

# Policies for International Competitiveness: The Case of Japan



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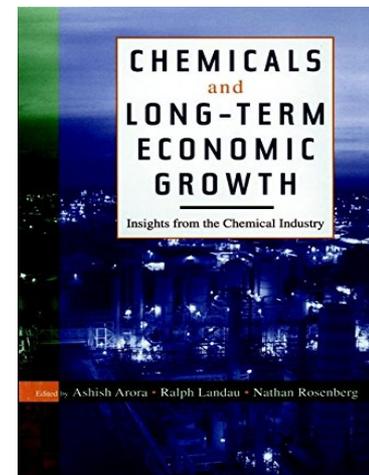
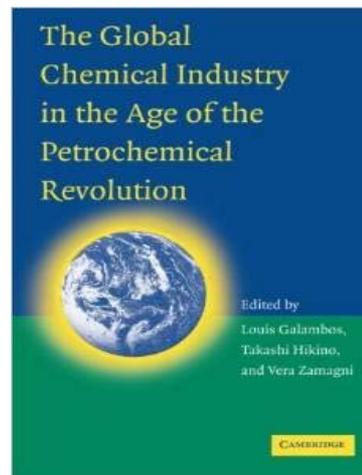
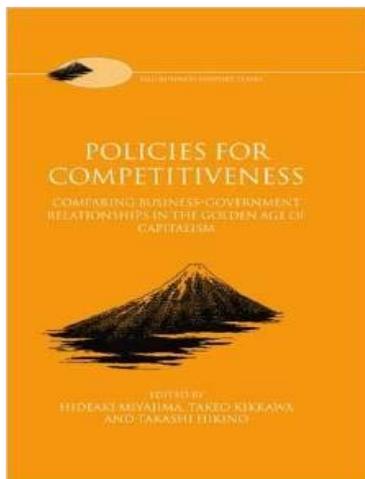
**(on leave from Kyoto University  
for the Spring Semester 2015)**

# Presentation Summary

- Japanese industries developed with their characteristic “Flying Geese” pattern that combined the principles of import substitution and export drive.
- Industrial competition policy formulated by Japanese government bureaucracy has played a significant role in enhancing the international competitiveness of industrial enterprises.
- Industrial policy became dysfunctional in the 1980s as environmental settings, governmental dynamics and corporate behavior all changed.
- The “Three Arrows” policy-mix adopted by the current Abe administration contains the element of industrial competition policy, although its instruments critically differ from conventional approaches.

# Government Policies and Industry Growth

- This presentation extends my research on industrial development in modern Japan with special emphasis on the interaction between microeconomic policies and corporate behavior.
- Employing stylized facts of Japan's development paths, I aim to clarify the functioning of various incentive mechanisms adopted by the government.



# Modern Economic Growth of Early and Late Industrializing Nations

GDP per capita: 1990 international dollars

	1700	1820	1870	1913	1950	1973	2008
Great Britain	1,250	1,706	3,190	4,921	6,939	12,025	23,742
Germany	910	1,077	1,839	3,648	3,881	11,966	20,801
Argentina		998	1,468	3,797	4,987	7,962	9,972
Turkey	700	740	825	1,213	1,623	3,477	8,127
Russia	610	688	943	1,488	2,841	6,059	9,111
Japan	570	669	737	1,387	1,921	11,437	21,935
South Korea		335	337	485	854	2,824	20,454

Source: Angus Maddison database

# Late Industrializing Economy Facing Opportunities and Threats

- Japan industrialized late since the Meiji Restoration, after Western powers had established their economic hegemony in global markets.
- This historical setting resulted in two basic conditions:
  - **Opportunities:** To import and utilize advanced know-how (institutional, economic and technological knowledge) to catch up quickly: Second Mover Advantage
  - **Threats:** To be colonized economically: Free Trade Imperialism
- **Japanese nationalism**
  - 富国強兵:** “Rich Nation with Strong Military” and
  - 和魂洋才:** “Japanese spirit combined with western learning”

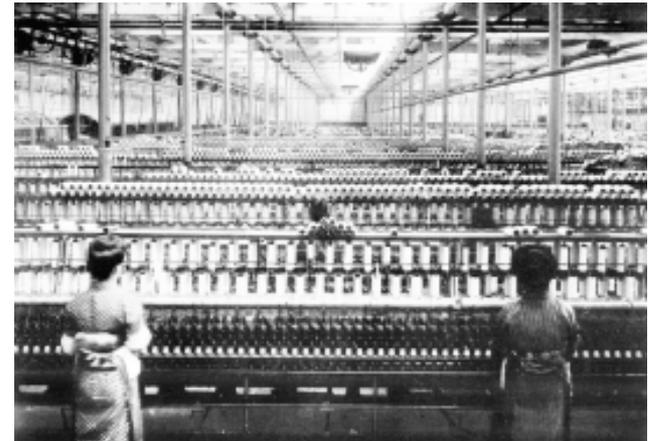
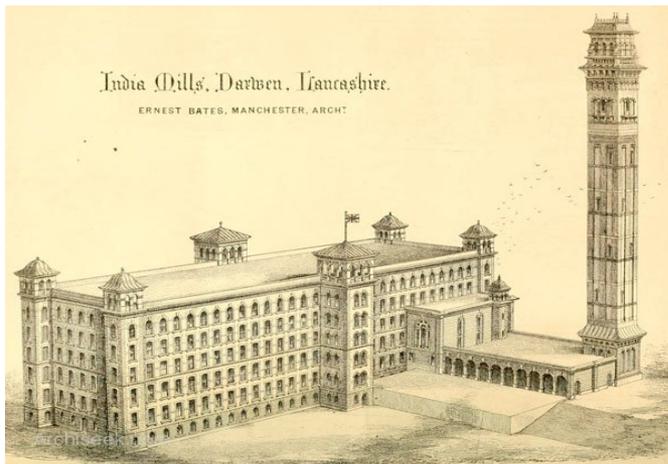
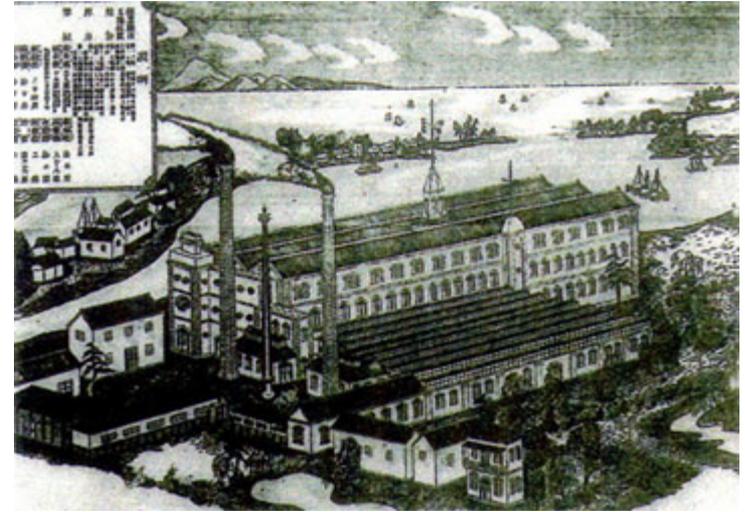
# How to Industrialize Successfully in Competitive Market Economies?

