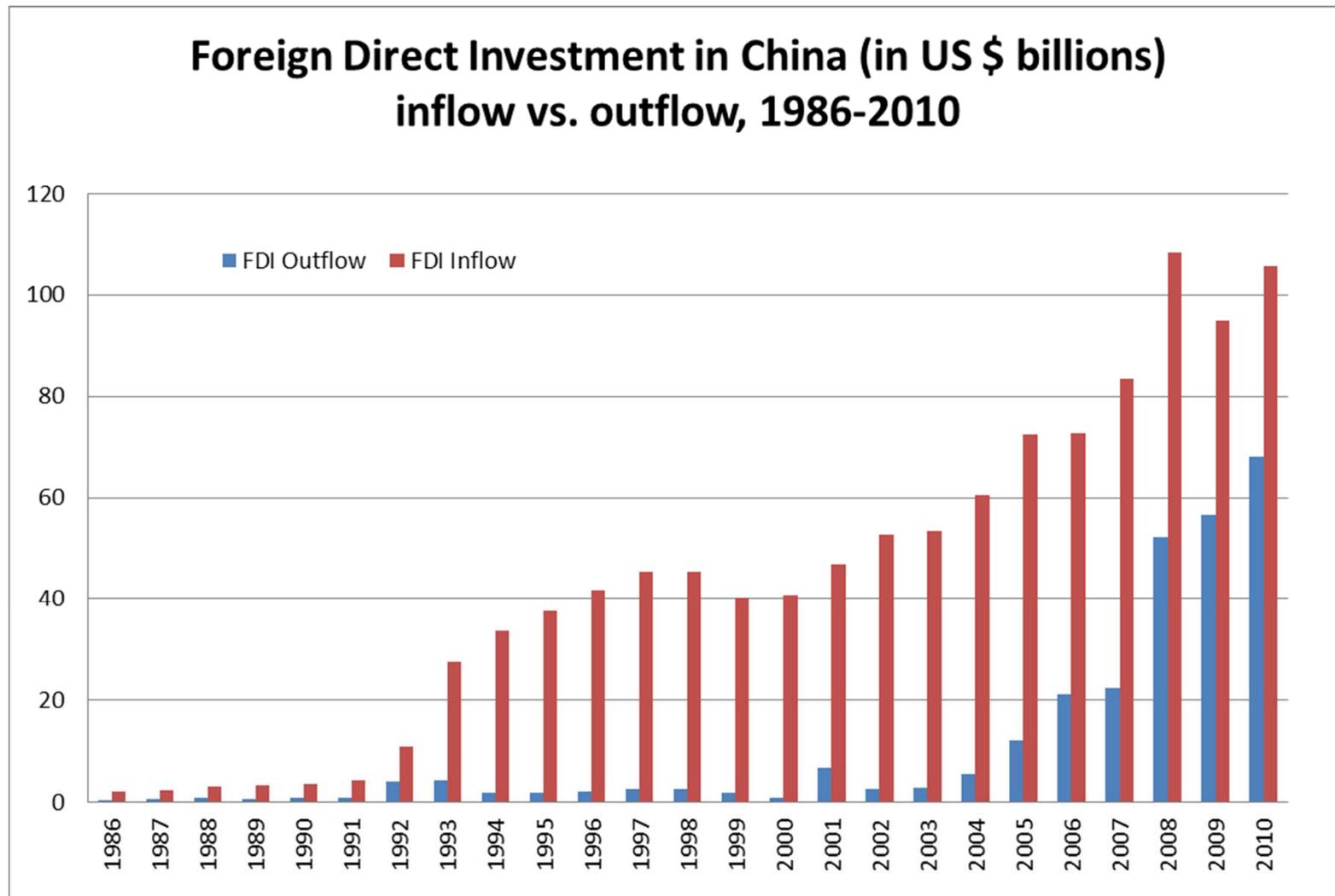
Figure 1.3. Hosts of inward FDI. Source: UNCTAD FDI/TNC database.



