Wrapup Seminar Tohoku University

Economic of Great Unbundling

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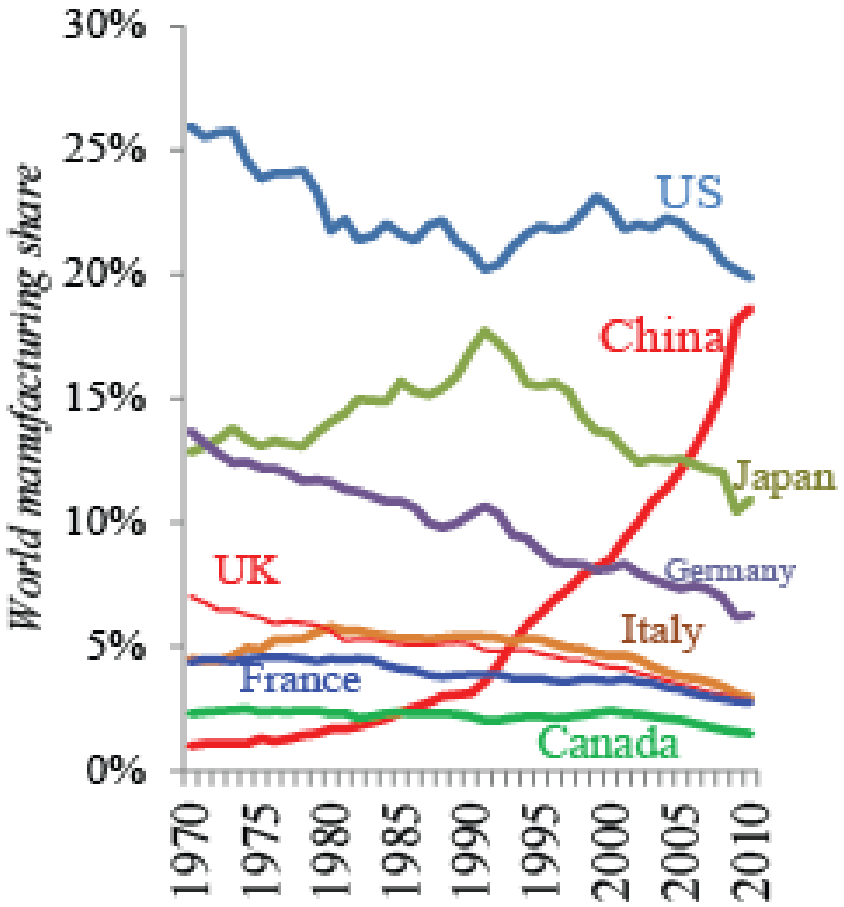
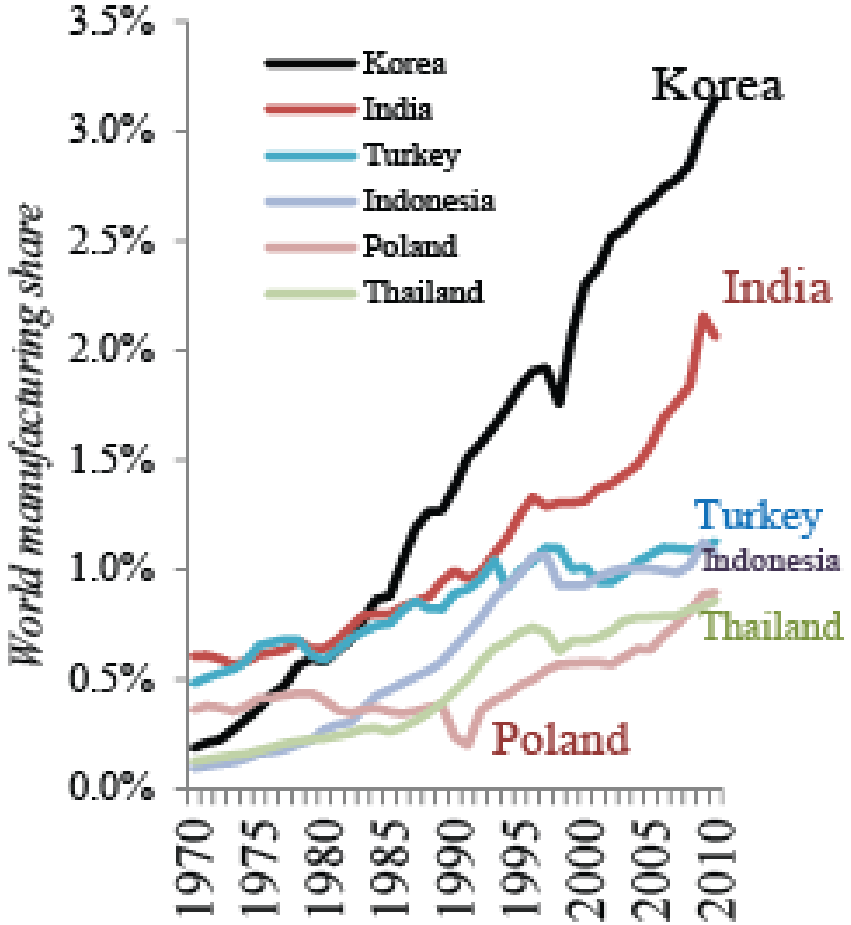
Seven Winners and Seven Losers

