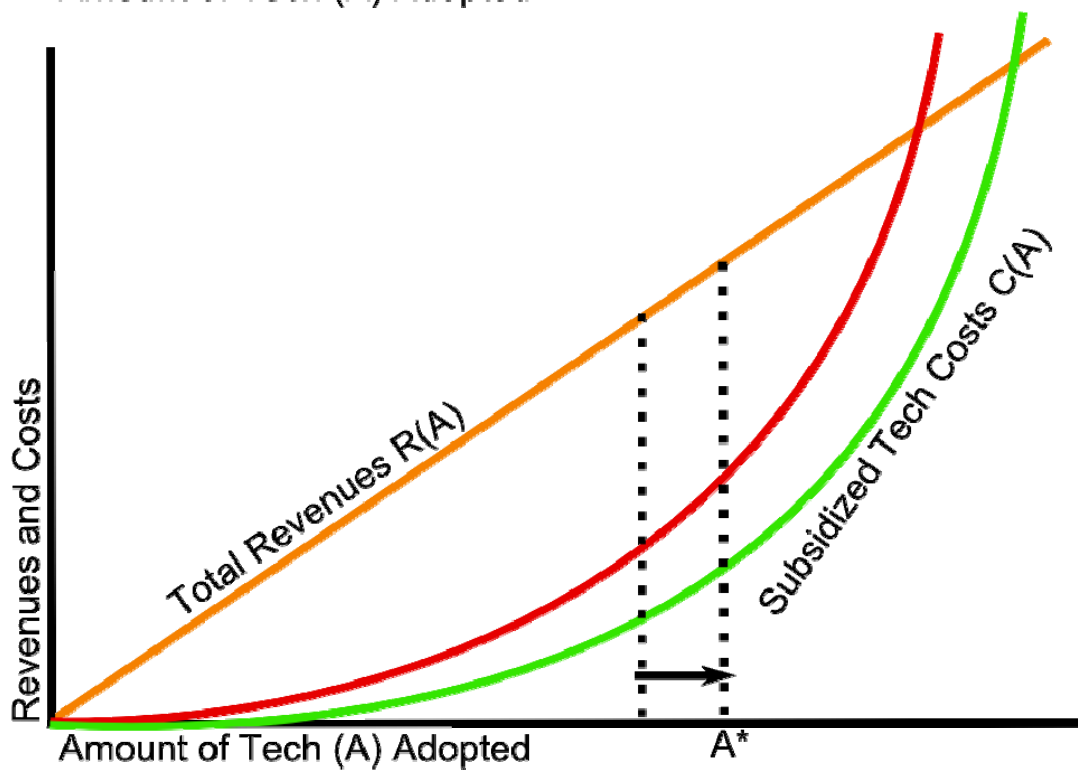
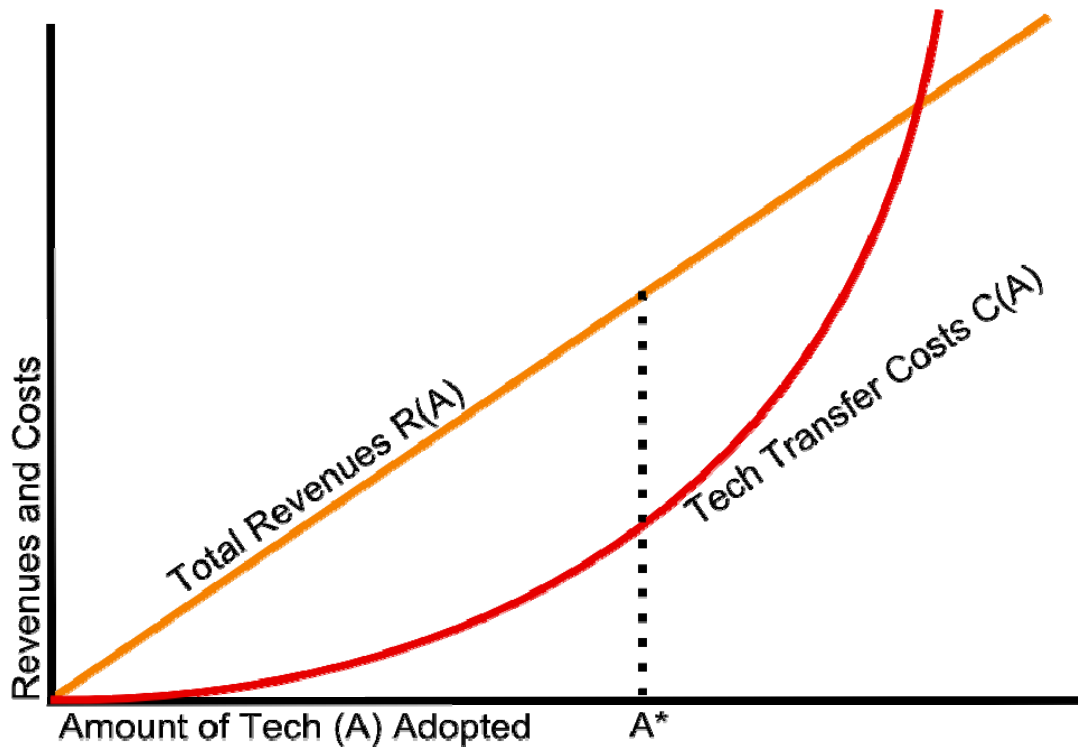

