

Attaining the Next Stage of Industrialization

Regional Lessons for Leadership, Technocrats, and Policy Formulation



Hanoi street in 1995



Technical college in 2010



Ocean Park in 2023

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Topics

Situation analysis

- High-income achievers vs. the middle income trap
- Vietnam's achievements and problems

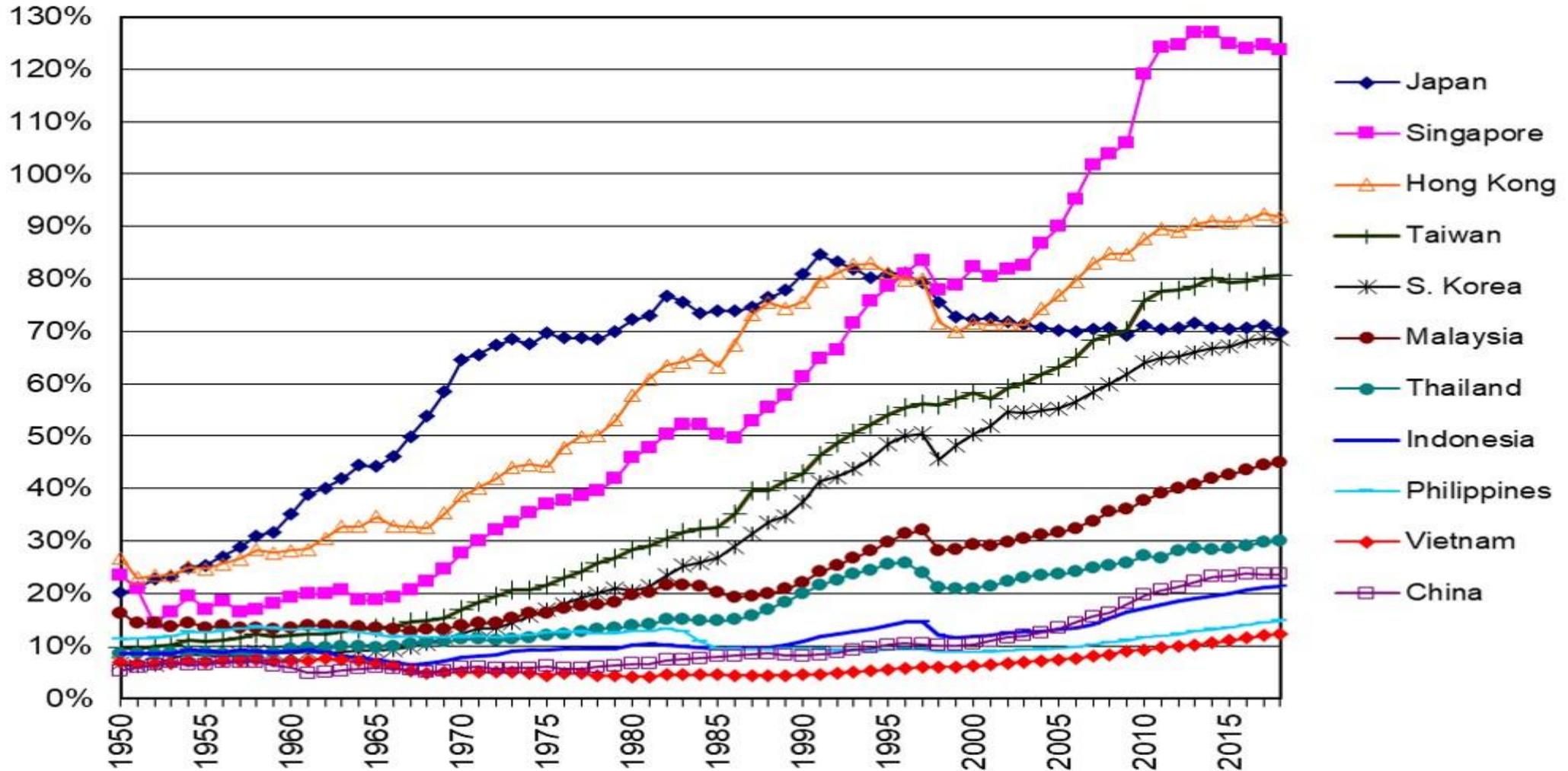
Solution

- Policy as a key determining factor
- National leadership and technocrats
- Studying the policy mechanisms of high-performing governments in East Asia

Situation Analysis

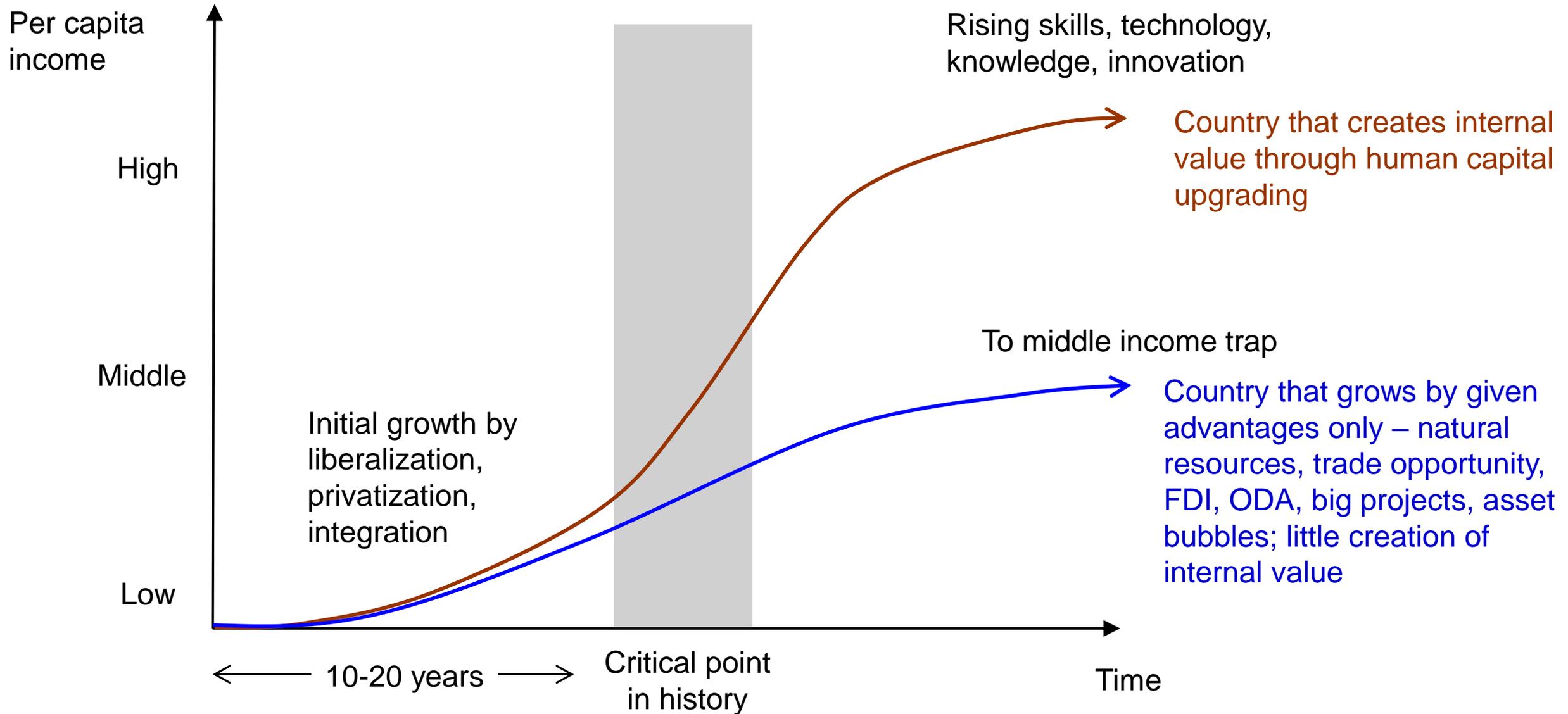
Speed of Catching Up: East Asia

Per capita real income relative to US
(Measured by the 1990 international Geary-Khamis dollars)



Sources: Maddison Project Database 2020; for Taiwan, the Central Bank of the Republic of China.

Why Do Nations Diverge?



The Middle Income Trap

- The middle income trap is a situation where an economy is stuck at income dictated by given resources and initial advantages, and cannot rise beyond that level: **growth is given, not created.**
- Growth based on FDI, ODA, abundant labor, trade agreements, big projects, natural resources, or locational advantages will eventually end. The true source of development is **value creation by domestic citizens and enterprises.**
- Countries may reach middle income by liberalization, privatization and global integration, but reaching higher income requires strong policy effort to upgrade private dynamism, not laissez-faire.

The Phase Shift Problem

From Labor-intensive Manufacturing to High-tech Industries

Light manufacturing

- In the early stage, labor-intensive low-technology sectors such as garment, footwear, food processing, electronic assembly (PCs, phones) dominate.
- Domestic value creation is low. A large amount of unskilled (female) labor is needed. Few engineers and technicians are required.

Liberalization, privatization and integration are generally sufficient



Japan made this transition around the 1920s, and Korea and Taiwan in the 1970s. However, many developing countries are unable to cross this line.

Technology-based industries

- Establishment of high-tech, value-creating sectors such as metal, machinery, chemicals, ICT and high-tech services requires technology learning and the education and retention of highly skilled engineers.
- Policy must assist technology, investment, finance, global positioning, etc.