- **Adam Smith: “Productive power of labor”**
    - Division of Labor (is limited by the extent of the market)
    - **Laissez Faire**
  - **David Ricardo: Comparative Advantages**
- ⇒ Follow the classical economics line?
- Ricardian focus with comparative advantages
  - Smithian specialization on SMEs
  - No government intervention in price mechanism

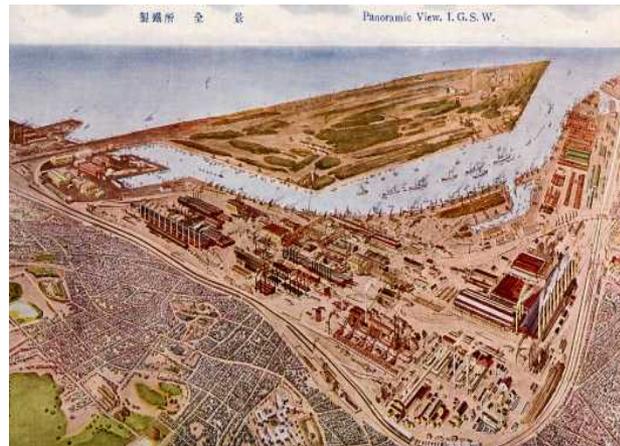
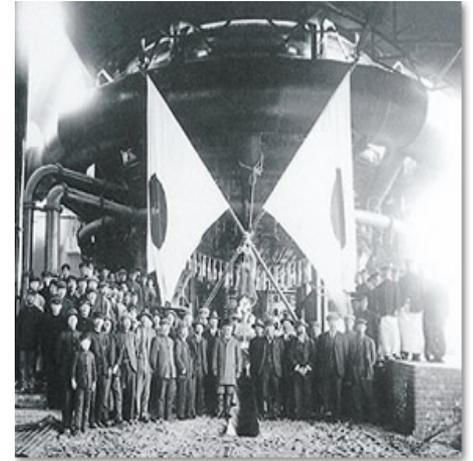
# Japan Defied Classical Economics in Industrial Growth

- **Ricardo:** Specialize in agriculture! Japan has no **comparative advantage** in industry.
- **No**, we emphasize industry!
- **Smith:** Concentrate on labor-intensive small-scale industry! Japan is full of cheap labor that will create **competitive advantages**
- **No**, we nurture capital-intensive large-scale industry
- **Smith:** Government should be out!
- **No**, we value government involvement

# Cotton Yarn Production in Japan, Pre-modern to Modern



# Iron and Steel Production in Japan Pre-modern to Modern



# How to Industrialize When Nations Are *Backward*?

- Friedrich List

  - Unified national economy

  - Infant industry protection by **protective tariffs**

    - ⇒ **Japan selectively applied tariffs!**

- Alexander Gerschenkron

  - Three key actors of industrialization

    - Great Britain      Industry

    - Germany            + Banks

    - Russia

      - Japan                    + The State**

        - ⇒ **Japan characteristically integrated the actors!**

# Active Role of the Government?

Table 4.14. Scale of Fiscal Spending Relative to the National Economy:  
International Comparison

(%; A: 1968, B: 1975)

		Central gov't. spending	Central & local gov't. purchases	National taxes	National & local taxes	National & local taxes + Other charges
		GNP	GNP	National income	National income	National income
Japan	A	11.5	16.8	12.4	18.4	24.6
	B	14.3	20.5	11.5	17.8	26.9
U.S.A.	A	21.4	23.4	18.6	28.9	35.2
	B	24.1	22.4	15.8	27.9	36.3*
U.K.	A	26.6	26.4	33.0	37.6	44.2
	B	34.6	30.5	32.5	37.2	45.6†
West	A	14.0	19.4	25.7	29.2	44.8
Germany	B	15.0	25.0	26.3	30.5	51.7†
France	A	21.6	16.1	23.8	26.7	48.1
	B	21.2	18.0	22.5	25.4	50.2†
Italy	A	17.2	16.1	22.1	24.9	37.7
	B	32.4	17.6	21.3	21.9	36.7*