(World Manufacturing Shares)

http://www.voxeu.org/article/wto-20-thinking-ahead-global-trade-governance





What happened around 1990.?
A Second Unbundling?

Baldwin's Account: Two Great Unbundlings

- First Great Unbundling (1850-1980 except Interwar period)
  - Lower transport cost ■ Internal Agglomeration (scale and external economies) ■ Threshold volume ■ Trade: raw & final products, no intermediates.
  - Results: Germany, USA, Japan succeeded in ISI (whole set of industries)
- Second Great Unbundling
  - Lowered communication costs: ICT revolution ■ Diminution of distance
  - Unbundling striding borders (Fragmentation of production process解束) ■ **Comparative advantage in a single field**
  - Results: Specialized Development (Mexico, China, India)

How to explain unbundling (1)

- Neoclassical Trade Theory
  - No general theory to analyze input trade
    - HOS or HOV: factor proportion theory
    - No firm level theory of comparative advantage
  - Ad hoc analysis assuming constant wages and prices
    - Outsourcing (domestic and international)
    - Fragmentation (ditto)
    - Unbundling (no clear def. both combined?)

How to explain unbundling (2)

- New trade theory (Krugman; 1980's)
  - Firm level analysis
  - Assumes increasing returns and symmetric costs
  - Explains intra-industry trade (conspicuous from 70's)
- New new trade theory (Melitz, 2003)
  - Firm level analysis, Difference between firms
  - To put in GET framework, assume stochastic symmetricity.
  - Ad hoc analysis assuming constant wages and prices
- No general theory, no cost analysis.

How to explain unbundling (3)

- New international value theory
  - *M*-country, *N*-commodity case
  - Choice of production techniques
  - Input trade (includes trade of raw materials)
  - no symmetricity required, hence general.
- Explains
  - how wages and prices are determined
  - technology progress effects on values
  - choice of techs permits firm level analysis