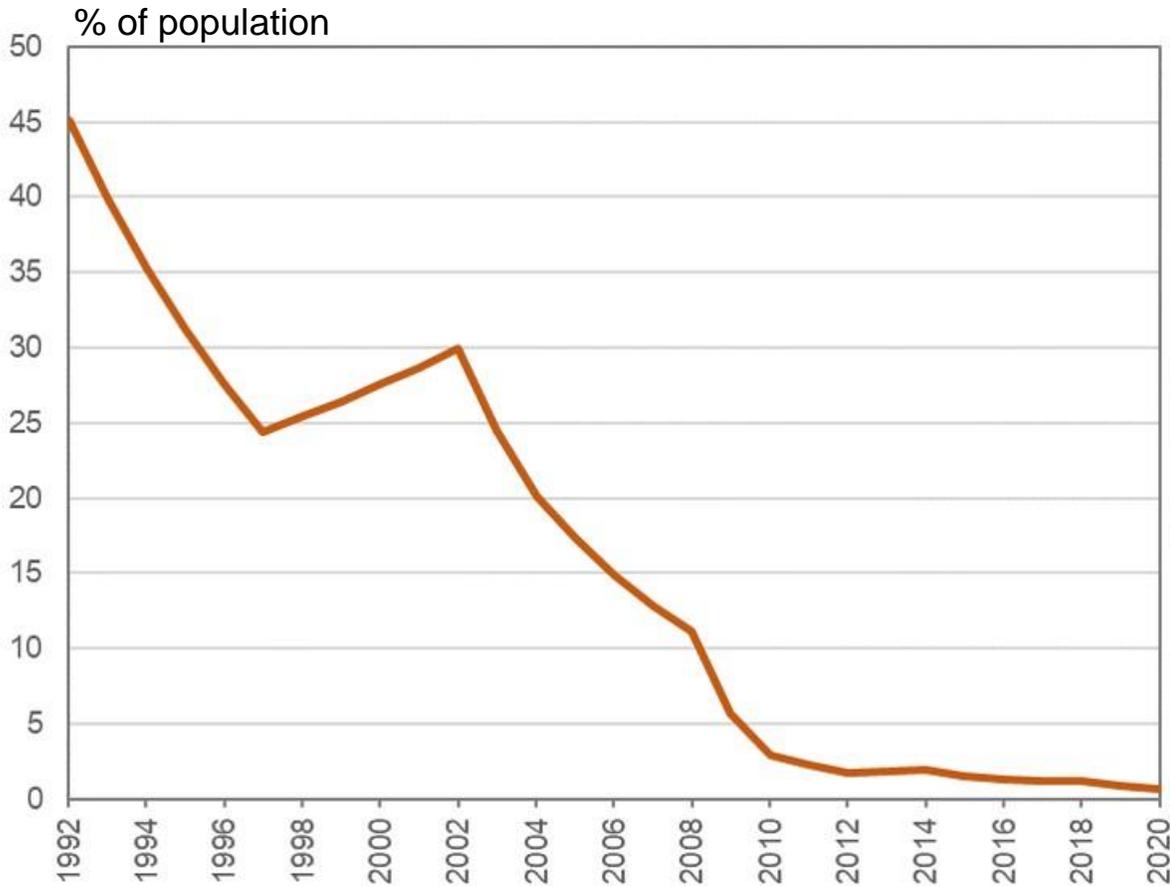
Effective policy intervention to upgrade private capacity is essential

Vietnam's Achievements

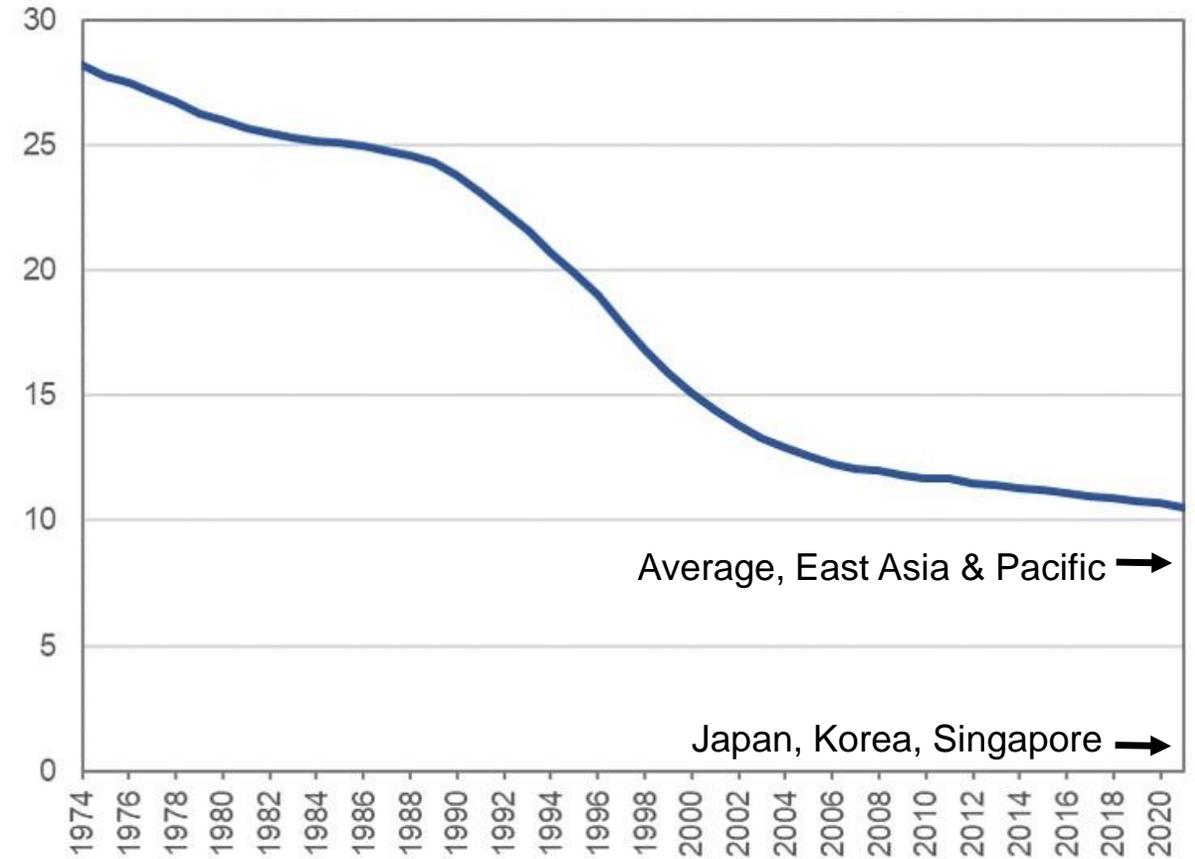
- Rapid income growth from a low level (since the 1990s)
- Social achievements in poverty, education, mortality rates, etc.
- Successful FDI attraction and trade policy (WTO, ASEAN, FTAs, TPP, RCEP...)
- Structural transformation from agriculture to industry and service
- The rise of some competitive firms—Vin Group/Vinfast, Viettel, FPT, etc. (but Vietnam needs more)

Social Indicators Improve

Poverty Headcount Ratio at \$2.15 a Day (2017 PPP)

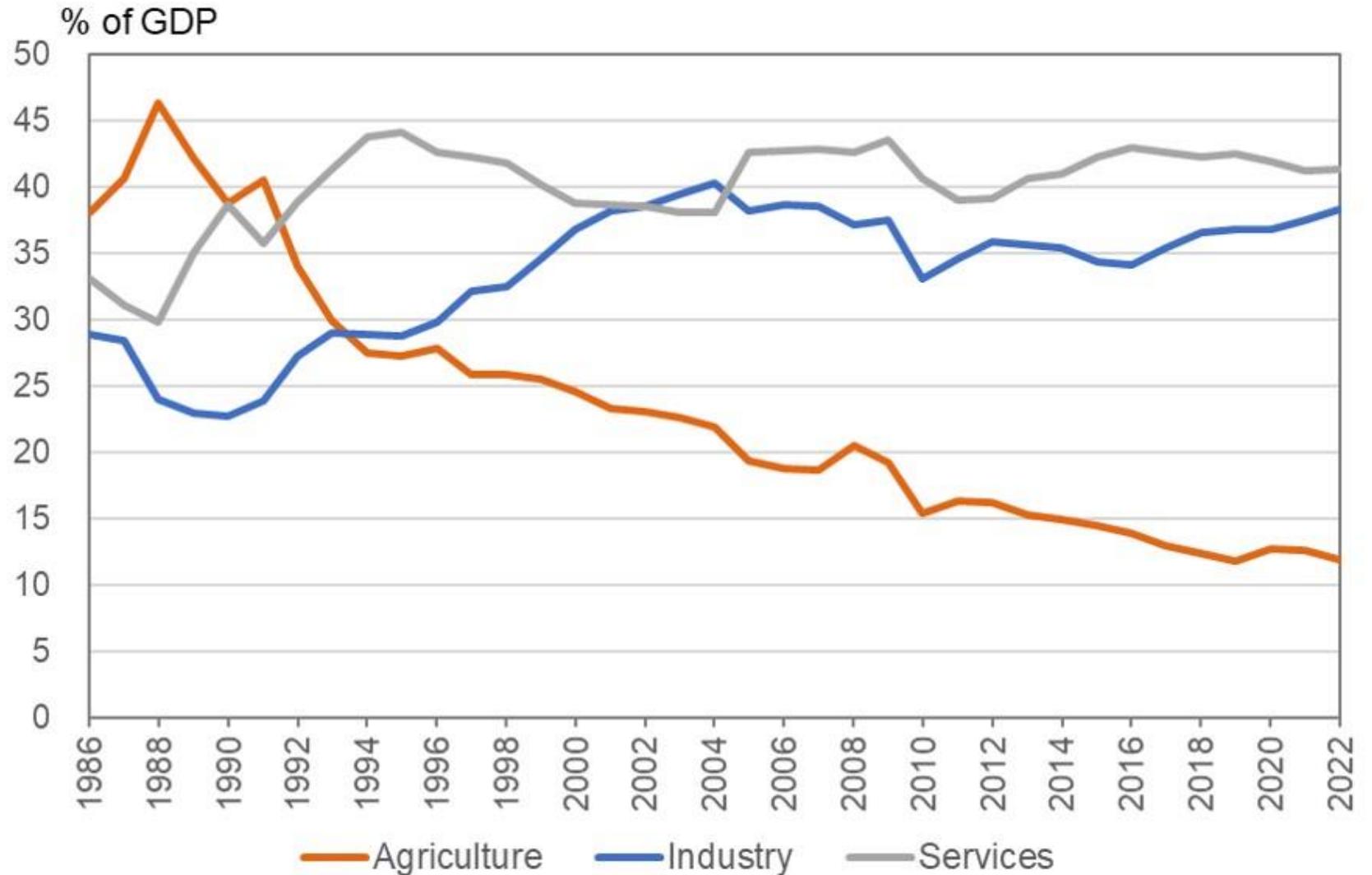


Mortality Rate, Neonatal (per 1,000 Live Births)



Structural Transformation Has Progressed

Agriculture declines continuously while industry and services each take up about 40% of GDP.



