How *Real* Are Latecomer's Advantages?

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Who are the latecomers?

- In the context of East Asia
- 2 meanings:
  - East Asian countries (including Japan) vs. Western developed countries
  - East Asian countries other than Japan vs. Japan and other Western developed countries
- Globally
  - Developing countries vs. Developed countries
  - Or any country less developed vs. more developed ones

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What could be the advantages?

(D. O'Connor: 1994)

1. Opportunity to learn from predecessors' experience
2. More technology options available
3. Lower unit abatement costs

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What could be the advantages?

(D. O'Connor: 1994)

(continued)

4. Reduced uncertainty about absolute & relative magnitudes of environmental risks (easier to tackle specific problems)
5. Supposedly less polluting industries
6. Increased exposure to international environmental incentive/pressures

(I would call this a driving force to better environmental practice rather than so-called latecomer advantage, though.)

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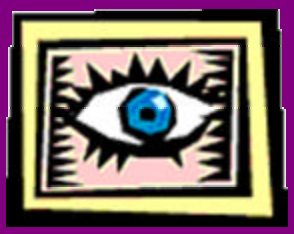
But Let's take a closer *look!*



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Opportunity to learn from predecessors' experience

One Successful Case (Toru Iwami: 2001)

Early 1970s to mid 1980s, Japan SO_2 abatement

* Government policy response to civil movements

* Energy shift and raised efficiency after oil crisis

Air pollution in Southeast Asian large cities is better than the ir Japanese counterparts as of early 1970s

* Government took initiative

* Firms reduced So_2 emissions thru energy shift and efficiency raise

* Energy shock was not needed as a negative incentive

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Opportunity to learn from predecessors' experience

One More Successful Case (Yohei HARASHIMA: 2001)
A Comparative Study on
Environmental Policy Development Processes in Japan, Korea, and China

* Closely related to each country's economic growth.
* Converging in the long run, with a timelag, though.
* Compared to Japan, the tempo of environmental policy developme nt in China and Korea has been faster than that of their economic g rowth.

Possible Reasons:

* role of local government
* information disclosure
* influence from international pressure
* function of market mechanism
* environmental issues higher in the policy agenda

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But:
(DARK SIDE OF THE MOON)

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Images:
Minamata Disease, Japan

An outwardly healthy mother bathing her fetal-poisoned 16 year old daughter, Tomoko Uemura, physically crippled since birth due to environmental industrial mercury poisoning in the local Minamata, Japan, water supply.

William Eugene Smith
1972 - Minamata, Japan

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Images:
Minamata Disease

Plaintiffs demonstrate with photos of their dead on the last day of the trial in October 1972.

The court victory could only offer money in return for life and normalcy.

William Eugene Smith
1972 - Minamata, Japan

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Chronology: Minamata Disease, Japan

- **1956** First report unknown disease to Minamata Public Health Center (the offical discovery of Minamata Disease).
- **1965** Showa Denko., Ltd. Stopped manufacturing of acetaldehyde.
- **1968** Chisso Co., Ltd., stopped manufacturing of acetaldehyde. The collective view of the government on the cause of Minamata Disease announced
- **1971** Court decision on the first suit concerning Niigata Minamata Disease issued.
- **1974** The Pollution-related Health Damage Compensation Law enacted. Dredging of the polluted bottom sediment of the Minamata Bay began.
- **1987-2001** More lawsuits
- **1992-2001** International Symposiums and workshops
- **1995** "Prime Minister's Announcement for the settlement of the problem of Minamata Disease" was authorized at the Cabinet meeting

(*Ministry of the Environment, Japan*)

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1984: Onsan Disease, Korea

- Pollution Disease in the Onsan Industrial Area
- Caused by the compound toxic wastes discarded by the local nonferrous industrial complex
- Probably worse than Minamata disease
- Government response: Arrest of the environment activist, relocation of the residents

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Images: Onsan Disease

Mr. Han, an Onsan disease victim, explaining the symptoms

Demolished homes because of the relocation policy

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China

- 1970s: Songhua River
- Waste water from thousands of factories, the highest 20-25 tons of Hg a year from a single factory
- Symptoms found in local population, 16.5 mg /50 kg body weight, exceeding the limit of 10 mg/50kg
- Now: Still several hundred tons of Hg in the Songhua River sediment
- Serious pollution of water body in general (+ water shortage) in China

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Images: China's Rivers

Why Does History Repeat ?!

Latecomer advantages *Re-viewed*

1. Opportunity to learn from predecessors' experience
2. More technology options available
3. Lower unit abatement costs
4. Reduced uncertainty about absolute & relative magnitudes of environmental risks (easier to tackle specific problems)
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What prevents us from learning from experience?

Government's National Strategy,
(Still entrenched in the somewhat short-sighted growth VS environment mentality)

* Growth First!
* Let's forget about environment for the time being…
* Whatever the environmentalists say
  (e.g. South Korean Onsan case)

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What prevents us from learning from experience?

Too Many Things on Local/National Government's Agenda

* Other things seem to demand more immediate attention (e.g. unemployment and social stability) unless there is a outbreak of apparent environmental disease!!!
* As of 2001, Chinese environment (at least water) still deteriorating

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What prevents us from learning from experience?