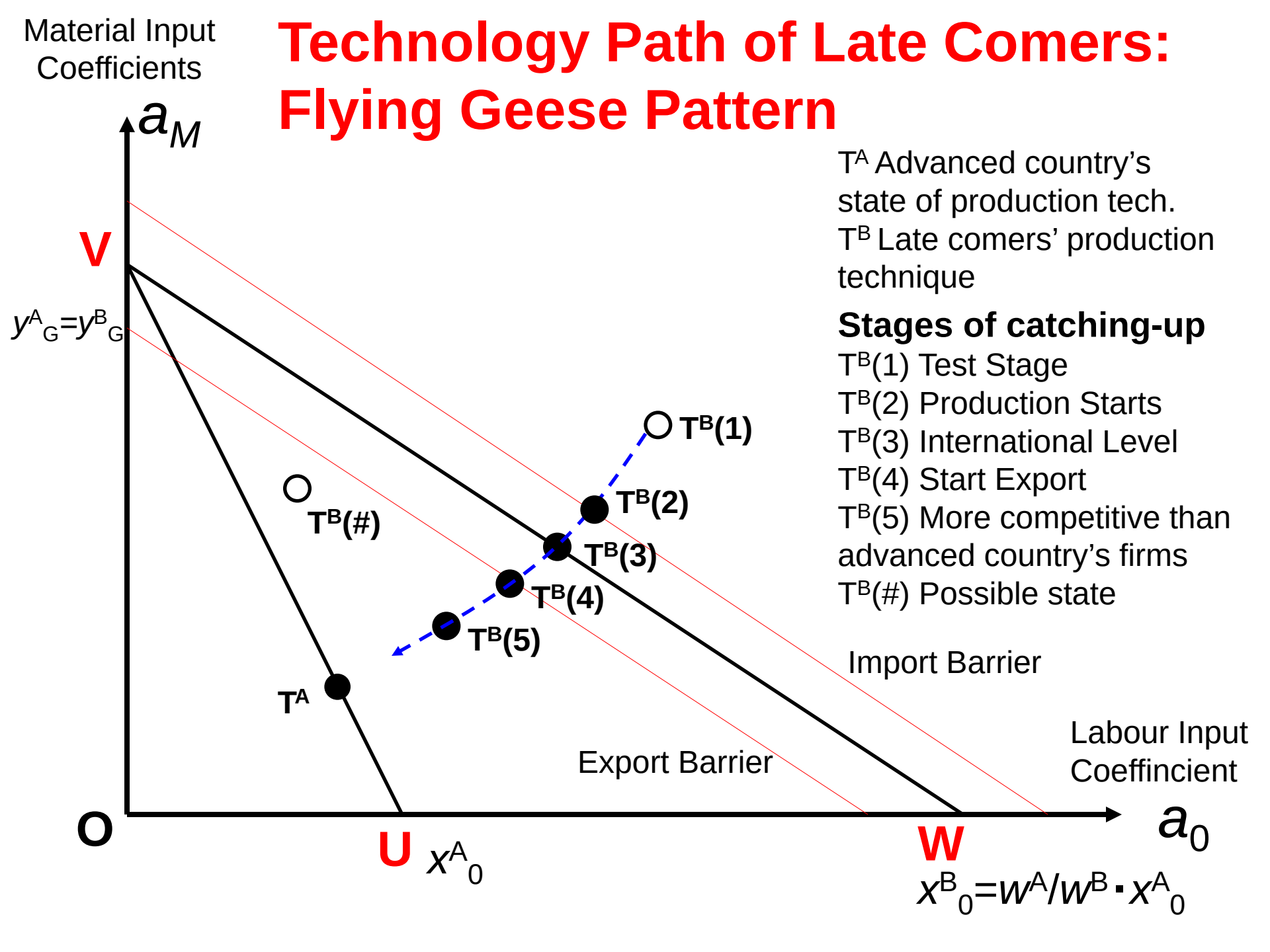
Contrast: HO theory vs. New IVT

- HOS and HOV
  - same technology to all countries (symmetric)
  - no technology development competition
  - same wage for all countries (typical situation)
  - no firm level analysus
- New international value theory:
  - wage disparity between countries
  - firm level analysis possible
  - input trade (raw materials, intermediate pds.)