Source: Ryoshin Minami, *Economic Development of Japan*

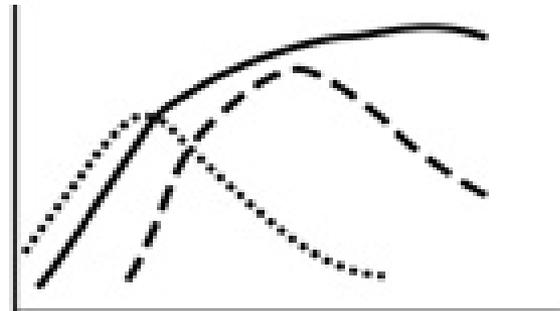
Table 2.1. *Industrial distribution of the 200 largest industrial enterprises in the United States, Great Britain, Germany, France, and Japan in the period of World War I*

SIC	Industry	United States (1917)	Great Britain (1919)	Germany (1913)	France (1912)	Japan (1918)
20	Food	30	63	26	20	31
21	Tobacco	6	3	1	1	1
22	Textiles	5	26	15	8	54
23	Apparel	3	1	1	3	2
24	Lumber	3	0	1	1	3
25	Furniture	0	0	0	0	0
26	Paper	5	4	4	3	12
27	Printing and publishing	2	5	0	7	1
28	Chemicals	20	11	30	28	23
29	Petroleum	22	3	5	2	6
30	Rubber	5	3	4	3	0
31	Leather	4	0	2	3	4
32	Stone, clay, and glass	5	2	7	8	16
33	Primary metals	29	35	49	36	21
34	Fabricated metals	8	2	5	4	4
35	Nonelectrical machinery	20	8	25	9	4
36	Electrical machinery	5	11	7	14	7
37	Transportation equipment	26	20	16	39	9
38	Instruments	1	0	2	9	1
39	Miscellaneous	1	3	0	2	1
	Total	200	200	200	200	200

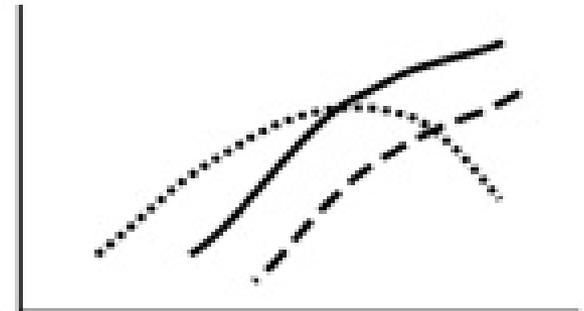
# Flying Geese Patterns of Industry Development



