# Building on a Swamp: Institutions for Industrial Policy

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# Three Principles to Make a Miracle: A “True” Industrial Policy, or Technology and Innovation Policy (TIP)

- **Intervene to create new capabilities in sophisticated industries**: Pursue policies to steer the factors of production into technologically sophisticated tradable industries beyond the current capabilities and existing comparative advantage

- **Export, export, export**: A focus on export orientation from the onset and the use of market signals from the export market as a feedback for accountability

- **Fierce competition (at home and abroad) and strict accountability**: No support was given unconditionally although performance assessment was not always based on short term profits. As conditions change, both the state and the firms need to adapt fast

Source: Cherif, R. and F. Hasanov (2019), “The Return of the Policy that Shall Not Be Named: Principles of Industrial Policy,” IMF Working Paper 19/74.

# Reality and Purpose Determine "Good" Institutions

- Economic structure and its determinants
  - Industries (existing and potential) differ in terms of sophistication, and the specific sets of requirements to develop them are largely *a priori* unknown
- Political economy matters
  - The government is not monolithic and power structure matters as policies fall under the purviews of different ministries and agencies with different objectives and mandates, and agents have different objectives/incentives
- Learn and coordinate to develop sectors
  - Developing an industry requires the identification of the *myriad* relevant policies, i.e., the accumulation of knowledge or *Metis* (Scott 1998) through continuous engagement and feedback (e.g., firms and markets) and coordination among agencies and firms to implement them
- Industrial policy can't be defined by a pre-determined set of tools and the knowledge to find out which ones work, has to be housed somewhere
  - An architecture of institutions for industrial policy

Figure 1. Horizontal Approach: Fragmented Action of Agencies $G_4$-$G_6$

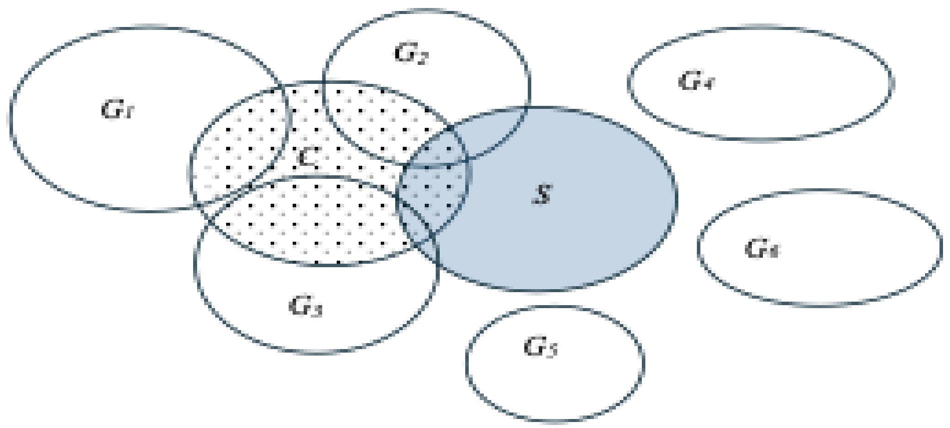
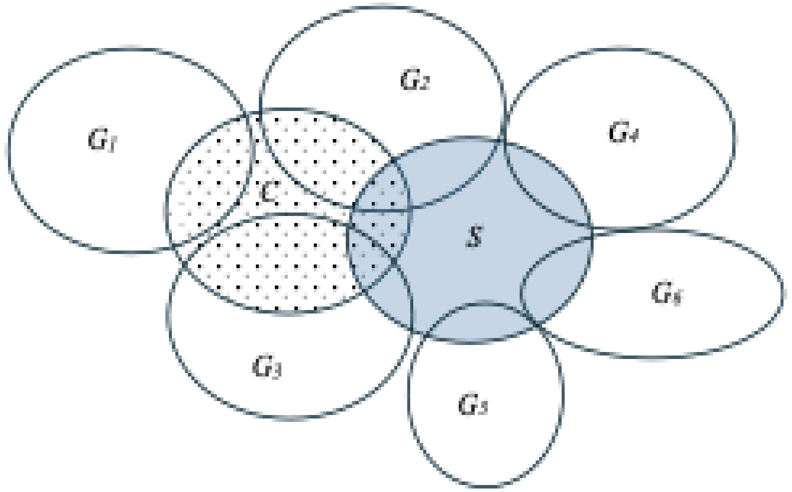