Three typical analysis:

- Flying geese(1st F: Akamatsu, 1930's)
  - Kojima (2000) based on HO theory
  - "must" in discussing EA economic develop.
- Fragmentation
  - Many ad hoc analysis(no price theory? FPE?)
  - Jones and Kierzkowski (2000; 2004), …
- Global optimal procurement
  - No theoretical analysis

Technology Path of Late Comers: Flying Geese Pattern



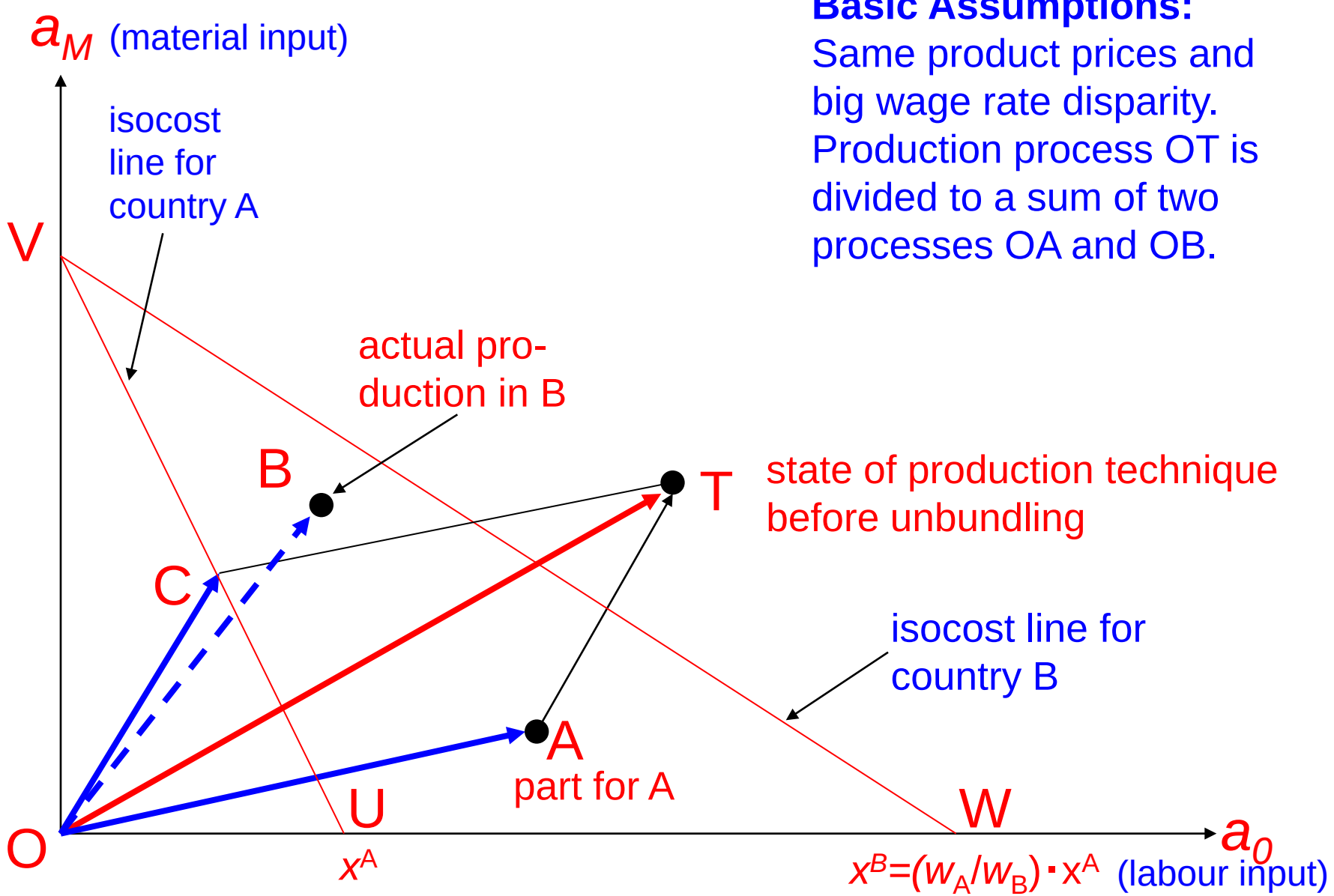
T^A Advanced country's state of production tech.
T^B Late comers' production technique

Stages of catching-up

$T^B(1)$ Test Stage
$T^B(2)$ Production Starts
$T^B(3)$ International Level
$T^B(4)$ Start Export
$T^B(5)$ More competitive than advanced country's firms
$T^B(\#)$ Possible state

Fragmentation of production process

Basic Assumptions:
Same product prices and big wage rate disparity.
Production process OT is divided to a sum of two processes OA and OB.