Summary of FDI Flow

- FDI has grown rapidly throughout the world, especially in late 1980s and late 1990s.
- The bulk of FDI flows between developed countries: In 2000, developed countries were the **source of 91% of FDI (out)flows and also the recipient of 79% of FDI (in)flows.**
- **80% of inflows** to developing countries (including transition economies) went exclusively to China, Hong Kong and South Korea, with China alone accounting for 25% of the total.
- One of the most interesting phenomena in the most recent decade has been the FDI outflow (or OFDI) from China.

Chinese FDI vs. OFDI



Stylized Facts about MNEs

- **Fact 4.** Mergers & Acquisitions (or M&As) account for the dominant share of FDI flows, especially among developed countries.

Table 1.4. Cross-border M&A investments as a percentage of FDI inflows to the host countries.

| | 1987–91 | 1992–94 | 1995–97 | 1998–2001 |
|---|---------|---------|---------|-----------|
| World | 66.29 | 44.75 | 60.18 | 76.23 |
| Developed countries | 77.49 | 64.93 | 85.39 | 88.96 |
| Developing countries and transition economies | 21.94 | 15.49 | 25.79 | 35.74 |

Source: UNCTAD, FDI/TNC Database.

→ One interesting issue in this area is how the global liquidity (and monetary policy that caused it) is related to the global M&A waves → 2011 is forecast to be a very active year in M&A history.

Stylized Facts about MNEs

- **Fact 5.** Most FDI is concentrated in skill- and technology-intensive industries. (Why?)

Table 1.6. Share of foreign subsidiaries in total manufacturing employment by industry (manufacturing).

| Sector (1998) | France | Germany | UK | USA |
|---------------------------------------|--------------|-------------|--------------|--------------|
| Food, beverages, tobacco | — | 4.80 | 10.60 | 11.56 |
| Textiles, clothing, leather, footwear | 14.20 | 3.40 | — | 4.67 |
| Wood products | 17.70 | 2.70 | — | 1.28 |
| Paper, printing and publishing | 26.80 | 2.50 | — | 5.57 |
| Chemical products | 44.70 | 10.3 | 35.80 | 37.04 |
| Rubber and plastic products | 29.40 | 4.70 | 27.70 | 13.78 |
| Non-metallic mineral products | 28.90 | 4.00 | 18.80 | 24.57 |
| Basic and fabricated metals | 18.60 | 4.20 | 25.70 | 10.07 |
| Machinery, total | 38.90 | 7.60 | 40.40 | 12.20 |
| Electrical electronic equipment | 34.50 | 8.80 | 41.10 | — |
| Scientific instruments | 29.90 | 7.90 | 27.30 | — |
| Transportation equipment | 20.60 | 7.30 | 45.60 | 19.40 |
| Other manufacturing | 18.70 | 2.50 | 17.10 | — |
| Total manufacturing | 27.80 | 6.00 | 27.30 | 13.40 |

Source: OECD 2001b; STAN Database for Industrial Analysis, Vol. 2002, Release 02.

Stylized Facts about MNEs

- **Fact 6.** MNEs are larger in size and most of the time more productive than those in host countries.

Table 1.7. Comparing average size and labour productivity of foreign affiliates and all firms in manufacturing for the G5 countries.

| Year (1997) | France | | Germany | | Japan | | UK | | USA | |
|--|--------------------|-----------|--------------------|-----------|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| | Foreign affiliates | All firms |
| Number of employees per firm | 265.6 | 130.9 | 288.9 | 172.5 | 313.8 | 49.1 | 301.9 | 25.4 | 782.5 | 52.9 |
| Turnover per firm (millions US\$)* | 61.1 | 25.8 | 105.6 | 33.8 | 184.1 | 11.5 | 94.5 | 4.5 | 234.6 | 10.7 |
| Value added per firm (millions US\$) | 18.0 | 7.7 | — | 6.0 | 34.6 | 3.4 | 32.2 | 1.9 | 66.2 | 3.8 |
| Turnover per employee (millions US\$)* | 0.23 | 0.197 | 0.366 | 0.196 | 0.587 | 0.234 | 0.313 | 0.177 | 0.3 | 0.202 |
| Value added (millions US\$)/employees | 0.068 | 0.059 | — | 0.035 | 0.110 | 0.068 | 0.107 | 0.073 | 0.085 | 0.072 |

*US: turnover for all firms proxied by value of production.