Vietnam's Problems

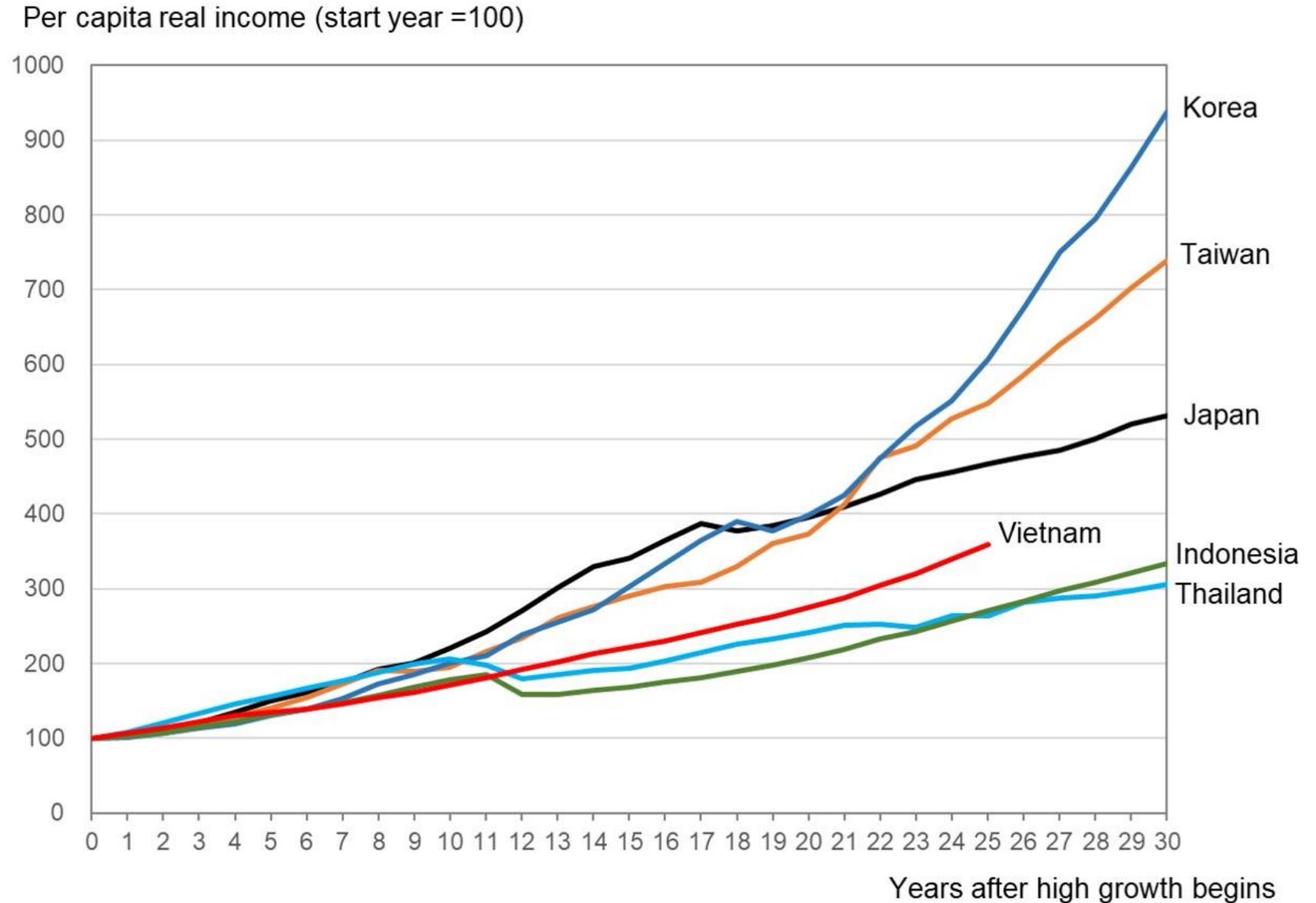
- Growth is slowing down at middle income (too soon) instead of accelerating
- Heavy reliance on FDI for export, technology, and structural transformation
- Weak participation of Vietnamese firms in the global value chain
- Slow construction of modern transport systems (esp. urban train network)
- Slow action on environment and natural protection

Growth Performance during the High Growth Period

Vietnam's performance is higher than Thailand or Indonesia but...

Start year

- Japan 1956 (10% growth begins)
- Korea 1961 (Park regime begins)
- Taiwan 1965 (Mfg. export rises)
- Thailand 1986 (FDI inflow begins)
- Indonesia 1986 (FDI inflow begins)
- Vietnam 1993 (private sector revives; FDI & ODA begin)



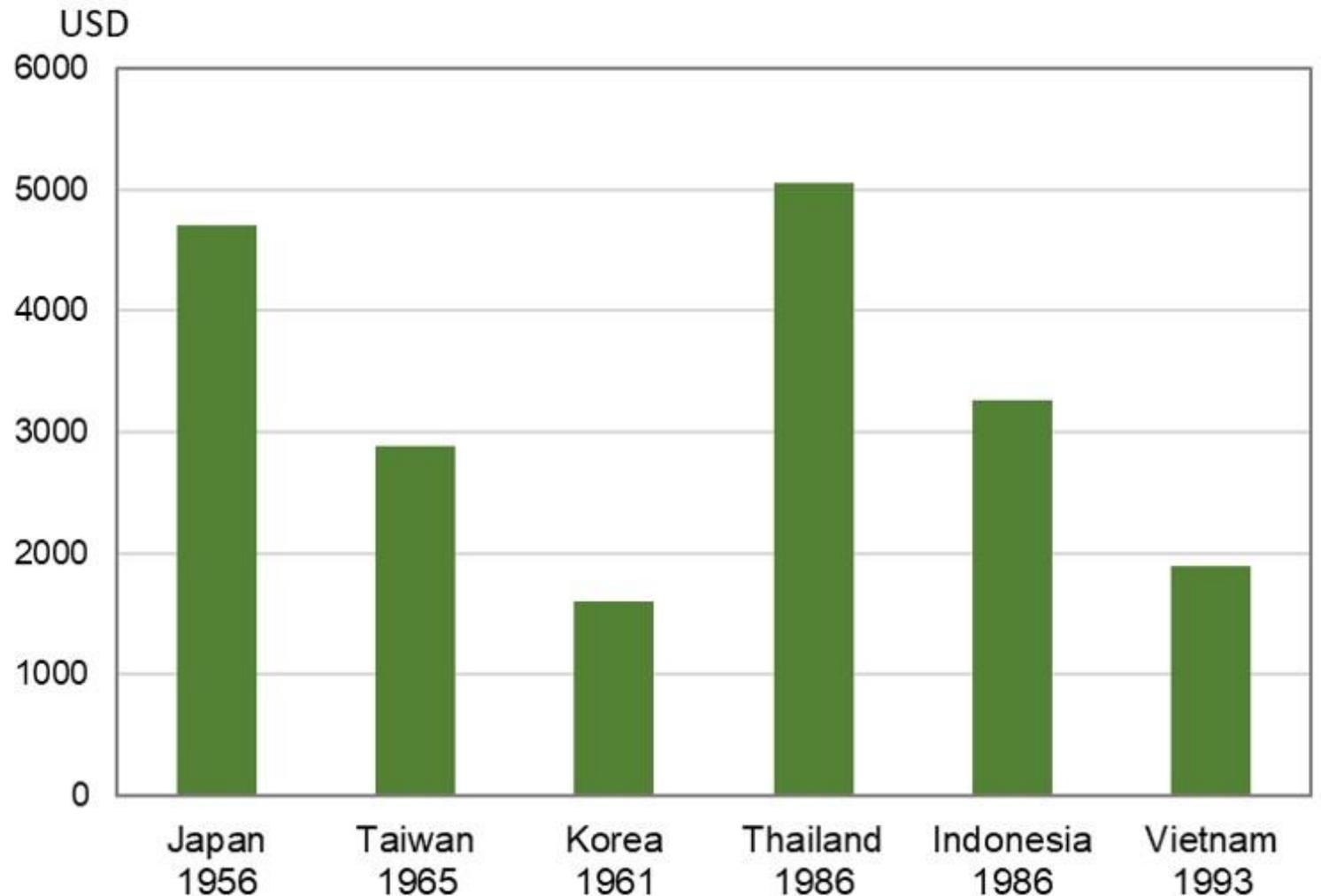
Per Capita Real Income in the Start Year

(Measured by the 1990 international Geary-Khamis dollars)

Vietnam's initial income was lower than Thailand or Indonesia.