International Studies & AAE 374 Growth and Development of Nations

Lecture 17
5 November 2009

- I. Indigenous Technological Development (Pack and Saggi)
 - a. Big question: “What about the leak from the geek?”
 - b. Introduction
 - i. Question: What are the development effects of foreign tech inflows?
 - ii. Related question: How to manage R&D inflows to reach the technological frontier?
 - iii. Secondary question: How substantial are Substitution Effects from availability of foreign R&D?
 - iv. Paper assumes indigenous tech is important (have seen reasons: adoption costs, specificity of tech to geography, institutions and factors, etc.)
 - c. Channels of Tech transfer
 - i. Most R&D done in industrialized countries, and a large share by MNCs who are dominant diffusers
 - ii. Some channels of tech flow:
 - 1. direct investments
 - 2. licensing
 - 3. joint ventures
 - 4. turnkey projects
 - 5. trade in capital goods
 - 6. imitation
 - 7. reverse engineering
 - iii. Claim FDI is dominant from “empirical evidence” of high value in parent-child firm transactions (holes in this argument?)
 - iv. Teece (1977) finds tech transfer costs from home to foreign firm ~20% and as high as 60% suggests beyond some threshold transfer may be unfeasible.
 - v. Let’s think about this threshold and policy:



d. Gov Policies

- i. Africa, Latin America, SE Asia do ISI which discouraged tech flow
- ii. Japan, Korea and Taiwan start with ISI but require exporters to adopt tech, then slowly open imports and encourage licensing instead of FDI.
- iii. Japan: limited competition between tech buyers (monopsonized market) and required diffusion of foreign technology. (Korea similar)
- iv. China: FDI but requiring agreements for tech transfer through training and human capital investment (Chubb “insurance university” and Microsoft promises of help to local software sector), also using market size to make monopoly tech vendors compete.
- v. China tends to ignore foreign patents, etc. (following from “Chinese fakeaway: After that copycat Roller, the products that got lost in translation“, Daily Mail, 4/24/09)





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- e. Entry decisions of firms
 - i. Why FDI? OLI has the answer (Ownership Advantages, Locational Factors, Internalization)

Table 5: Decomposition of Knowledge Transfers by Sources (1997)