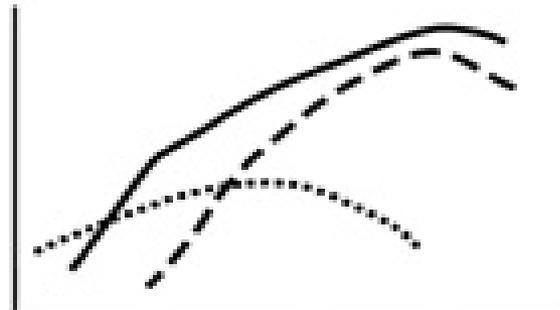
Figure 1: Flying Geese Patterns



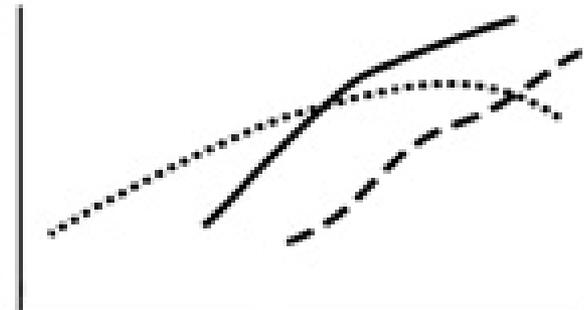
SECTOR: Cotton Yarn



SECTOR: Spinning & Weaving Machinery



SECTOR: Cotton Cloth



SECTOR: Machines & Tools

——— Production  
 ..... Import  
 - - - - - Export

1. These curves cover the period from about 1879 to World War II
2. Vertical line denotes value

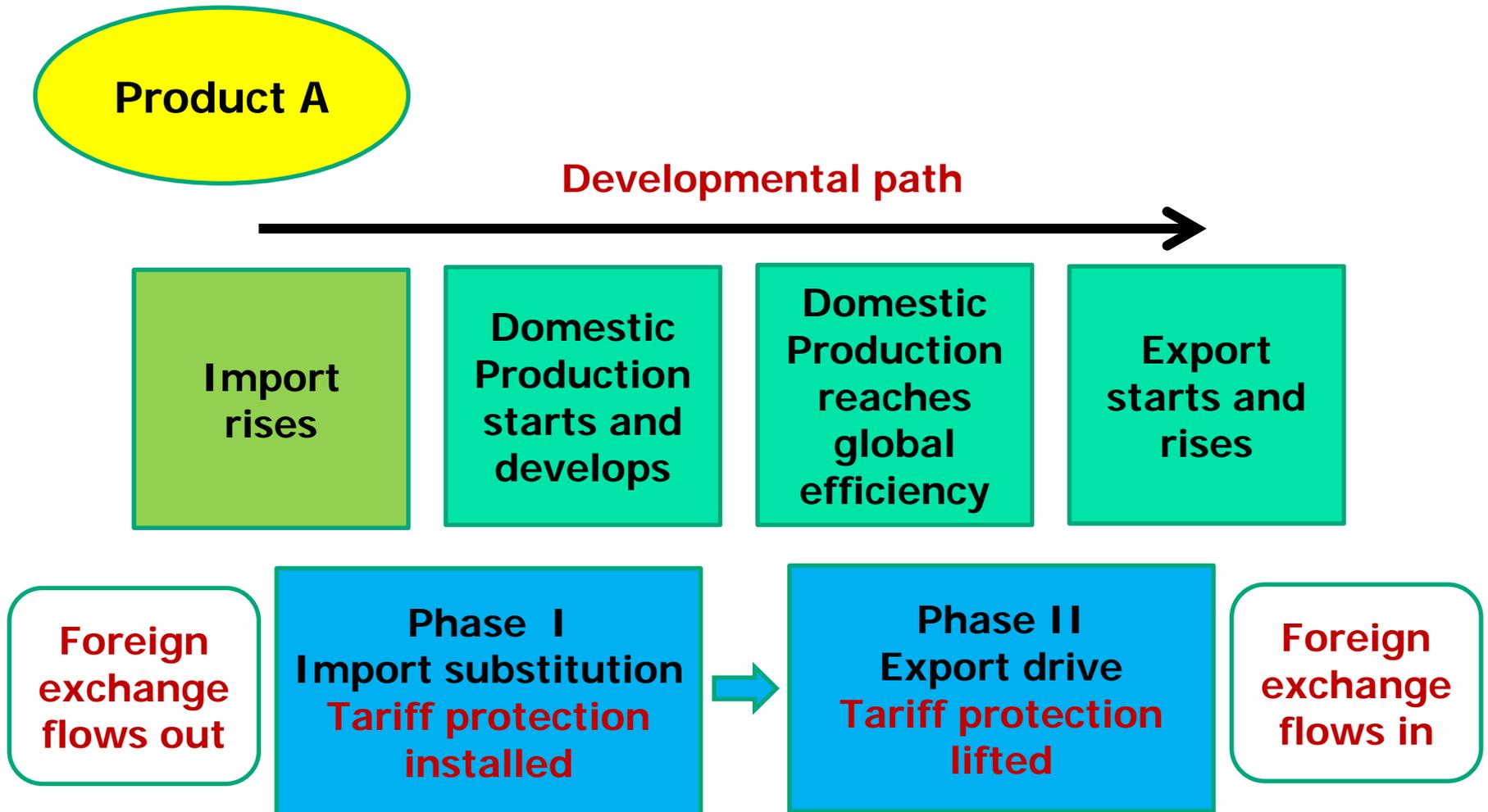
[Source: Akamatsu (1962), p.12]



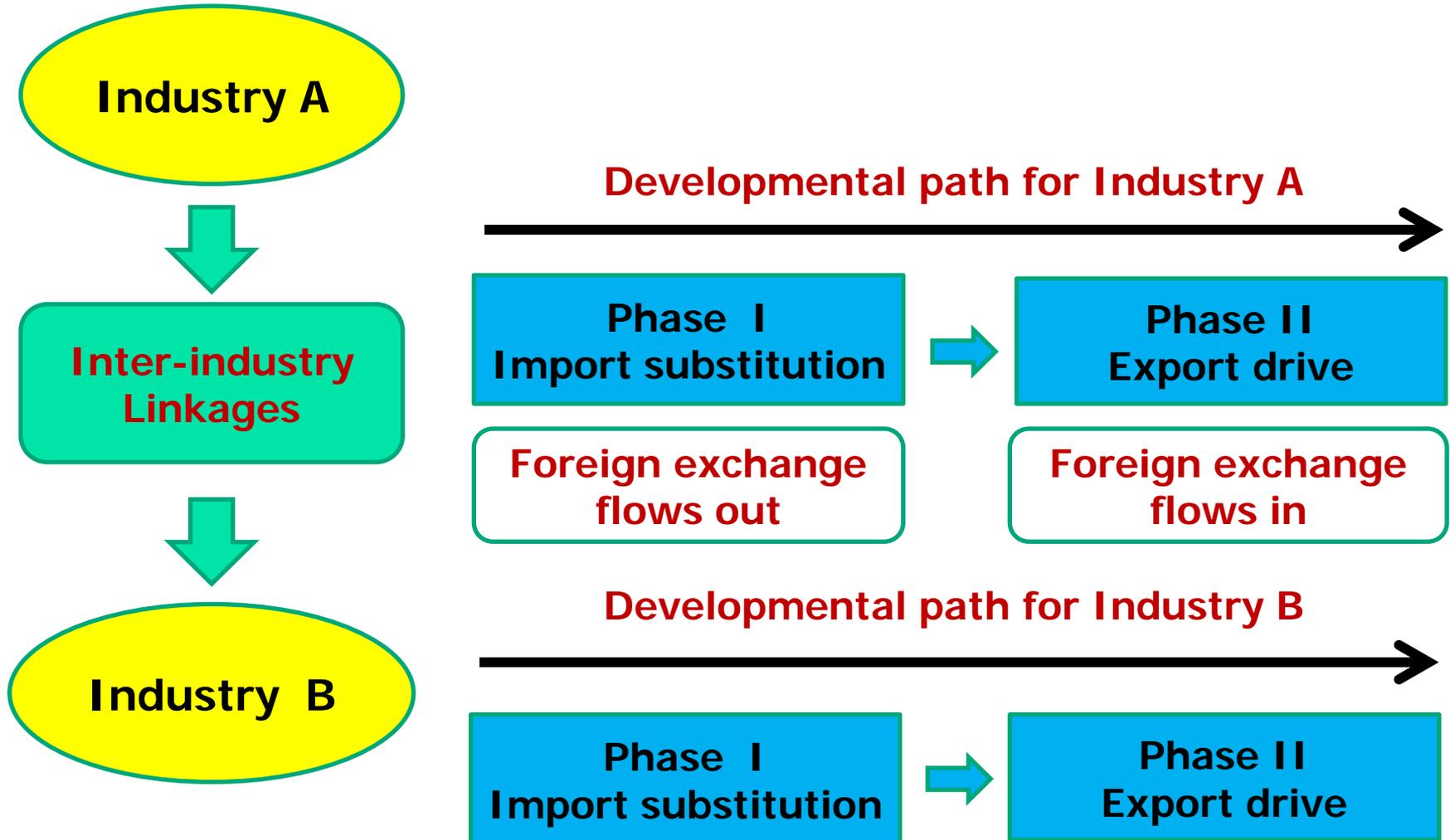
# When and How Flying Geese Actually Fly?