Start year

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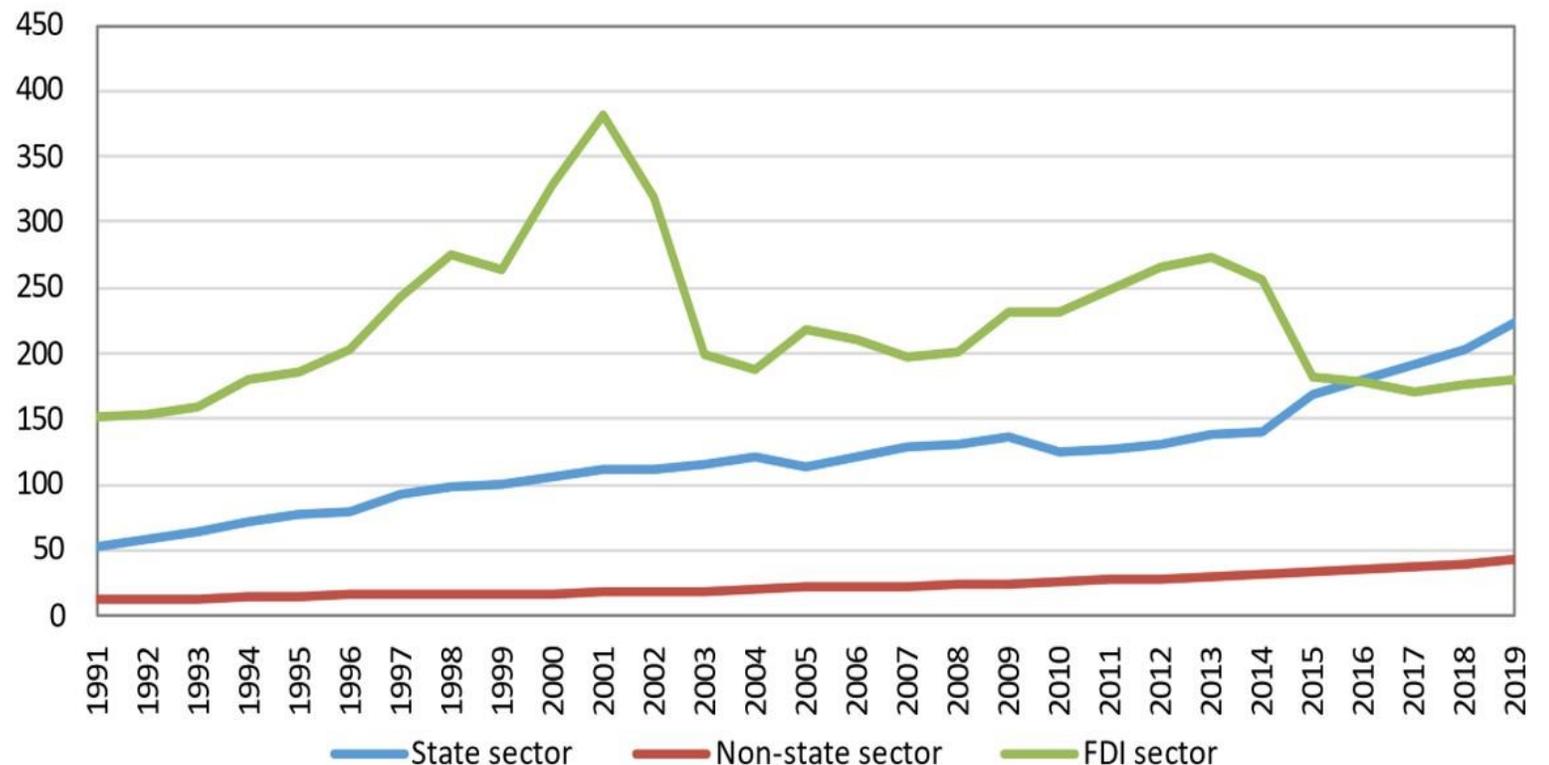


Labor Productivity Performance 1991-2019

- Economy-wide labor productivity growth was **4.65%** which was moderate and not very high. There was no productivity breakthrough unlike Japan, Korea or China. Vietnam's productivity position did not improve much within ASEAN.
- By ownership, the labor productivity of the FDI sector rose very little (0.6%/year) compared with the state sector (5.3%/year) or the non-state sector (4.4%/year).

Level of Labor Productivity by Ownership

(VND million per worker at constant 2010 price)

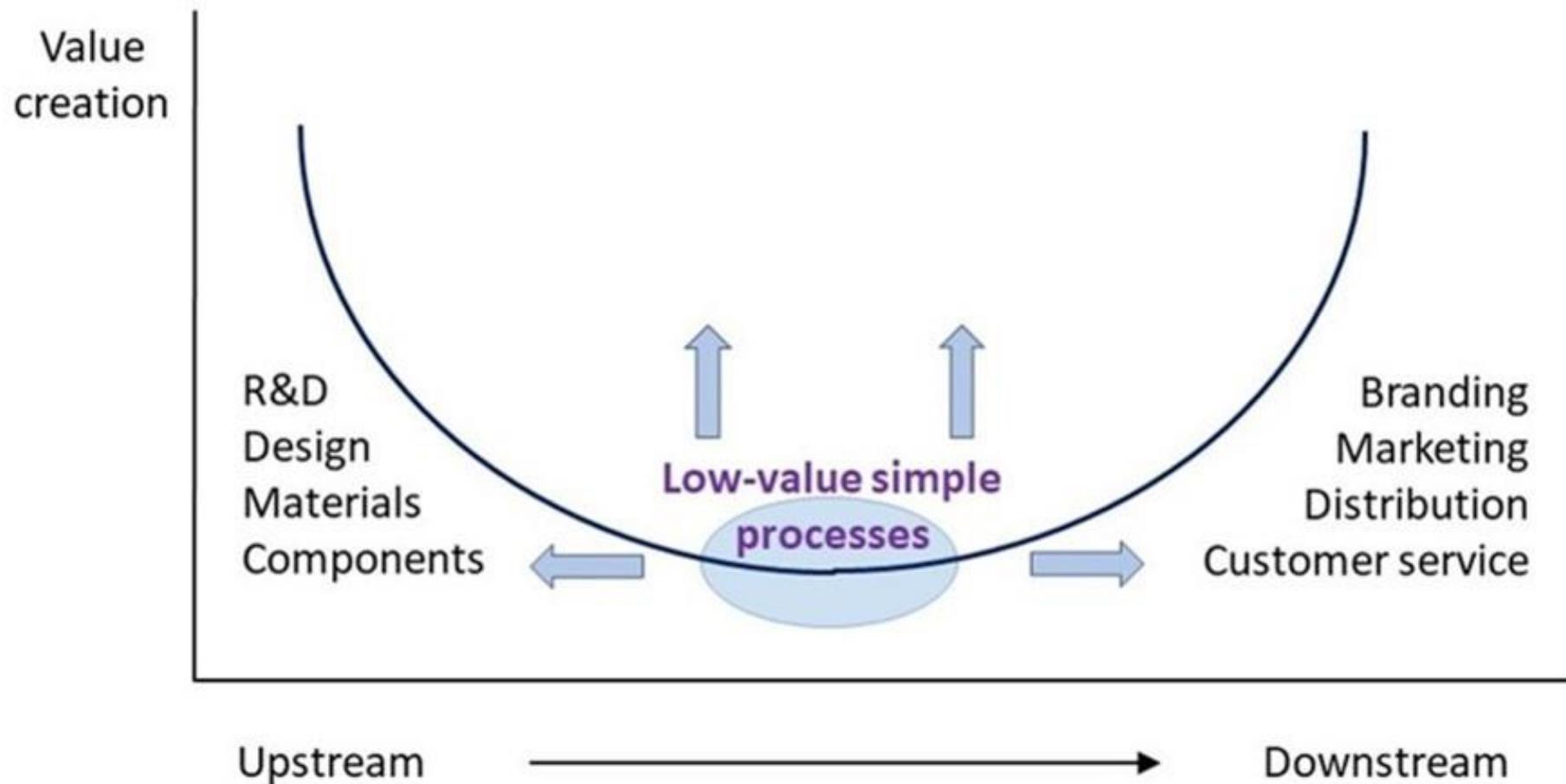


Source: Viet Nam Productivity Report (2021) using GSO data with adjustment for the 2010 data gap.

Why FDI Does Not Target Value Creation in Vietnam

- In the early 2000s, the labor productivity of the FDI sector fell significantly. This was due to the arrival of many FDI firms doing simple labor-intensive light manufacturing (garment, shoes, electronic assembly, etc.) rather than mechanical engineering, mining or ICT.
- Many FDI firms consider Vietnam as a place to do simple processes rather than high-tech design or production. They are happy with low-skill cheap labor and not willing to invest in high-level human resources.
- This strategy of FDI firms reflects Vietnam's failure to produce competent scientists, engineers, technicians, etc. in large number needed for technology upgrading.

