

Growth Identification and Facilitation

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Overview of Presentation

- Why sector-targeted industrial policy is a necessary conditions for sustained, dynamic growth in a country.
- Most industrial policies fail because they targeted industries that are not compatible with the country's comparative advantage.
- Historical experiences show that successful countries' industrial policies, in general, targeted industries in countries with a similar endowment structure and somewhat higher per capita income
- Growth Identification and Facilitation

Industrial Upgrading, Facilitating State, industrial policy

- *Economic development is a process of continuous technological innovation and industrial upgrading*
- A facilitating state is required for rapid technological innovation and industrial upgrading because of the needs to:
 - Solve coordination problems
 - Address externalities
- Industrial policy is a necessary instrument for a facilitating state
 - Contents of coordination will be different, depending on industries.
 - The government's resources and capacity are limited. The government needs to use them strategically.

Comparative-advantage Defying and Failures of Industrial Policies

- The sad fact is that almost all governments in the world attempted to use industrial policies to play the facilitating role but most failed, as shown by Pack's paper.
- The reason is that the government's targeted industries went against the country's comparative advantages
 - The firms in the industrial policy's targeted sectors were **non-viable** in competitive market
 - Government's policy supports for their initial investment and continuous operations through all kinds of subsidies and protections were required.
 - Those measures led to lack of competition and rent-seeking.
 - As a result, the attempts to pick winners end up picking losers.

Latent Comparative Advantage and Picking Winners

- For an industrial policy to be successful, it should target sectors that conform to the economy's latent comparative advantage:
 - Firms will be viable and the sectors will be competitive once the government helps the firms overcome the coordination and externality issues
- But how to pick the sectors that are the economy's latent comparative advantages

What Can Be Learned From History

- Historical experiences show that successful countries' industrial policies, in general, targeted industries in countries with a similar endowment structure and somewhat higher per capita income:
 - Britain targeted the Netherlands' industries in the 16th and 17th century, its per capita GDP was about 70 % of Netherlands'.
 - Germany, France, and USA targeted Britain's industries in the late 19th century, their per capita income were about 60 to 75 % of Britain's per capita GDP
 - In Meiji restoration, Japan targeted Prussia's industries, its per capita GDP was about 40% of Prussia's. In the 1960s, Japan targeted USA's industries, its per capita GDP was about 40% of USA's per capita GDP
 - In the 1960s-1980s, Korea, Taiwan, Hong Kong, and Singapore targeted Japan's industries, their per capita income was about 30% of Japan's per capita GDP
 - In the 1970s, Mauritius targeted Hong Kong's industries, its per capita income was about 50% of Hong Kong's.
 - In the 1980s, Ireland targeted information industries, its per capita income was about 45% of the USA's.
 - In the 1990s, Costa Rica targeted memory chip assembly and testing, its per capita GDP was about 40% of that of Taiwan, which was the main economy in this sector.
- Unsuccessful industrial policies in general target industries in countries where their per capita GDPs were less than 20 per cent of those targeted countries.

Why target industries in dynamic countries with a similar endowment structure and somewhat higher income?

- Industrial upgrading is based on the changes in comparative advantages due to the changes in endowment structure.
- Countries have a similar endowment structure should have similar comparative advantages.
- A dynamically growing country's industrial development should be consistent with the changes in the economy's comparative advantages. Some of its industries will lose comparative advantage as the economy's endowment structure upgrades. Those industries will become the comparative advantage of the late comers.
- For countries with a similar endowment structure, the dynamic growing forerunners' industrial development provides the pointer for the latecomers' industrial development.

Step 1: Identifying sectors with latent comparative advantage

- Find *dynamic growing countries* with a similar endowment structure and with about 100% higher per capita income. *Identify tradable industries* that have grown well in those countries for the last 20 years as the potential targets of industries for upgrading or diversification
- Similar to Hausmann's idea of jumping to nearby trees, but easier to implement
- Consistent with FDI research suggesting technology transfer is easier when domestic and foreign firms are closer to each other on the technological frontier (Blomstrom, Kokko)

Step 2: Removing constraints for existing firms....How?

- See if some *private domestic firms* are already in those industries (of which may be existing or nascent). Identify constraints to quality upgrading, further firm entry, and reduction of transaction costs (hard and soft infrastructure). Take action to remove constraints
- Methods:
 - Value-chain analysis
 - Growth Diagnostics (Hausmann, Rodrik, and Velasco (2008))
 - Investment Climate Assessments (World Bank)
- Successful Examples
 - Chile: wine
 - Ecuador: cut flowers

Step 3: Seek FDI or organize New Firm Incubation Programs

- In industries where no domestic firms are currently present, seek FDI from countries examined in step 1, or organize new firm incubation programs.
- Famous examples of FDI:
 - garment sector in Bangladesh
 - Textile industry in Mauritius
 - Memory chip assembly and testing in Costa Rica
 - Electronics and other consumer products in China
 - Information industries in Ireland
 - Laura Alfaro and Andrew Charlton, in a paper in the Journal of International Economics, show that:
 - Many countries promote FDI selectively
 - Targeted sectors grow faster
- Famous example of incubation programs:
 - Taiwan-China's Hsingchu Science-based Industrial Park for the development of electronic and IT industries
 - Fundación Chile's demonstration of commercial salmon farming

Step 4: Scale up private firm's self discovery

- In addition to the industries identified above, the government should also pay attention to spontaneous self discovery by private enterprises and give support to scale up the successful private innovations in new industries
- Examples
 - India's information industry
 - Ethiopia's cut flower exports
 - Peru's asparagus exports

Step 5: Create zones or industrial parks, and encourage industrial clusters

- In countries with poor infrastructure and bad business environment, special economic zones or industrial parks may be used to overcome these barriers to firm entry and FDI and encourage industrial clusters.
- Examples:
 - China's special economic zones
 - Mauritius' export process zone
- Enormous Increase in Number of Zones World Wide: from 29 in 1975 to 3500 in 2006!
 - The zones will be successful only if the industries targeted by the zones are consistent with the comparative advantages of their economies

Step 6: Provide limited subsidies to compensate for externalities

- The need for subsidizing pioneer firms
 - Information externality of success and failure
 - Asymmetry of gain of success and loss of failure
- The governments in developed countries compensate pioneer firms by:
 - Patents
 - Supports for basic research
 - Mandate
 - Government procurement
 - Except for patents, the other supports are sector specific
- The government in a developing country can compensate pioneer firms in the listed identified in step 1 with
 - Tax incentives for a limited period
 - Direct credits for investments
 - Access to foreign exchanges
- As the government's support is only to compensate for information externalities, the support can, and should, be limited both in magnitude and time.

Thank you