- **Intra-industry development mechanism:** The transition from import to domestic production and then to export
    - From “selective seclusion” to open up the protected market to face international competition
  - **Inter-industry linkage mechanism:** Moving up to other industries with higher value added
    - Targeting the next industry to commit to “selective seclusion”
- ⇒ **Systematizing the mechanism of industry nurturing to become “industrial policy”**

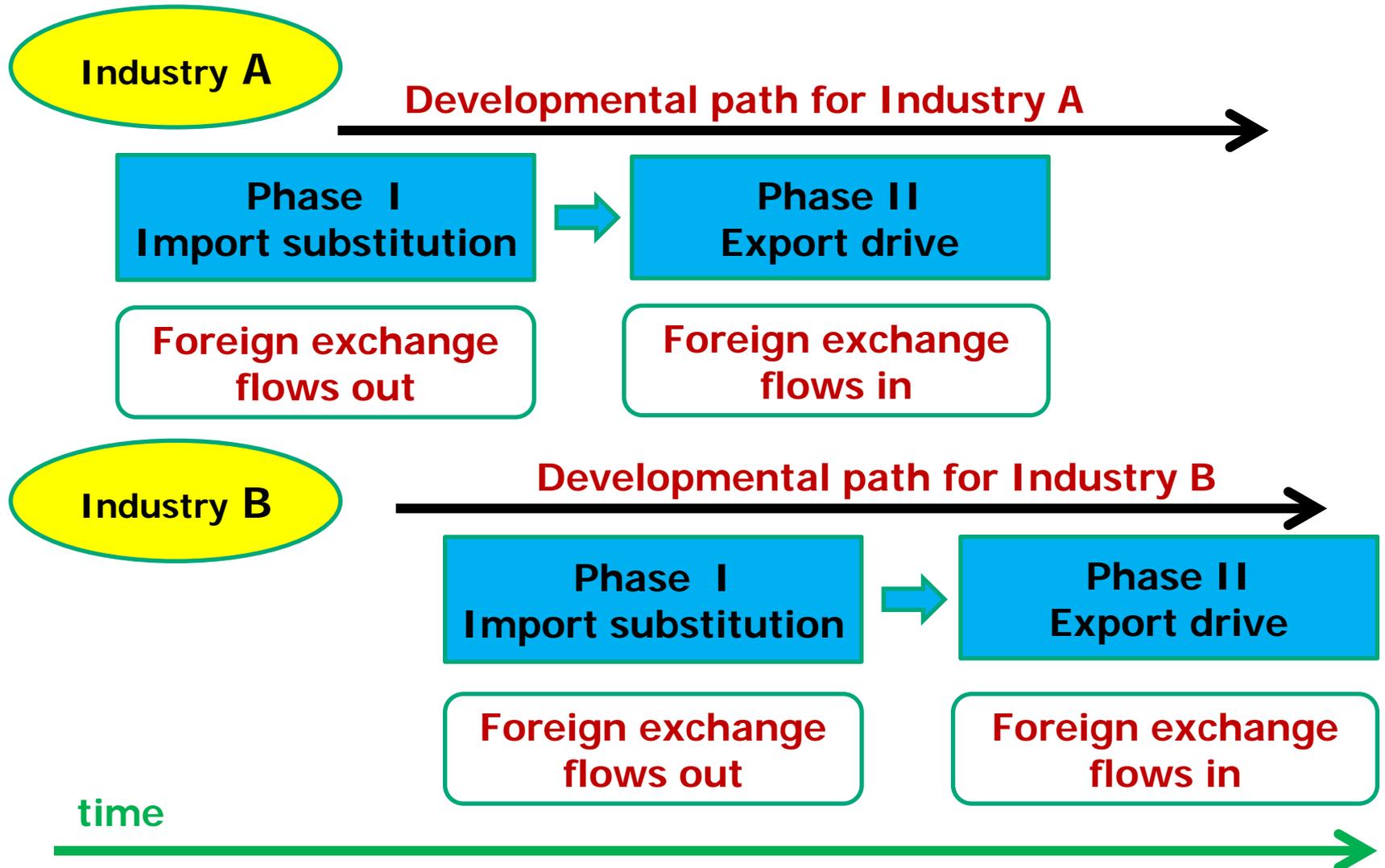
# Developmental Mechanism of Import Substitution *and* Export Drive



# Economy-wide Policy Mechanism of Import Substitution *and* Export Drive



# Simultaneous Progression of Import Substitution *and* Export Drive



## How to Avoid Latin American Disease?

- “Infants” (manufacturing industries) seek and obtain government protection.
- Even as the “infants” get matured, they continue to secure the protection by corrupting politicians and bureaucrats.
  - = Political “rent seeking”
- **Bureaucratic autonomy relatively isolated from political intervention was one of the key factors.**
- Continued protection harms the economy because of low efficiency and high cost (and prices).