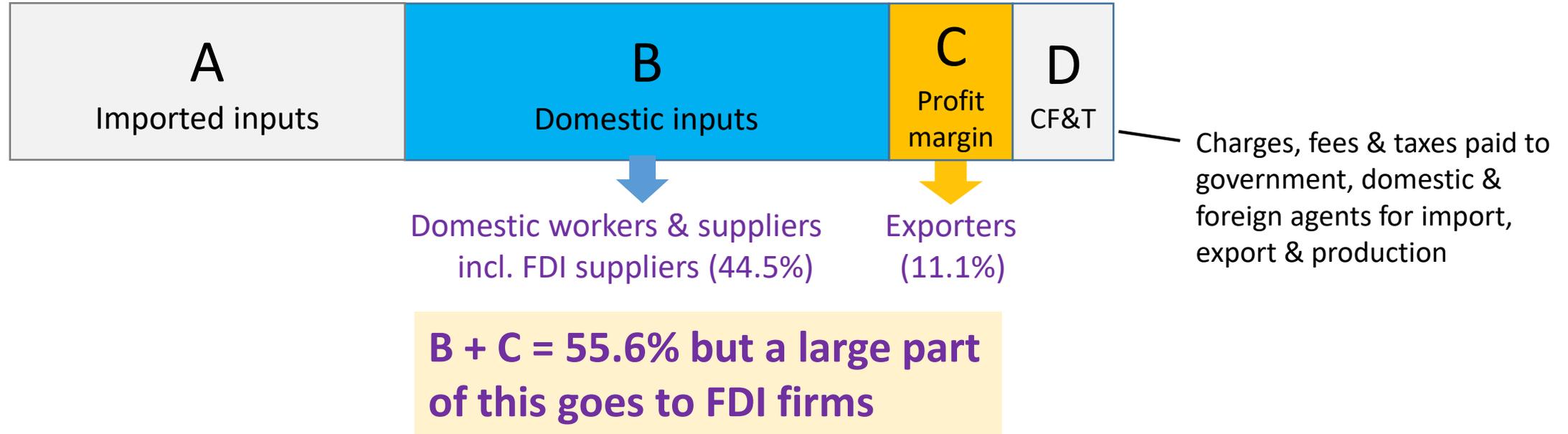
The Smile Curve and the Lack of Functional Upgrading



Latecomers usually start with simple cutting, sewing, assembly, etc. with little value creation. From there, activities must be upgraded to raise productivity and capture upstream and downstream processes. This will increase domestic value creation and effective participation in the GVC.

Limited Participation in the Global Value Chain

Vietnam: Export Value Structure (2015)



- Khoi & Chaudhary (2019) calculated Vietnam's participation in GVCs. Backward participation (upstream components, B) rose but forward participation (downstream marketing, C) remained stagnant.
- Supporting industries (upstream components) are dominated by FDI firms.

Solution

Policy as the Key Factor

**Economic performance = Private dynamism + Policy quality
+ External factors**

- **Private dynamism** is the most fundamental determinant of the nation's economic performance.
- **External factors** do matter but their effects usually wear out in the long run (global recession, financial crisis, terrorism, war, natural disaster, COVID, etc.)
- **Policy** has the important role of enhancing private dynamism and coping with external shocks.

The lack of policy quality is the main cause of any long-term growth problem including the middle income trap.

Industrial Policy Quality

- I have visited the following countries in Asia and Africa to compare the formulation and contents of industrial policy.
 - Asia—Vietnam**, Singapore, Taiwan, Korea, Malaysia, Thailand, Indonesia, India, Cambodia, Sri Lanka, Myanmar
 - Africa—Ethiopia**, Rwanda, Mauritius, Mozambique, Zambia, Tanzania, Ghana, Uganda, South Africa, Kenya, Djibouti
- In policy quality, Asia is not always superior to Africa. Some African countries such as Mauritius and Rwanda practice better industrial policy than Vietnam or Indonesia.

How Do You Measure Industrial Policy Quality?

(Tentative)

5 – Excellent
4 – Good
3 – Moderate
2 – Some
1 – Little
0 – None or worse

Policy areas

1. Industrial human resource
2. Domestic enterprise development
3. Business climate
4. Power & logistics
5. Export promotion
6. Strategic FDI marketing
7. Industrial parks
8. Supporting industries & FDI-local firm linkage
9. Productivity, technology & innovation
10. Standards & testing

×

Policy functions

1. Policy ownership
2. Vision & commitment of top leader(s)
3. Policy drafting procedure
4. Authority & capacity of policy organizations
5. Mindset & competency of implementing officials
6. Budgeting & staffing
7. Inter-ministerial coordination
8. Involvement of key non-official stakeholders
9. Monitoring & evaluating mechanisms
10. Impact on the real economy



The Scorecard for Vietnam

Date: May 2015 (based on policy research 1995-2015)

	Evaluation of industrial policy sub-components										Average
	Industrial human resource	Domestic enterprise development	Business climate	Power and logistics	Export promotion	Strategic FDI marketing	Industrial parks	Supporting industries & FDI-local firm linkage	Productivity, technology & innovation	Standards and testing	
Policy ownership	2	2	3	3	2	3	4	2	2	2	2.5
Vision & commitment of top leader(s)	1	1	2	3	2	2	2	2	1	1	1.7
Policy drafting procedure	2	2	1	3	1	1	1	1	1	2	1.5
Authority & capacity of policy organizations	2	3	2	3	2	2	3	2	2	2	2.3
Mindset & competency of individual officials	3	2	2	2	2	2	2	2	2	2	2.1
Budgeting & staffing	2	3	2	4	2	2	2	2	2	2	2.3
Inter-ministerial coordination	1	1	1	1	1	1	1	1	1	1	1.0
Involvement of key non-official stakeholders	2	2	2	2	2	2	3	2	2	2	2.1
Monitoring & evaluating mechanisms	0	0	2	3	0	0	1	0	0	0	0.6
Impact on real economy	0	2	3	4	2	2	3	1	1	1	1.9
AVERAGE	1.5	1.8	2.0	2.8	1.6	1.7	2.2	1.5	1.4	1.5	1.8
GRADE	D	D	C	C	D	D	C	D	D	D	D
Remark	Fragmented over MOET, MOLISA, MOIT, etc.	MPI & MOIT measures weak	Better than 1990s but still much room for improvement	Many ODA projects; improving significantly	Ministerial level only; not a national drive	Policy weak & decentralized but FDI comes	Too many, too decentralized; some effective	Much talk, little action except intl cooperation	No realistic or pragmatic policy	Ineffective policy design & implementation	

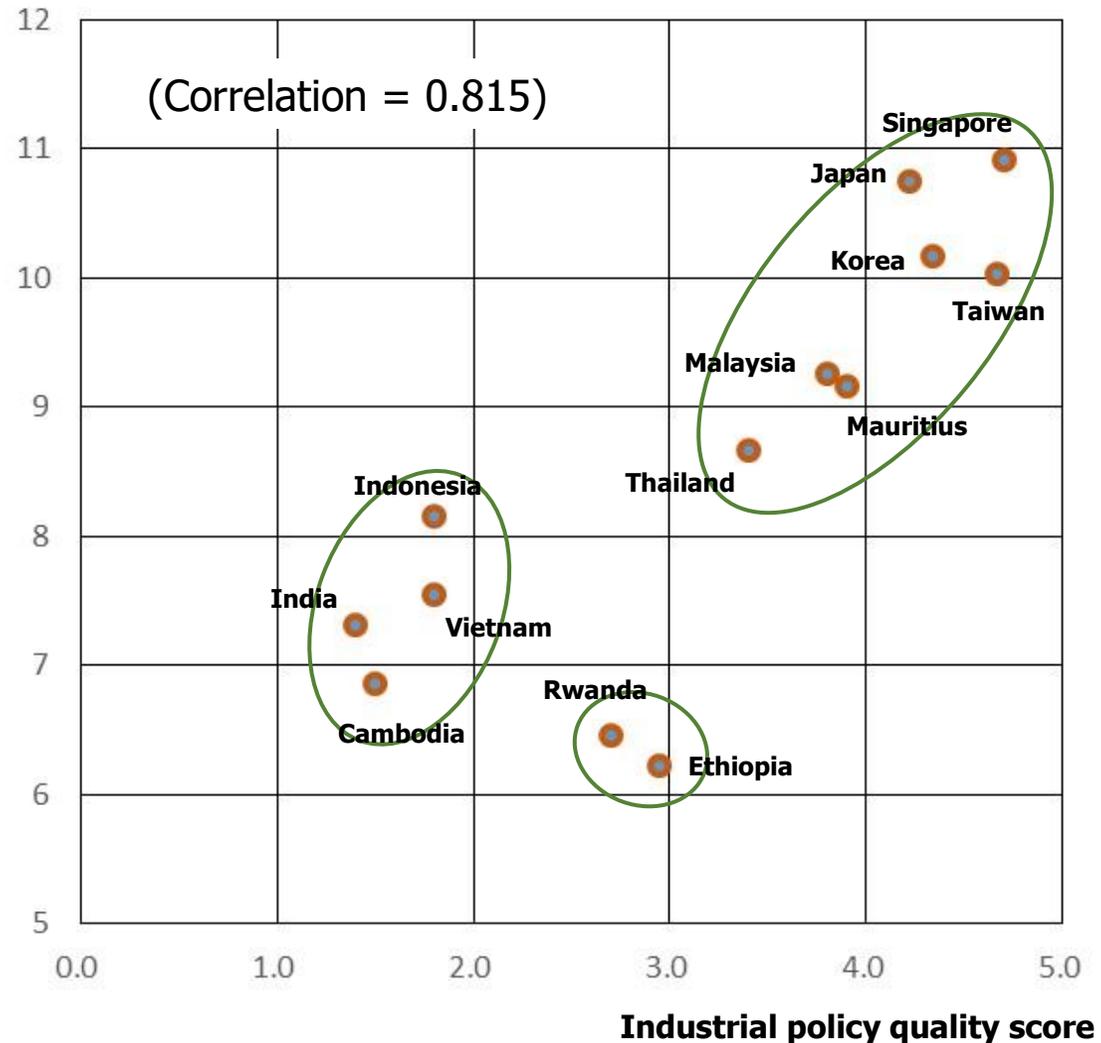
Notes:

- Evaluation: 0 (non-existent or worse), 1 (little), 2 (some), 3 (moderate), 4 (good), 5 (excellent).
- Evaluation of policy prepared and implemented by government only; results obtained by private effort, international cooperation or external conditions are not included.
- Letter grades: A+ (4.5 or above), A (<4.5), B (<4), C (<3), D (<2), F (<1).

