



Lecture 15 – AAE 374

- Overview of next 2 weeks
- Ten Questions on Technology in the Global Economy
- International Capital Flows - Primer
 - Foreign Direct Investment (FDI)
 - Foreign Portfolio Investment
- Causes and Effects of Capital Movements
- First Cut at FDI – Technology in broader perspective.
- Questions for Tuesday on TRIPS



Overview of Technology in the Global Economy

- Ten Questions on Technology in a Global Economy
- International Capital Flows and Technology

AFTER TODAY

- International Idea Flows/Patents/WTO –Nov 3
- FDI and Technological Catch-Up – Nov 5
- External increasing returns and dynamic comparative advantage (technology and trade) Nov 10 – 12
- Dynamic comparative advantage (E Asia) – Nov 17



Ten Questions on Technology in the Global Economy

- Why is technological change so important to growth and development?
- How many technological change “revolutions” do you think the world has experienced?
- What are the cutting-edge technologies of the current era that might define our era in history?



Ten Questions for Technology Unit

- What factors are crucial to the capacity or ability of regions or countries to achieve technological change?
- Comparing countries that are “catching up” with technological leaders, what factors are crucial to both and perhaps more crucial in one case or the other?
- What role do markets play in technological change?



Ten Questions for Technology Unit

- What role do multinational corporations play in technological change? How might they inhibit or discourage technological change?
- What role do government or public entities play?
- What are some other important institutions that promote technological change?
- If markets, firms, government, and other institutions play important roles in the process of technological change, how can countries integrate them in effective ways?