Recipients	Total Transfers of R&D Stock (million U.S. \$)	Sources of the Business R&D								
		Finland	France	Germany	Japan	Korea	Norway	Sweden	U.K.	U.S.
1 Australia	266	0.06	0.34	0.86	84.75	9.27	0.03	0.16	0.31	4.23
2 Austria	4962	1.31	21.06	44.62	1.26	0.26	0.98	4.56	17.57	8.38
3 Canada	39286	0.06	1.14	1.48	0.35	0.04	0.06	0.23	1.19	95.43
4 Chile	433	0.07	2.18	2.33	0.43	0.03	0.07	0.26	1.95	92.68
5 China	487175	0.23	1.19	2.99	74.02	17.51	0.11	0.60	1.14	2.21
6 Colombia	9758	0.04	1.18	1.32	0.24	0.03	0.05	0.17	1.15	95.83
7 Costa Rica	828	0.09	1.01	1.53	4.18	0.40	0.07	0.28	1.08	91.36
8 Denmark	4146	1.52	18.81	43.06	1.37	0.27	1.32	5.69	17.94	10.03
9 Greece	3438	1.41	22.35	42.25	1.84	0.40	0.94	4.56	17.71	8.55
10 Hungary	4752	1.42	20.75	44.80	1.44	0.30	1.00	4.79	17.25	8.24
11 India	74825	1.35	9.08	22.10	40.81	9.69	0.65	3.57	7.85	4.90
12 Ireland	2109	0.94	22.61	28.80	0.95	0.18	0.97	3.58	24.12	17.86
13 Italy	24649	1.09	24.86	39.00	1.07	0.22	0.86	3.84	19.33	9.73
14 Mexico	30176	0.04	0.64	0.81	0.69	0.07	0.03	0.13	0.66	96.95
15 Netherlands	11991	1.05	23.45	35.77	0.96	0.19	1.01	3.97	22.55	11.06
16 NewZealand	40	0.04	0.21	0.53	74.45	7.13	0.02	0.11	0.21	17.30
17 Philippines	11321	0.11	0.61	1.55	82.22	13.52	0.05	0.29	0.57	1.06
18 Poland	21657	1.76	18.43	45.98	1.71	0.35	1.16	5.84	16.33	8.44
19 Portugal	4595	0.73	24.60	26.44	0.67	0.13	0.71	2.75	20.86	23.12
20 Spain	17918	0.79	26.60	29.25	0.71	0.14	0.75	2.97	21.69	17.10
21 Venezuela	6739	0.06	1.57	1.74	0.19	0.02	0.06	0.22	1.51	94.63

Source: Nishioika (2008) Production Fragmentation in Manufacturing: Evidence from the Parent-to-Affiliate Transfers of Business Production Knowledge

- ii. Internalization most important to describe investment behavior – common explanation is that tech is hard to contract
- iii. Will also have competitive effects on local market and non-internalized licensing or joint ventures may cut into future profits through leaks.
- iv. Evidence that FDI spillovers are rare.
- v. “IP” rights and FDI vs Licensing?

II. FDI Critiques from Ellwood, Chap 4

- a. Quality not quantity matters
 - i. Over 80% of FDI is cross border mergers and acquisitions.
 - ii. E.g. buying out state firms, purchasing equity, etc.

- iii. Questionable incentive for tech flow but downsizing from mergers and repatriated profits hurt balance of payments
 - iv. Balance of payments worse if local suppliers replaced, further sales of state resources, get into a vicious cycle.
 - v. Role of overcapacity?
- b. Draining of public resources
- i. Competition over FDI results in concessions from governments (tax breaks, free loans, grants, training schemes, construction and subversion of public infrastructure) even in rich countries (~60% FDI).
 - ii. See this at the state, county and city level domestically – you can probably think of some examples.
 - iii. At int'l level result has been to decrease corporate taxes:
 1. Britain: Rate of 52% (1979) to 30% (2000)
 2. Canada: Rate of 28% (2000) to 21% (2004)
 3. US: 30% (1950s) to 12% (2000s) of government funding
 4. Mentions “structuring the debate” – read Bernays “Propaganda,” or watch “Manufacturing Consent” or “The Century of the Self” for more on this perspective
- c. “Race to the bottom” also manifests in other legal and institutional changes beneficial to TNCs
- i. Mexican Federal labor laws gutted, de-unionization.(US parallels?)
 - ii. Hush-hush Multilateral Agreement on Investment to effectively give corporations same legal rights as governments.