# **Transformation of Japanese Industries Toward Scale and Technology Orientation**

- **Development of capital-intensive industries**
  - **“Heavy and chemical industrialization” continued from the 1930s and got accelerated in the 1950s and 1960s**
- **Import of frontier technologies from the United States and Western Europe raising productivity, lowering the cost and improving quality of products**
- **Rather than “product innovations” Japanese companies pursued “process innovations”**

# What Is Industrial Policy, After All?

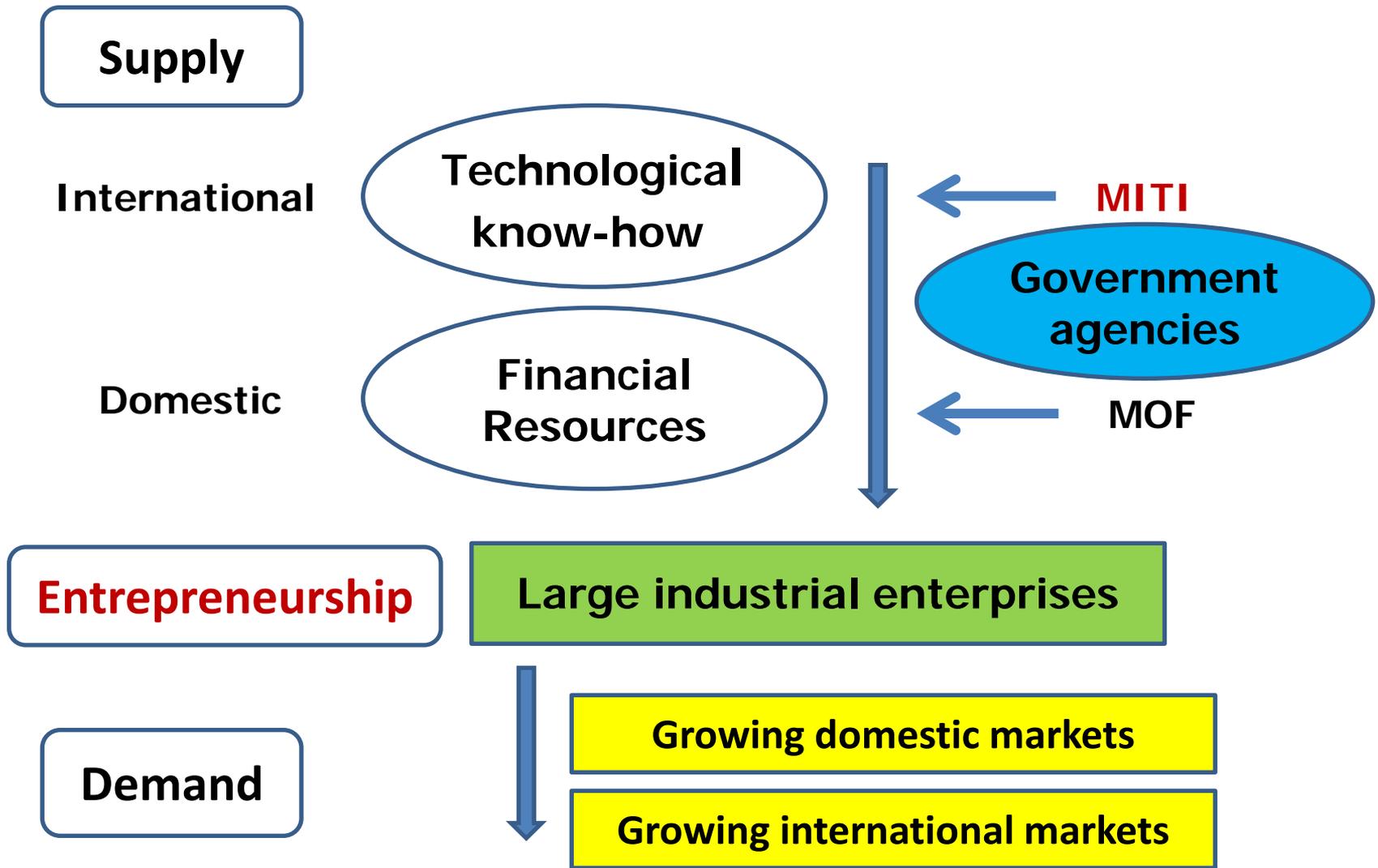
- Industrial policy=supply-side microeconomic policy
- Moving up to a more **activist approach** with systematic instruments **to promote industry development**, rather than simple tariff protection
  - Industry and firm targeting especially for:**
    - **scale-oriented industries, and**
    - **mid-tech-intensive products**
- American policy=demand-side microeconomic policy (procurement)
- European policies=“National Champions”

# 霞ヶ関 (Kasumigaseki)

## MOF and MITI



# Schumpeterian Innovation Coordinated by Government Bureaucracy



# MITI, MOF and Large Enterprises: Harmonious Cooperation?

- **MITI:**
  - The main agency for international competitiveness of Japanese industry
  - Establishing legitimacy as a latecomer
- **MOF:**
  - Concern for the current account balance and foreign exchange reserve
- **Large industrial enterprises:**
  - Desperately seeking international technology for competitive advantages
  - Acute need for massive external financing

# Why Targeting Large Industrial Enterprises?

- An instrument for generating **monopoly rents**:
  - Scale economies
- In the long run **Schumpeterian innovations**:
  - Knowledge accumulation**
    - Technological capabilities**
    - Organizational know-how**
  - Brand and marketing assets
- Targeting “Number One” as well as “Only One” in the global market
- Monitoring and enforcement cost for SMEs is too high for the government