Industrial Policy Quality: Summary of 13 Economies

	Industrial policy quality		Per capita income (WB, 2013, USD)	Doing Business ranking among 189 entities (WB, 2014)
	Mean	SD		
Singapore	4.70	0.48	\$55,183	1
Japan	4.22	0.83	\$46,330	29
Korea	4.33	0.71	\$25,977	5
Taiwan	4.67	0.71	\$22,597	19
Malaysia	3.80	1.14	\$10,538	18
Mauritius	3.90	0.57	\$9,478	28
Thailand	3.40	0.84	\$5,779	26
Indonesia	1.80	0.63	\$3,475	114
Vietnam	1.80	0.43	\$1,910	78
India	1.40	0.70	\$1,498	142
Cambodia	1.50	1.43	\$950	135
Rwanda	2.70	1.06	\$639	46
Ethiopia	2.95	1.02	\$505	132

Log of per capita income



Observations

- Governments are not created equal. There is a huge gap in industrial policy quality from excellent to poor.
- Industrial policy quality and income level are positively correlated (0.815). This suggests, but does not prove, causality.
- Within each country, policy quality is similar across various components. If one policy or ministry is bad, others are also likely to be bad. There is a common policy culture prevailing in the entire government.

Vietnam: Policy Talks vs. Implementation

Since the 1990s, the same issues have been discussed and documented many times without implementing effective solutions.

- **Agro-processing**—add value before export (coffee, seafood, fruits, vegetables, cashew nuts, etc.)
- **Productivity**—raise productivity by appropriate education, training, kaizen, innovation, etc. (since 1995)
- **Supporting industries**—produce components of motorcycles, automobiles, electronics, etc. domestically and by domestic firms.
- **Upgrading FDI policy**—from quantity & job creation to quality & value creation in attracting FDI.
- **Environment**—policies are in place for air and water quality, natural protection, etc. but implementation is weak.

Not WHAT but HOW

- The industrial policy menu is similar across countries and usually includes:
 - Education and training, export promotion, import substitution, incentives for targeted sectors, SME support, FDI attraction, linkage creation, power and logistics, industrial parks, R&D, technology transfer, low-interest policy loans, ICT, startups, productivity, innovation, standards, worker rights, green manufacturing, regional planning, etc.
- The question is not **WHAT** governments plan to do but **HOW** competently they execute these common policies.
- It is **HUMANS**, not resources, laws, institutions, technology or machines, that improve policy implementation.

Critical Importance of Leadership and Technocrats

- ✓ **A national leader** who is wise, strong, and action-oriented
 - ✓ **Competent and dedicated technocrats** who support this leader
-
- Leadership is primary because a good leader can create competent technocrats if they don't exist (Taiwan 1950s, Korea 1960s).
 - When the nation has a good leader and good technocrats, it can execute policies effectively through self-effort and policy learning. There is no need for foreign experts or international organizations to advise what to do.

Policy Formulation of East Asian Economies

Japan (1960s) – rapid growth and industrialization

Korea (1960s-70s) – rapid growth and industrialization

Taiwan (2000s-10s) – global supply of ICT hardware

Malaysia (2000s-) – SME, FDI, and export promotion

Thailand (1980s-2000s) – Eastern Seaboard Development
& automobile industry

- The policy capacity and method of each government was different, but they all produced some good economic results.
- Within each country, policy capacity and method may change over time and with the change of government.

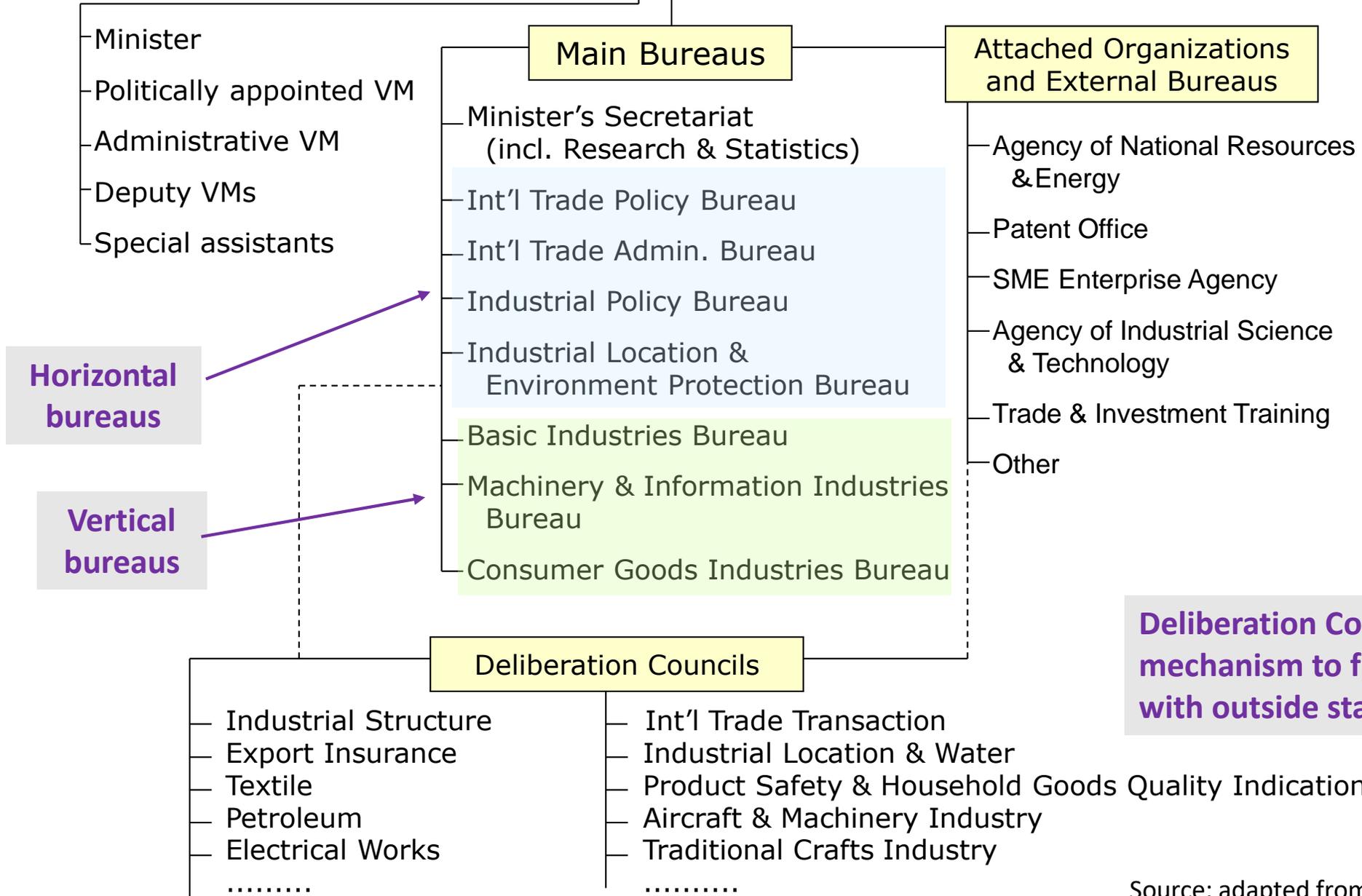
Japan's Ministry of International Trade and Industry (MITI) in the 1960s



- 1. Broad mandate**—MITI covered industry, trade, energy, mining, SMEs, investment, technology, IPR, etc. Its functions were also broad: vision-setting, research, consensus-building, law-drafting, implementation, monitoring, etc.
- 2. Clean relationship with politics**—MITI worked interactively with politicians for policy formulation. It was not subjugated by politics.
- 3. Thick information networks**—MITI and businesses shared the same awareness and future visions. Industrial policy was a joint work between MITI and the private sector. This facilitated policy implementation.
- 4. Internal structure**—MITI had vertical and horizontal bureaus which deliberated both sector-specific issues and cross-cutting issues.
- 5. MITI officials**—despite low salary, MITI officials were highly motivated to work on industrialization very hard and even at night (without overtime pay).