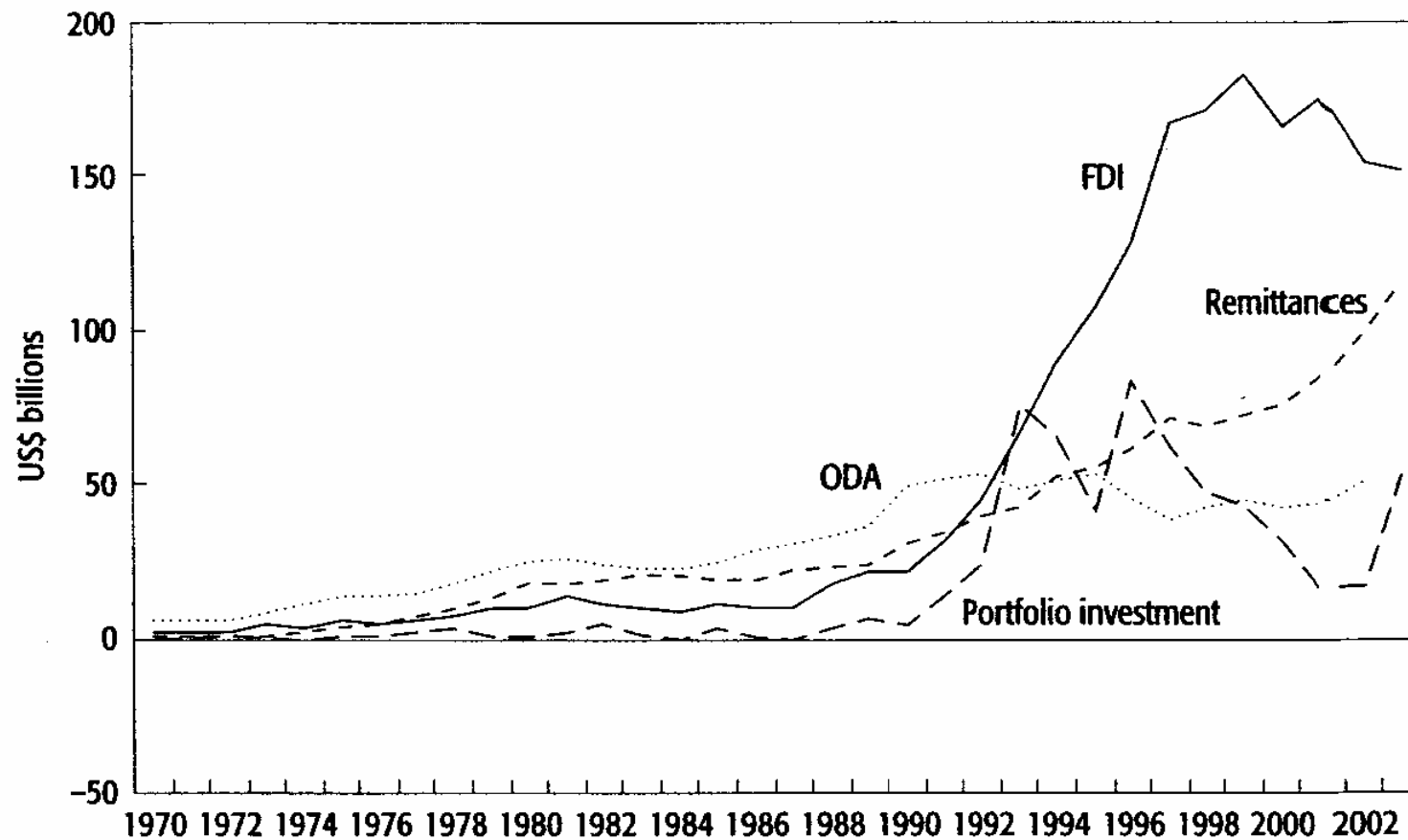


Primer on International Capital Flows

- Two basic types of capital flows:
 - Foreign Direct Investment (FDI)
 - Portfolio Investment
 - Bonds
 - Stocks
 - Loans
- How common are these flows?
- How important are these flows?

International capital flows

FIGURE 2.13 Nominal Flows of Aid, FDI, Portfolio Investment, and Remittances to Developing Countries



Sources: World Bank 2004b, 2004d.

US FDI Stock Abroad as of 2007

\$2.8 trillion

By Industry

- Finance \$532 billion, 19%
- Manuf. \$531 billion, 19%
- Wholesale trade \$183 billion, 7%
- Mining \$147 billion, 5%
- Info. \$112 billion, 4%
- Holding Companies, 33%

By Region/Country

- Europe 1.5 trillion, 56%
 - UK, Netherlands >1/2
- Latin Amer., \$472billion, 17%,
- Asia, \$454 billion, 16%,
- Canada, \$257 billion, 9%
- Middle East, \$29 billion, 1%

Notice – Finance and trade > manuf and mining; also N-N FDI dominates.



World's Largest Corporations and Banks Annual Revenues (2008)/Assets (2008)

- Wal-Mart US: \$379b
- ExxonMobil US: \$373b
- R. Dutch Shell: \$355b
- BP (UK): \$291b
- Toyota (Japan): \$230b
- Chevron (US): \$211b
- ING Group (Neth): 201b
- Total (France): \$187b
- GM (US): \$182
- Conoco P (US): \$179b
- UBS (Switz) - \$1.96t
- Barclays (UK) - \$1.96t
- BNP (France) - \$1.90t
- Citigroup (US) - \$1.88t
- HSBC (UK) - \$1.86t
- Credit Ag (F) - \$1.82t
- Royal B Sc. (UK) - \$1.7t
- Mitsubishi(JP) - \$1.58t
- B of A (US) - \$1.46t
- Deutchse (Ger) – 1.44t

MNCs and Banks larger GDP/wealth than large countries (WM > Sweden, Norway)