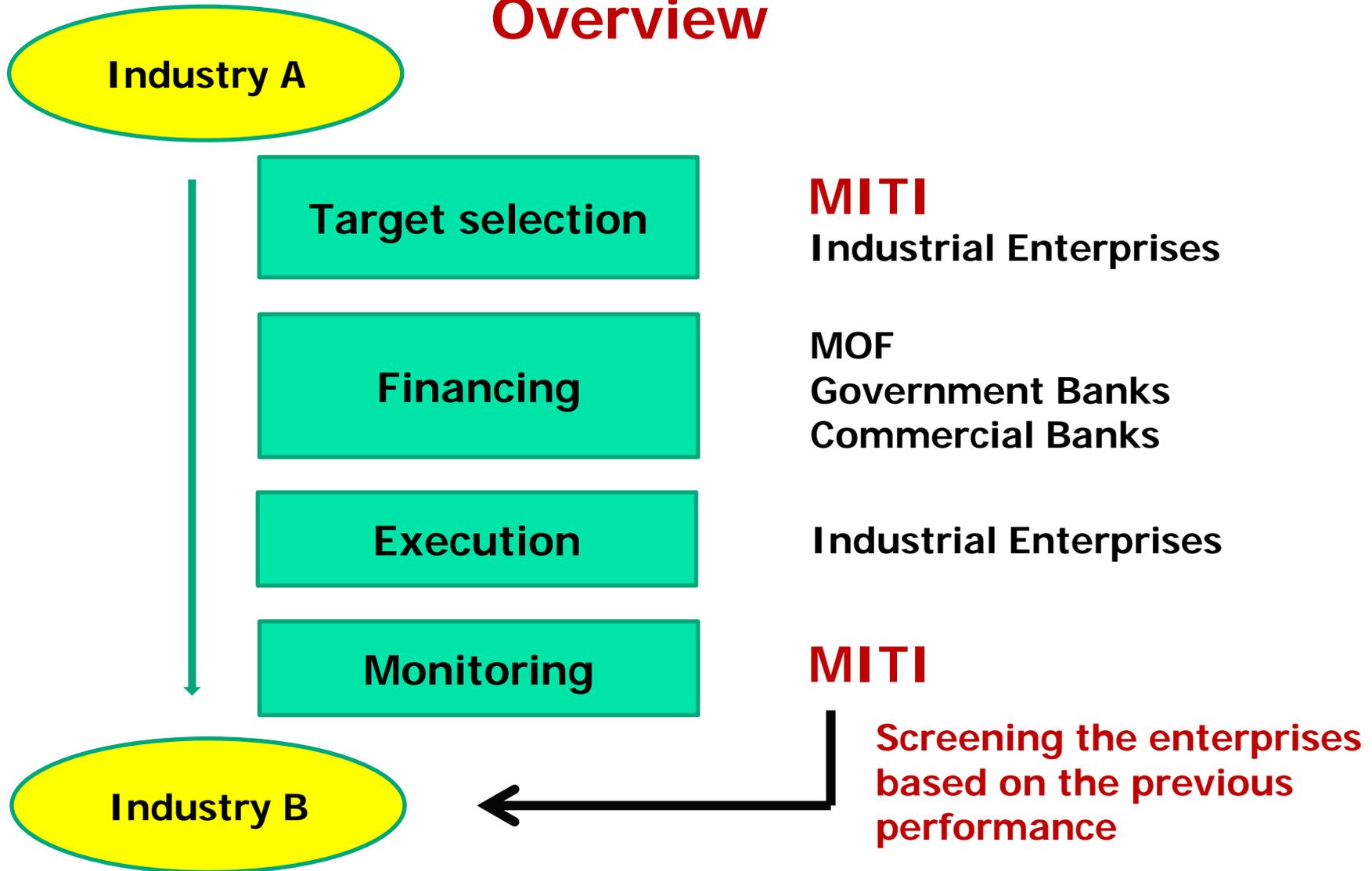
# Why Targeting the Middle-Tech Segment?

Why the Mid-Tech Segment became the core of Japanese (and other late-industrialers') economic success?

Given the limited scope of technological capabilities:

- High-tech is too difficult! (Russia)
- Low-tech is too easy for everybody! (Latin America)
- Mid-tech is still difficult (and expensive), but can be achieved and targeted! (East Asia)

# Industrial Policy Design, Japanese Style: Overview



# Policy Mechanism: Selecting the Targeted Industry

- Targeting a product or an industry by MITI bureaucrats
  - MITI: Selecting growing and large-scale products/industries by examining global trends
  - MITI: Benchmarking or setting efficiency/cost goals by global standards
  - Enterprises: Planning for technology and production
  - MITI: Screening for the plausibility of the plans
  - MITI: Choosing the **several** enterprises with the best possible plans (Usually established large enterprises)

# Policy Mechanism: Allocating Financial Resources

- Allocating financial resources for purchasing foreign technology and constructing new plants with minimum optimal size.
  - MOF: Suggesting government-controlled banks to provide **loans** to chosen industrial enterprises
  - Government-controlled banks: Giving small and marginal amount of loans to the enterprises as a signal of government approval and support
  - **Large commercial bank: Extending large and effective amount of loans to the enterprises**

## **Policy Mechanism: Executing and Monitoring the Project**

- **The chosen enterprises are now responsible to project execution in order to achieve the targeted goal of efficiency to make their products internationally competitive**
  - **Industrial enterprises: Constructing a new and large plant with minimum optimum size embodying imported technology**
  - **Industrial enterprises: Reporting to MITI about the outcome of the current project**
  - **MITI: Monitoring the performance of the chosen enterprises**