Ministry of International Trade and Industry

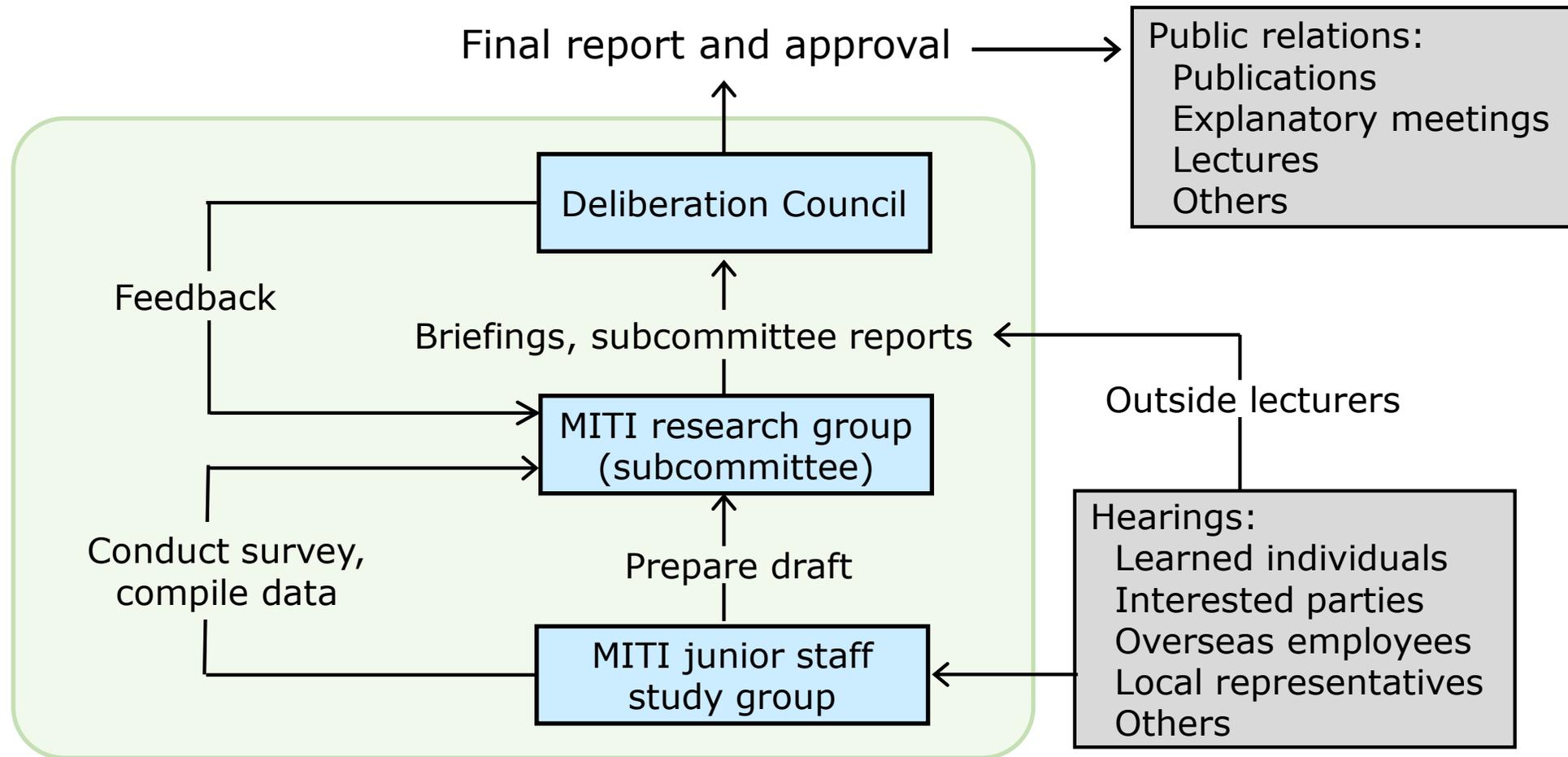
(1960s)



MITI agencies were capable and effective

Deliberation Councils are a formal mechanism to finalize policies with outside stakeholders

MITI's Policy Making Was Bottom-up



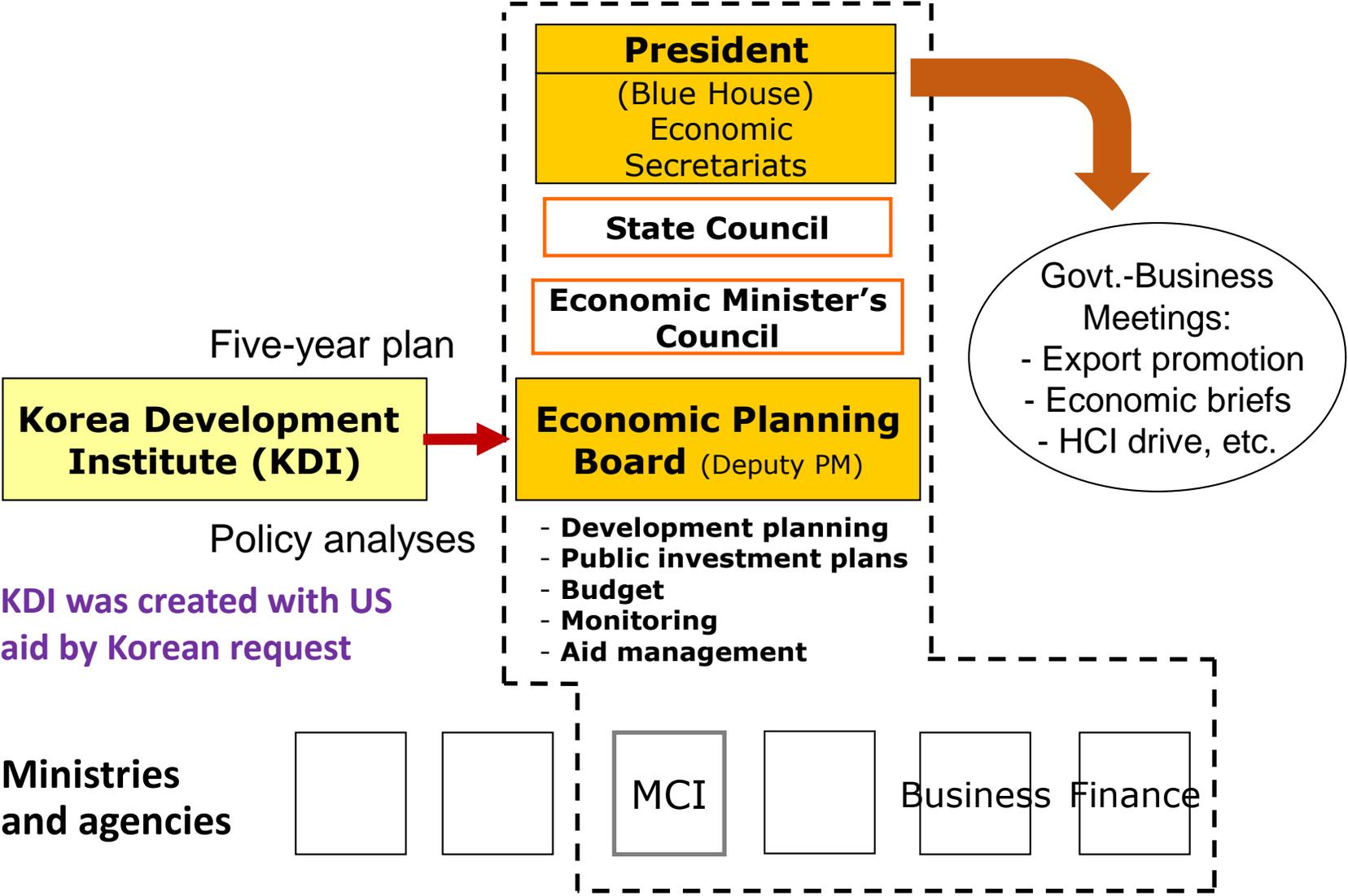
Young officials in their 30s actively gathered information and interacted with stakeholders, thus having substantive influence on final result—unlike in most other countries where young officials only take orders from above and do what was assigned.

Source: Ono (1992); original graph was rearranged so reporting direction goes from bottom to up.

South Korea in the 1960s-70s

- After the Korean War (1950-53), South Korea was poor and without natural resources. **Politicians and bureaucrats were incompetent and corrupt.** The economy was barely surviving with US aid. Few imagined that growth was possible in this country (World Bank 1993).
- Park Chung-hee's military coup in 1961 moved South Korea into action. He established the Economic Planning Board and drafted five year development plans. Incompetent and corrupt officials were removed.
- **1960s:** under strong state guidance, chaebols (large corporate groups) such as Samsung, LG and Daewoo promoted export. Technology and finance were imported. Government dictated fund allocation.
- **1970s:** Korea targeted heavy industries. Chaebols were engaged in steel, automobiles, shipbuilding, and electronics. By then, **Korean bureaucracy had become highly reputable in the developing world.**

Policymaking Under A Strong President (1960s-70s)



- **President Park directly controls economic policies**
- **EPB acts as a super-ministry**
- **Research institutes (KDI and others) provide analyses**
- **Very close and cooperative gov't-business relationship**
- **Performance-based rewards and penalties**

KDI was created with US aid by Korean request

Top-down Orders and Rewards for High Performers



**Monthly Export
Promotion Meeting**
chaired by President Park
(late 1960s)



**President Park
confers medals and
great honor to firms
achieving high
export performance**



Saemaul Undong (New Village Movement)
President Park's massive rural transformation plan targeted mindset, lifestyle and income. Each village was graded and assistance was continued only to high-performing villages. Korean villages were activated, and the urban-rural gap narrowed or even reversed (1970s).