Information Dissemination and Absorption Problem

- Lack of channel inside the country and across borders
- Government Top-down policy vs. problem arising bottom-up
- Unwillingness to admit the problem and make it public (priority given to the growth -first national strategy)
- Ignorance or negligence of others' lessons
- Lack of sensitivity to relate cases
- Media Transparency is related to government transparency
- Bureaucracy and inefficiency

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What prevents us from learning from experience?

- Tendency of recognizing the problem only when the crisis is looming large or in its aftermath…
- Lack of government political will and environment awareness on various levels
- Lack of public awareness and participation
- Lack of NGO activities

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And even if You DO want to learn from experience…

- Financial budget constraints in dealing with existing environmental problems.
- Sustainable development does not come cheap either. Startup funding is sometimes prohibitive for some countries.
- Just a few projects funded by the international organizations are not enough.
- Innovative financing methods (e.g. BOT, FDI) are not applicable in every country since not every country is as attractive and flexible.
- Privatization? Politically sensitive…

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And even if You DO want to learn from experience…

Can "copy" predecessors'

Standards, laws and regulations…

* But can't copy the context these things are created; countries are different in terms of institutions and development stages…
* How to adapt them to the local context so that they are achievable?
* Lack of effective mechanism and capability of enforcement and implementation
* How to monitor and assess the effect of these standards, laws and regulations and their implementation?

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And even if You DO want to learn from experience…

Talking about Technology…

(More technology options available to latecomer and probably cheaper?)

Yes:

- Technology innovation direction: less material -, pollution- and energy-intensive
- Possibility to use the state-of-the art technology directly (leap-frogging)
- End-of-pipe abatement technologies giving way to waste-minimization-in-line technologies

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And even if You DO want to learn from experience…

Talking about Technology… But:

- Technology is still expensive anyway (relates to $$ problem)
- Is the most advanced tech always the most cost-effective?
- Fast development/depreciation of tech vs. actual need & utilization.

e.g. Bao Shan Steel works terminated in 1985: construction cost as high as that in Japan (w/ technical assistance from Nippon Steel)

- Who are going to use these technologies? (relates to Human Resources problem)

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And even if You DO want to learn from experience…

Human Resources Problem:

Lack of capability and availability in

- Using the technologies (environment abatement technologies and environment-friendly production technologies)
- Enforcing and implementing of the environmental standards, regulations and laws etc.
- Devising wise national/local growth strategy + land use and industrial site planning

Need training and $$ (again!)

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Can we blame on culture, too?

Tackling the problem only
when there will be an major international event?

- •1981, Olympic Game was to take place in Seoul in 1988
- •1979, air pollution in Seoul was the worst
- •1981, lower sulfur content oil supplied by Korean Governmet
- •1987, more stringent vehicle emission standards
- •1988, use of clean fuels (e.g. LNG) required in large cities
- •1988 Olympic Game
- * Similarly, Beijing…2008 Olympics

****Face/Reputation matters most?****

Good that actions are taken anyway…
but such major events are so not frequent everywhere!
hopefully it is not the only major incentive/pressure

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Did someone talk about lower unit cost of abatement?

- Yes. And that magic Kuznet curve!
- So government can safely use this latecomer advantage and pursue "grow first/clean later" strategy?
- No! Income level might never reach that turning point.
- As problem gets worse in a larger scale, the aggregate cost still rises in spite of the "lower unit cost".
- Moral obscurity: which generations are to enjoy the benefits and/or bear the burden?

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Are industries less polluting in general than before?

In a sense, yes:

* Technology advancement: more environment friendly
* International pressure
  (Market demands more environment-friendly products)

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Are industries less polluting in general than before?

But a caveat: Export of Pollution

*So-called cost advantage of developing countries: lower labor and material cost, but also lower environment cost (b/c less strict environmental protection enforcement)
* Exchange rate in 1980s made Japanese firms move their manufacturing factories to Southeast Asia (export of pollution de facto)
* New tendency of international division of labor:
  Developed countries ✍ information/service
  Developing countries ✍ more of a manufacturing base
* Even if the industries are less polluting, their absolute increase in size in developing countries still means more pollution…

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Reduced uncertainty about absolute & relative magnitudes of environmental risks…

This advantage looks real… :-D

"Would rather err on the side of caution" mentality ✍

Sometimes too strict environment protection measures are too costly

Good to look at other countries' experience to avoid unnecessary costs

Caveat:

* Nothing is absolutely sure especially in different times and locations
* Science research is never perfect and complete
* Unbelievable things happen in this world! (We should be able to live with surprises…comfortably numb…)

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Closing Remarks

Latecomer advantages are

1. Not Automatic
2. Subject to interpretation
3. Subject to the willpower to utilize them
4. Subject to the capability to utilize them
5. Subject to the social, political and even cultural constraints in addition to the primarily economic considerations. (In fact, environment is intrinsically part of all these contexts.)

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Questions,
Comments,
Please?!
THANK YOU!
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