Global optimal procurement

- Few theoretical studies
  - Exceeds capacity of neoclassical analysis?
- Triangle trade
  - Ad hoc analysis: determined pattern of trade
- New IVT
  - assumes that each firm adopts GOP policy.
  - international value exists which does not contradict this assumption.

Accounting for the facts:

- Increasing Returns (E. of scale, scope, external)
  - Krugman (1992), Baldwin (2011)
    - Comments by Stiglitz (1992)
- Low wage as major driving force:
  - big wage disparity
  - exploitation (dependency theory) or cost advantage?
  - See Flying Geese and Fragmentation.

Is symmetricity innocent? No!

- Eaton and Kortum (2002)
  - Ricardian theory, but another symmetricity
    - cost of a bundle of inputs are the same across commodity within a country (p.1745)
  - Price of symmetricity: Cost of moving to autarchy a quarter of a percent for Japan (p.1768)
- Samuelson (2001) gains from input trade: S. named Sraffian bonus.
  - Sraffa bonus immerges mainly from asymmetricity.
  - Symmetric assumption costs too much.

Characteristics of the Second Unbandling

- Baldwin (2011)
  - Figure 9. Figure 10: ad hoc analysis
- Unbandling enabled some developing countries to grow:
  - Why did this happened?
  - single industry, even single process can be competitive (enclave development)
  - Korea: last whole set industry development?
  - China: 50% of export is “processing trade”

Three generations of dev.nt theory

- 1st G: Big push, Dependency, ISI (Import Substitution Industrialization)
  - General failure
- 2nd G: Washington Consensus, Market and Export Oriented Ind.tion
  - Failure for many countries, Success for some
  - East Asian Miracle to Asian Century
- 3rd G: No big facts, no big ideas?
  - End of “one size fit all” policy (D. Rodrik)
  - Krugman (1992) called for a counter counter-revolution.

One reason of failure: bad theory

- Simple ex.: Factor proportion theory
  - Consider India, with big number of ICT engineers, but relatively small proportion of ICT engs. with resp, to USA
  - Should specialize in labor intensive industry?
  - Indian ICT firms have big chance to succeed.
- Subtle case: Big push case
  - lack of complexity thinking
  - mutual dependence of large number of industries
  - Similar reason as the failure of planned economy

Post-Keynesian credo?

- Value theory does not matter?
- Counter-Keynes revolution in 1970's
  - Micro foundation of macro economics?
    - Started from Clower, Malinvaux etc.
    - Rational expectations revolution
- Keynes's error:
  - No distinction between classical and neoclassical value theories.
- Right theory of value is crucial.

Classical theory is dead. Long live classical theory!

- Classical theory is dead.
  - Neoclassical revolution in 1870's.
  - Turning point: John S. Mill's pseudo solution of international values
- Long live classical theory!
  - Sraffa (1960) ■ OGER (1938-9) ■ Sraffa(1926)
  - international value theory (Shiozawa2007;14)
  - Required new challenges: ①labor market ② Finance and asset economy

Additional References:

- Jones and Kierzkowski (2000) A Framework for Fragmentation
- Jones and Kierzkowski (2004) International Fragmentation and the New Economic Geography
- Kitagawa, H. (2008) The Procurement Activities of Japanese Companies in Asian Countries, in Lim, H. (ed.), *SME in Asia and Globalization*, ERIA Research Project Report 2007-5, pp.365-399.
- Markusen and Venables (2006) Interacting factor endowments and trade costs. Journal of International Economics 73: 333-354.

Thank you.

- Questions and comments welcome.