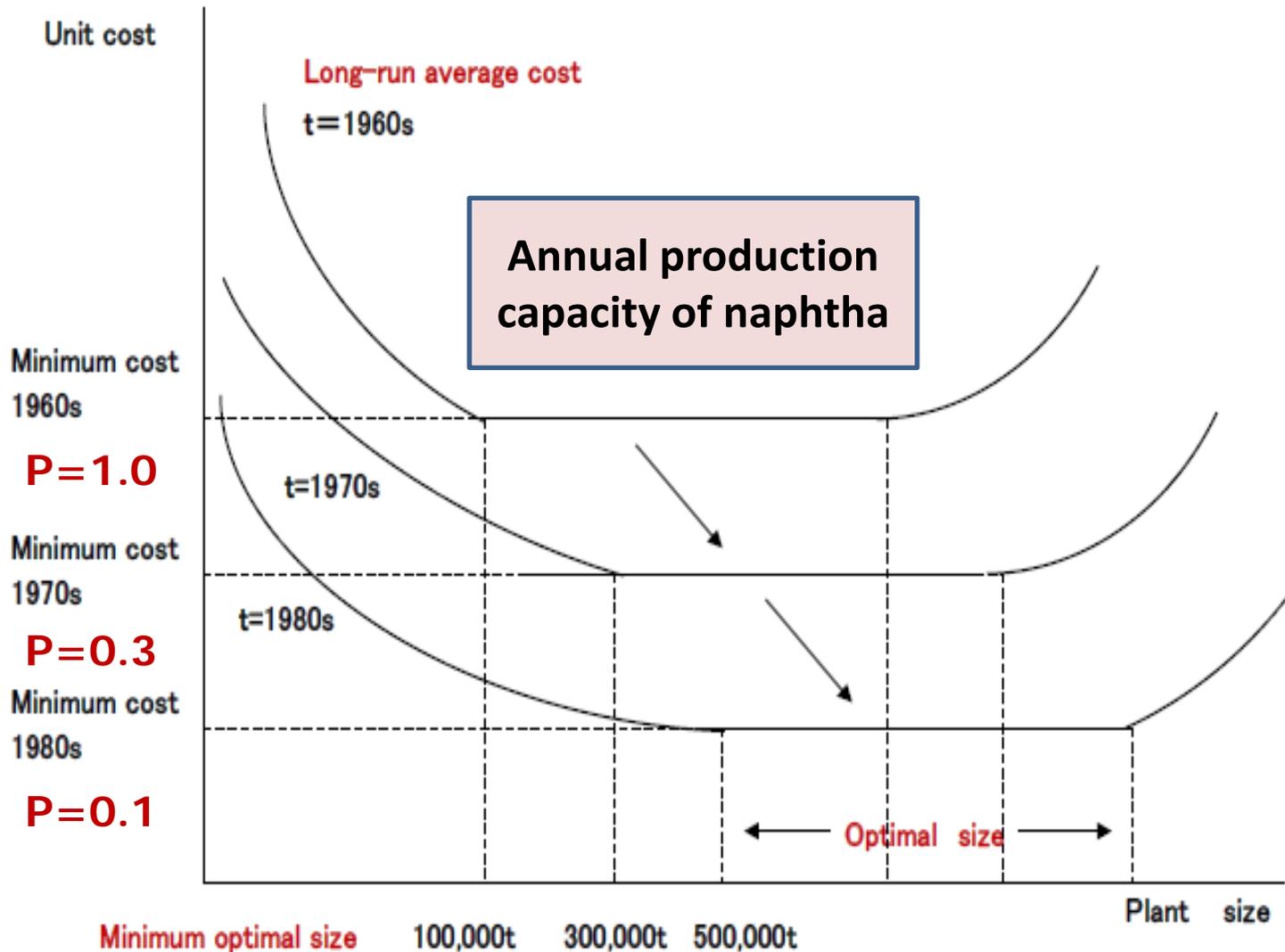
# Conditions for Success and Failure: Nature of Products

- Not all the introduced individual targets achieved assigned goals. When to succeed and when to fail?
  - Size and product heterogeneity
    - Large enterprises (chemicals and steel)
    - SMEs? (machine tools)
  - Technology sophistications
    - High-tech? (computers)
    - Mid-tech (automobiles and shipbuilding)
    - Low-tech? (textiles and apparel)

# Conditions for Success and Failure: Developmental Phases

- **Success: The 1950s and the 1960s**  
**Coordination of MITI and MOF**  
**Companies following**
- **Mixed outcome: The 1970s**  
**Leadership of MITI; MOF out!**
- **Ineffective: The 1980s**  
**Leadership of companies (brings success)**  
**MITI out! Government out all together!**
- **The 1990s and on**  
**Economy stagnating with ineffective**  
**policies and struggling enterprises**

# Shifting Long-run Cost Curve in Petrochemicals, 1960s-1980s



# Toward New Forms of Industrial Policy?

- Learning from other East Asian nations
- Toward the industrial future!
  - High-tech industrial policy!
  - Technology policy! WTO rules tolerate.**
  - Policies for SMEs? Entrepreneurship!
  - Tradable goods only? Services!
  - Human resources? Business schools!
- The “Three Arrows” policy-mix adopted by the current Abe administration contains the element of industrial competition policy, although its instruments critically differ from conventional approaches.

## Concluding Devices

- **Industry development mechanisms such as the “Flying Geese Curve” and industrial policies designed by government bureaucrats functioned positively during the catch-up phase of economic development of Japan (and other East Asian nations).**
- **The apparent success of those mechanisms to lead the nations to economic maturity created the conditions, domestic and international, under which the same or similar policies do not enhance industry competitiveness for the whole economy anymore.**