Figure 2. Vertical/Sectoral or Industrial Policy Approach: Coordinated Action of Agencies $G_4$-$G_6$



# Hardware: A Leading Agency, Asian Miracle Style

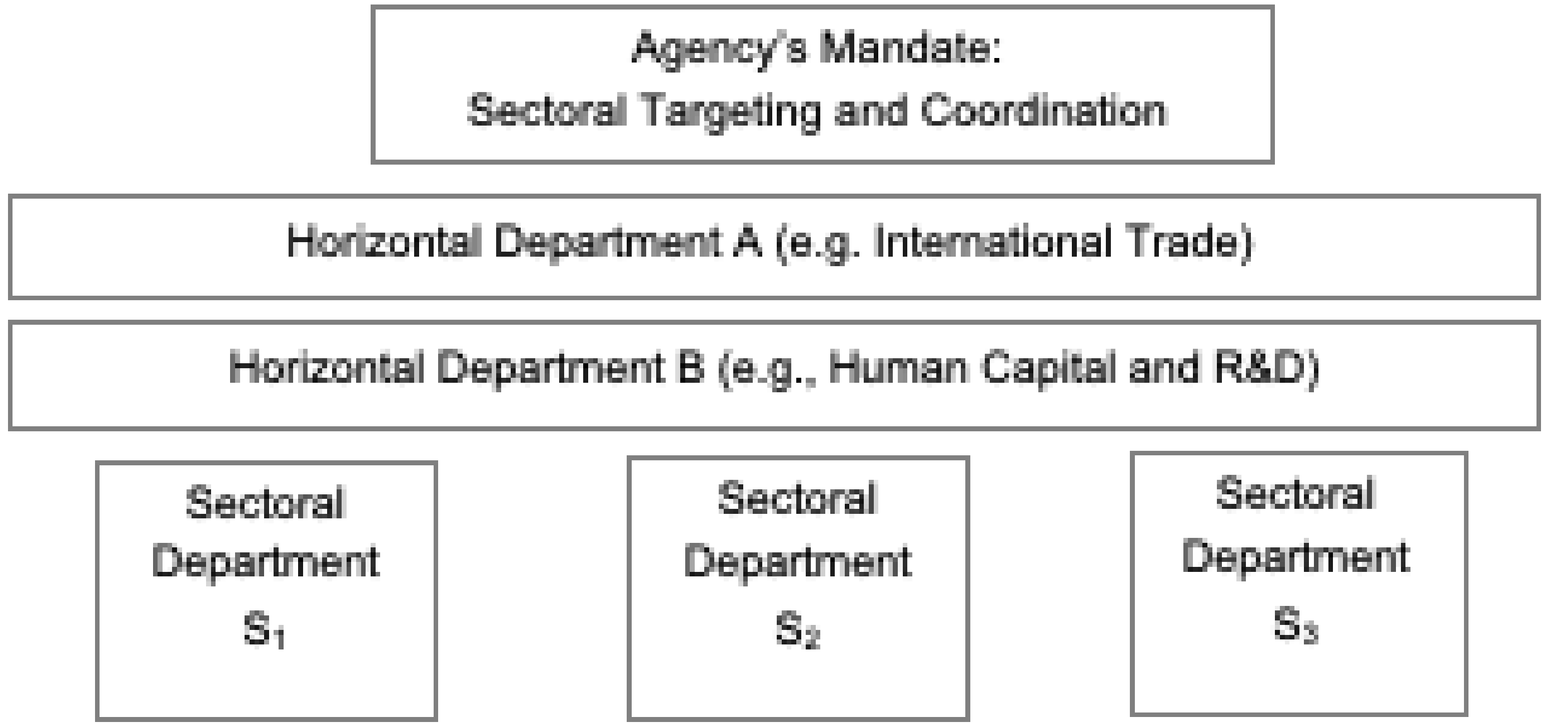
- Mandate: A leading agency is tasked with accumulating industry- and context-specific knowledge, *Metis,* coordinating policies, and delivering on the long-run growth mandate e.g., MITI (Japan), EDB (Singapore), and EPB (Korea). It can achieve its objective by adapting in terms of:

- Internal organization: sectoral departments to build *Metis* and horizontal ones to manage tradeoffs

- Power structure: extent of centralization (high-level council vs. broad prerogatives)

- Political cycles: independent mandate vs. proximity to the executive

Figure 3. A Leading Agency's Stylized Structure



# Software: Key Features as 4As

- Given the proper institutional *hardware*, what would be the adequate institutional *software*, that is, what should the institutional features/actions be to avoid "isomorphic mimicry" (Pritchett 2013)

- The key features of the Asian Miracles' leading agencies follow what we call the 4As model:
  - Ambition-Agency
  - Autonomy
  - Accountability
  - Adaptability

# Ambition-Agency

- Making a miracle depends on the extent of the technological leapfrogging and the involvement of domestic firms in production and technology creation
- It depends on the Ambition of the leading agency and whether it has the Agency to achieve this ambition (e.g., political support and personnel recruitment)
  - Korea's Five-Year Plans to enter sophisticated industries such as automotive in the 1970s without relying much on FDI and with no prior experience
  - CEPD's plan to enter electronics (one of the most advanced tech at the time) with the minimum involvement of MNCs in the late 1970s

# Autonomy

- Evans (1995) emphasized Autonomy of the institution to prevent undue intervention (e.g., nepotism, rent-seeking), “embedded autonomy”

- The leading agencies in the Asian Miracles acquired Autonomy the way central banks acquired independence through:
  - Personnel autonomy (elite recruitment outside of the bureaucratic structure)
  - Financial autonomy
  - Policy autonomy

# Accountability

The leading agencies were accountable along three dimensions:

- Vertical: vis-à-vis the executive to ensure that it fulfills its mission, i.e., strategic oversight without micromanagement

- Internal: within the agency to ensure that the departments and units are accountable

- Horizontal (External): ensuring that other agencies are implementing the policies assigned to them and firms are accountable for the support they receive

# Adaptability

- Adapting to the changing technological and market environment was facilitated by
  - Access to the executive to circumvent bureaucratic hurdles
  - A holistic approach to policy formulation stemming from a broad and flexible mandate
  - Monitoring channels to evaluate compliance and adapt the goals accordingly
  - An evolving institutional structure

# Building Chips: TSMC

- Taiwan’s Council for Economic Planning and Development (CEPD) was only nominally a “planning agency,” and in practice it set priorities in terms of funding and delegated to ITRI the mission to accumulate *Metis* and coordinate policies in the electronics sector

- The CEPD and Industry Technology Research Institute (ITRI) were close to the executive giving them flexibility and the ability to coordinate policies, including early investment in education, sending thousands of students to the Silicon Valley, and building a technology park dedicated to electronics

- The strategy relied on a “spin-off” system of startups (e.g., TSMC), where ITRI licensed technologies and gave them away for free

- The strategy in electronics can be contrasted with Malaysia’s reliance on FDI in terms of domestic technology creation (“Leap of the Tiger”, Cherif and Hasanov 2019)

# Creating Auto Industry: Hyundai

- Korea’s Economic Planning Board (EPB) was a leading agency with direct links to President Park Chung Hee, giving it the ability to coordinate a large array of policy instruments, including access to financing

- It pushed the *chaebols* into export-oriented and sophisticated industries, mostly through financing and exports quotas (in contrast to Malaysia’s import-substitution policy for Proton)

- All the major chaebols had an automotive subsidiary at some point, including Samsung and LG, but failing firms were restructured—the industry survived and became internationally competitive (Hyundai)

# Concluding Remarks

- The secret of the Asian Miracles stems from the principles of TIP
- To apply these principles, they relied on a Leading Agency as the seat of *Metis,* accumulating context- and sector-specific knowledge to formulate and coordinate policies
- The leading agencies followed the 4As model—Ambition-Agency; Autonomy; Accountability; and Adaptability—and there are concrete steps to achieve them
- The main challenge is to set up the “right” institutions for industrial policy vs. an ad hoc formulation of the policy that targets certain sectors and applies pre-defined tools