Source: OECD 2001b; STAN Database for Industrial Analysis, Vol. 2002.



Stylized Facts about MNEs

- **Fact 7.** MNEs are increasingly engaged in international production networks.

International production network enables MNE's different stages of the production of a good to take place in different countries.

Example 1 'American' car

30% of the car's value goes to Korea for assembly, 17.5% to Japan for components and advanced technology, 7.5% to Germany for design, 4% to Taiwan and Singapore for minor parts, 2.5% to the UK for advertising and marketing services and 1.5% to Ireland and Barbados for data processing. Only 37% of the production value is generated in the United States.



Stylized Facts about MNEs

- **Fact 7.** MNEs are increasingly engaged in international production networks.

Example 2 Bobby Doll Production

“The raw materials for the doll (plastic and hair) are obtained from Taiwan and Japan. Assembly used to be done in those countries, as well as the Philippines, but it has now migrated to lower-cost locations in Indonesia, Malaysia, and China. The molds themselves come from the United States, as do additional paints used in decorating the dolls. Other than labor, China supplies only the cotton cloth used for dresses. Of the \$2 export value for the dolls when they leave Hong Kong for the United States, about 35 cents covers Chinese labor, 65 cents covers the cost of materials, and the remainder covers transportation and overheads, including profits earned in Hong Kong.”

(Feenstra, 1998, p. 35-36).



Stylized Facts about MNEs

- **Fact 7.** MNEs are increasingly engaged in international production networks.

Example 2 Bobby Doll Production (continued)

“Of the \$2 export value for the dolls when they leave Hong Kong for the United States, about 35 cents covers Chinese labor, 65 cents covers the cost of materials, ...”

→ **In other words**, Chinese workers only earn 17% of the total export value. If we assume the final resale value in the US is \$20 for a typical Bobby Doll, then China earns merely **1.7%** out of the total value chain.



Major Issues to Be Covered

1. Why do firms become multinational?
2. How do MNEs organize their global activities? For example, why some choose horizontal FDI, while others choose vertical FDI?
3. What makes MNEs choose between export, licensing, and FDI?
4. What is the effect of MNEs on host (or FDI recipient) countries? And on home (or FDI originating) countries?
5. What are the policy implications in the face of ever increasing MNE activities?

Examples of the Impact on Host Countries – a comparison between Japan and China

Table 1.1. Share of foreign subsidiaries in total manufacturing activities (%).

| | US | | Japan | | UK | | Germany | | France | |
|------------|-------|-------|-------|------|------|------|---------|------|--------|------|
| | 1994 | 1998 | 1994 | 1996 | 1994 | 1998 | 1994 | 1998 | 1994 | 1998 |
| Employment | 12.24 | 13.12 | 0.8 | 0.8 | 18.1 | 17.8 | 7.2 | 6.0 | 23.1 | 27.8 |
| Sales* | 15.9 | 21.16 | 1.4 | 1.8 | 30.6 | 31.4 | 13.1 | 10.8 | 28.7 | 31.7 |

Source: OECD 2001b; OECD STAN Database, 2002, Release 02.

Share of Foreign Firms in China's Manufacturing Sectors large and medium enterprises, 1997 vs. 2004

| year | number of firms % | | employment % | | VA % | | Sales % | |
|------|-------------------|--------------------|----------------|--------------------|----------------|--------------------|----------------|--------------------|
| | <u>foreign</u> | <u>foreign+JVs</u> | <u>foreign</u> | <u>foreign+JVs</u> | <u>foreign</u> | <u>foreign+JVs</u> | <u>foreign</u> | <u>foreign+JVs</u> |
| 1997 | 1.3% | 12.6% | 0.6% | 5.3% | 1.5% | 14.6% | 2.1% | 16.3% |
| 2004 | 29.7% | 55.5% | 23.8% | 39.9% | 19.2% | 39.7% | 24.9% | 47.2% |



Next Time...

- Firm theory in global context, read
 - Oliver Hart (1989)
 - Holstrom and Roberts (1998)