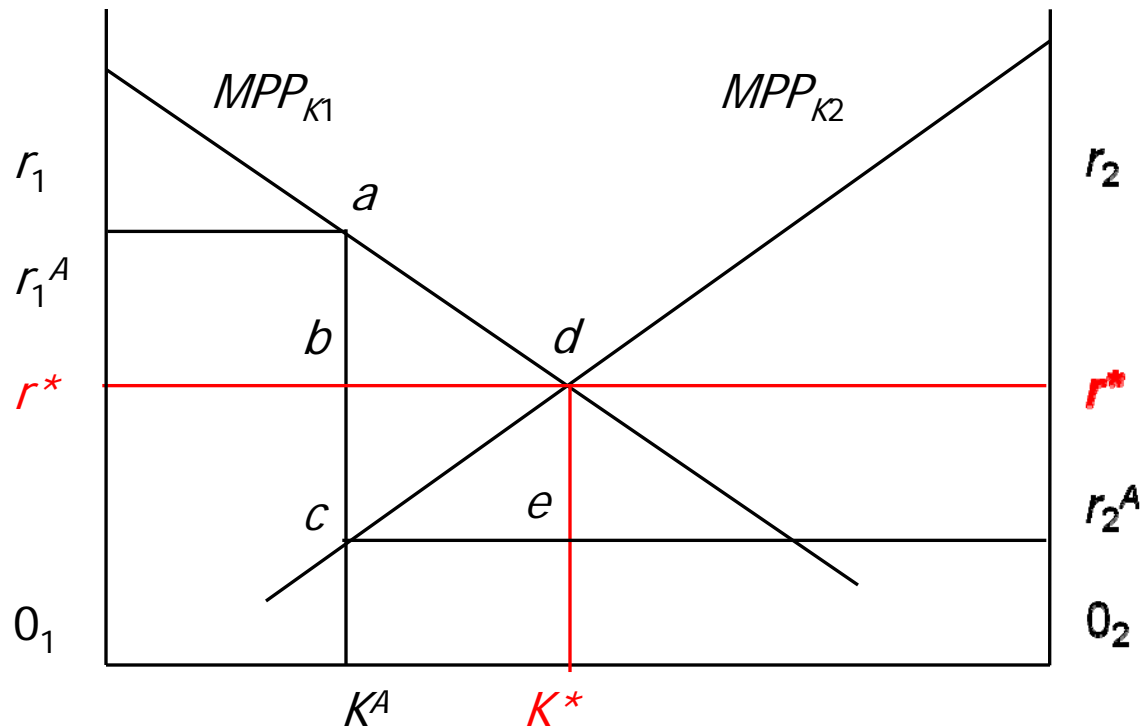
International capital flows (ICF) and technology spillovers

- FDI: acquisition of managerial control over productive assets. Tradable but typically illiquid assets. Potential for important technology spillovers?

REST of ICF – LESS POTENTIAL FOR TECH SPILLOVERS

- Equity portfolio investment: acquisition of shares in listed companies. Tradable and liquid
- Bond finance: similar to portfolio investment, may include gov't bonds
- Commercial bank (or non-bank) lending: non-tradable assets; liquidity varies (e.g. with term of loan)

Why does capital move across borders? To equalize rates of return – neoclassical view



- MPP_{Kj} = marginal product of capital; r_j = price, in j
- K exporter reads from right, K importer from left
- FDI = int'l flow equal to qty $K^A K^*$, equalizes r at r^*

ICF improves efficiency?



Why do firms invest abroad?

- Efficiency rationale (seeking access to abundant endowments, cheap labor, human capital, lower transport costs, etc.) – Consistent with last slide.
- Secure access to raw materials such as minerals or oil (resource and strategic rent rationale) – Is this good for “efficiency”? Technology?
- Access to local markets (non-tradables or inside trade barriers)
- Other reasons?
--> Various “types” of FDI in developing countries



Benefits of FDI

- Increased output (higher GDP)
- Higher labor productivity; more jobs; maybe higher wages
- More exports & foreign exchange
 - Value of add'l exports *should* exceed earnings by foreign capital owners, so net gain to host country
- Scale economies, technological, managerial and skill spillovers
- FDI may undermine domestic monopolies (e.g. in telecoms, air travel)



Why might FDI be bad for development?

- Market-access type FDI may *create* monopoly
- Technology and factor use intensity may be mismatched with local econ.
- Transfer pricing: intra-firm price manipulation to avoid taxes
- Rent capture and market concentration; policy and institutional distortions (corruption)
- Limited spill-in of technology
- Loss of control over domestic policy
 - E.g. large MNCs in small economies
 - Are such constraints on policy *always* bad?



Questions for Next Lecture

- What is TRIPS?
- Why is there such a strong push for the protection of intellectual property rights in the area of pharmaceuticals?
- What are the potential private and social benefits of that protection?
- What are the costs?
- How might those calculations vary for wealthier versus poor countries?
- What challenge does this pose to international rules or regulations that relate to intellectual property rights?
- What is Lanjouw's policy approach?