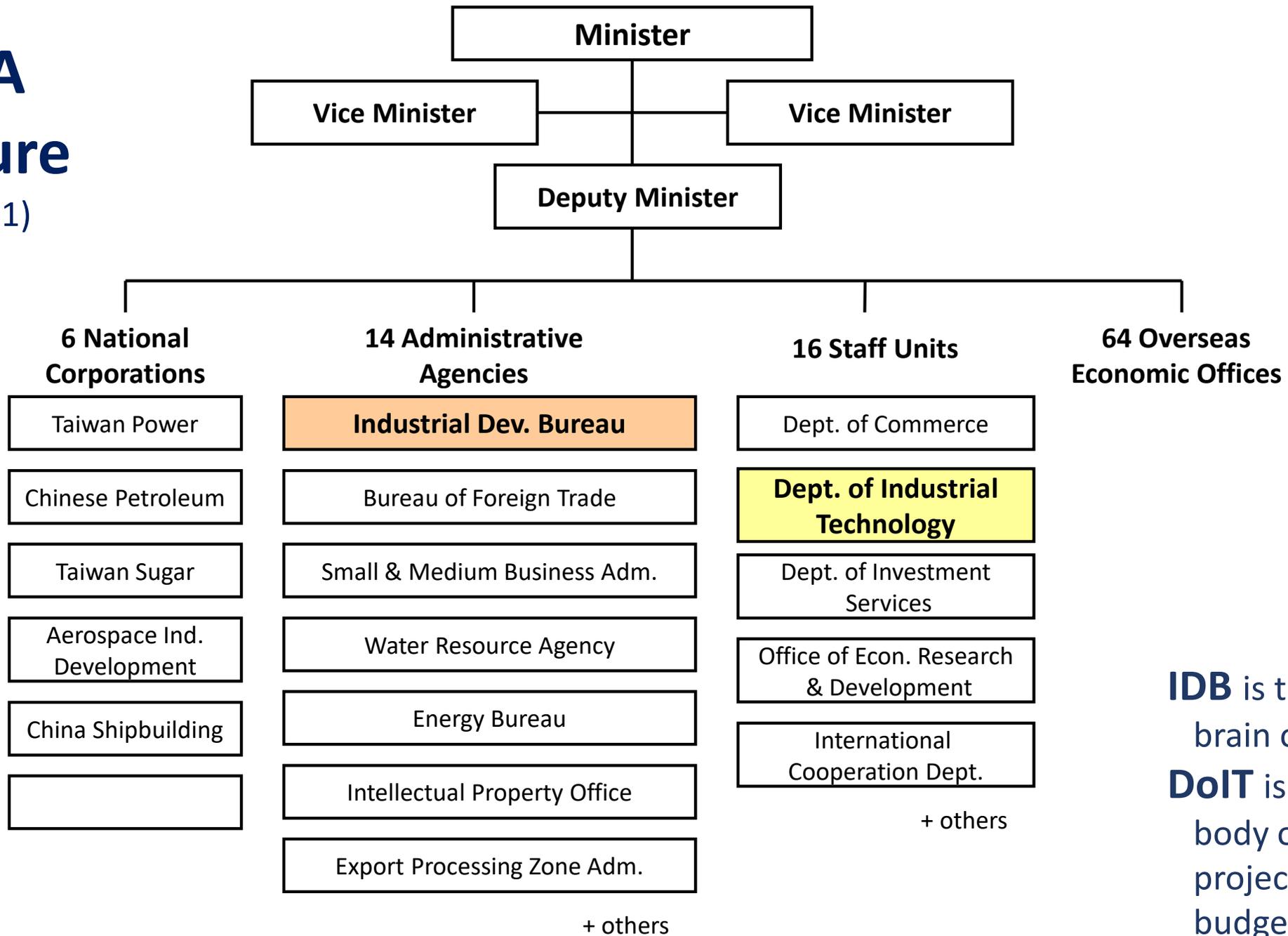
Taiwan's Ministry of Economic Affairs (MoEA) in the 2000s-10s



- Until the 1980s, MoEA was a very powerful ministry promoting industrialization (Robert Wade, 1990). Taiwanese SMEs responded strongly to MoEA policies.
- With the rise of large ICT firms (TSMC, UMC, Foxconn, Acer, etc.), MoEA is less powerful today but still influences Taiwan's industrial direction.
- Unlike Japan's MITI which drafts policies internally, MoEA outsources policy drafting and stakeholder consultation to two think tanks—the Taiwan Institute of Economic Research (TIER) and the Chung-Hua Institution for Economic Research (CIER).
- Unlike Japan's MITI with horizontal and vertical bureaus, MoEA's policy function is concentrated in the Industrial Development Bureau.

MoEA Structure

(as of 2011)



IDB is the policy brain of MoEA.
DoIT is the executing body of industrial projects with large budget.

Taiwan's Industrial Policy Instruments

Taiwan's policy instruments have been streamlined to a few (no more incentives for export, investment, training, etc.) The policy structure is simple but effective.

- **Technology institutes** offering excellent support in technology and networking (ITRI and sectors: metal, food, plastic, automobile, IT, precision machinery, etc.)
- **Science parks, EPZs, and industrial parks** —tenant firms are required to do intensive R&D in science parks.
- **Industrial Projects** —comprehensive hands-on technical and financial support is provided to selected firms to commercialize new technology.
- **Comprehensive SME support.**



Industrial Technology Research Institute

Malaysia, 2000s-

- Malaysian technocrats are highly competent with good English and presentation skills. They can create and execute complex policies.
- Malaysia's MITI has several agencies that effectively support SMEs, trade, investment, productivity, finance, etc. (SME Corp., MATRADE, MIDA, MPC, SME Bank...)
- However, Malaysia faces slow investment and innovation and the lack of dynamism. Growth momentum is waning. It is in the upper-middle income trap.
- **The government-people gap:** technocrats can manage complex policies but the private sector doesn't respond strongly. Policy style must be reviewed and adjusted so the people (especially the ethnic Malay) will react more strongly.



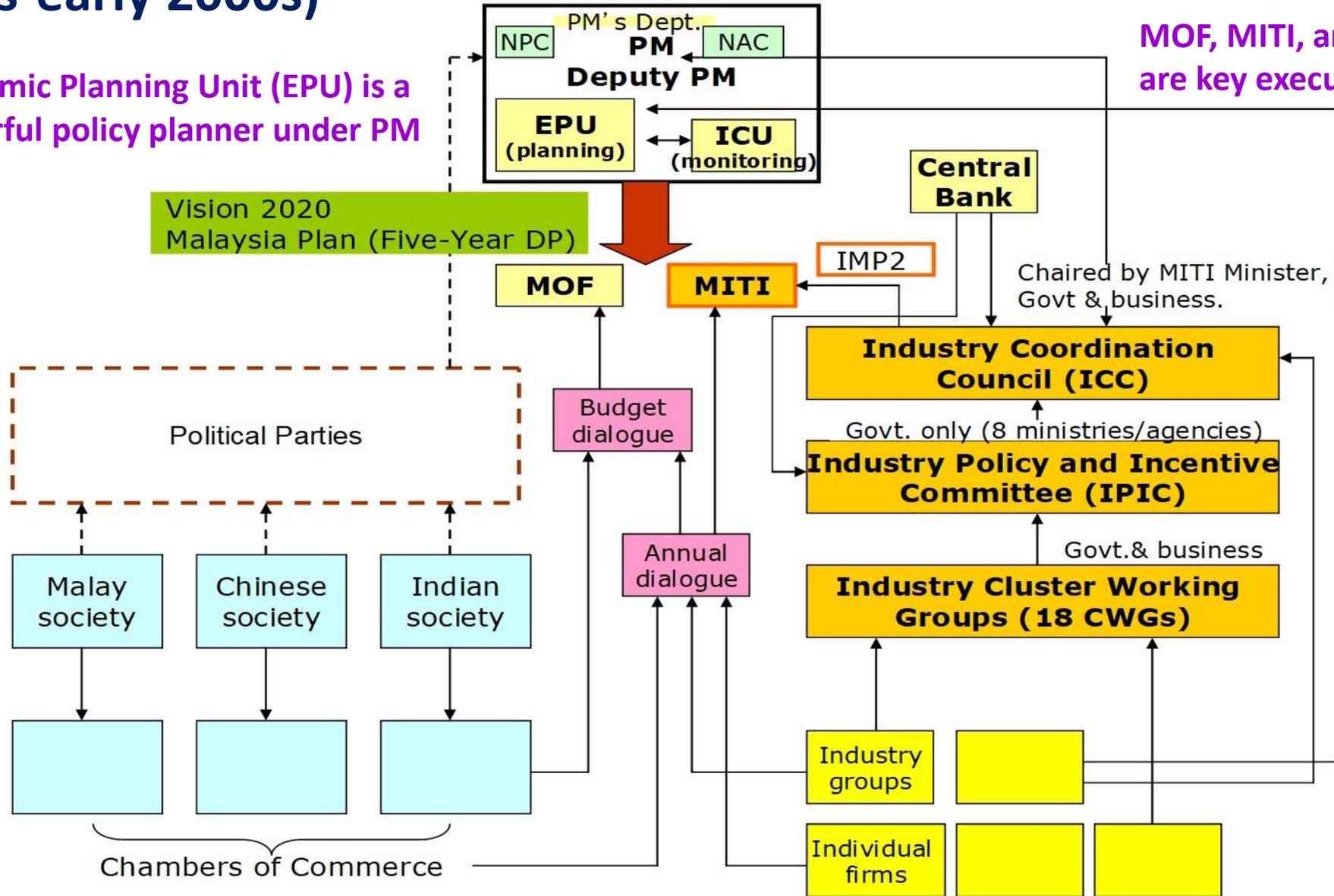
Malaysia: Managing Complex Policies and Organization (Late 1990s-early 2000s)

Economic Planning Unit (EPU) is a powerful policy planner under PM

MOF, MITI, and Central Bank are key executing bodies

Multi-ethnicity requires a mechanism for hearing diverse voices

Three-layer council/committee/WG model for policy execution



Thailand in the 1980s-2000s

Thai industrial policy and MOI are generally weak. The working style is more informal and relaxed than Malaysia. However, there are a few bright spots.

- **Eastern Seaboard Development** —in the 1980s, Thailand built a huge industrial region which became the nation's growth center for automotive and electronic industries.
- **Automotive industry** —from the 2000s to 2010s, Thailand Automotive Institute (TAI) created a strong automotive industry by listening to FDI, working with Japan, and implementing effective actions.
- **The Board of Investment** (FDI agency) is also staffed with highly competent officials.



Eastern Seaboard Development (1980s)

- This was a large and complex project with two deep seaports, two industrial parks, highway, railway, gas plant, water pipes, etc.
- Japanese ODA supported its construction.
- ESD became the development center for Thailand attracting automotive, electronics, energy and chemical industries.



New Industrial Area to Reduce Bangkok Congestion

Eastern Seaboard Policy Coordination Mechanism

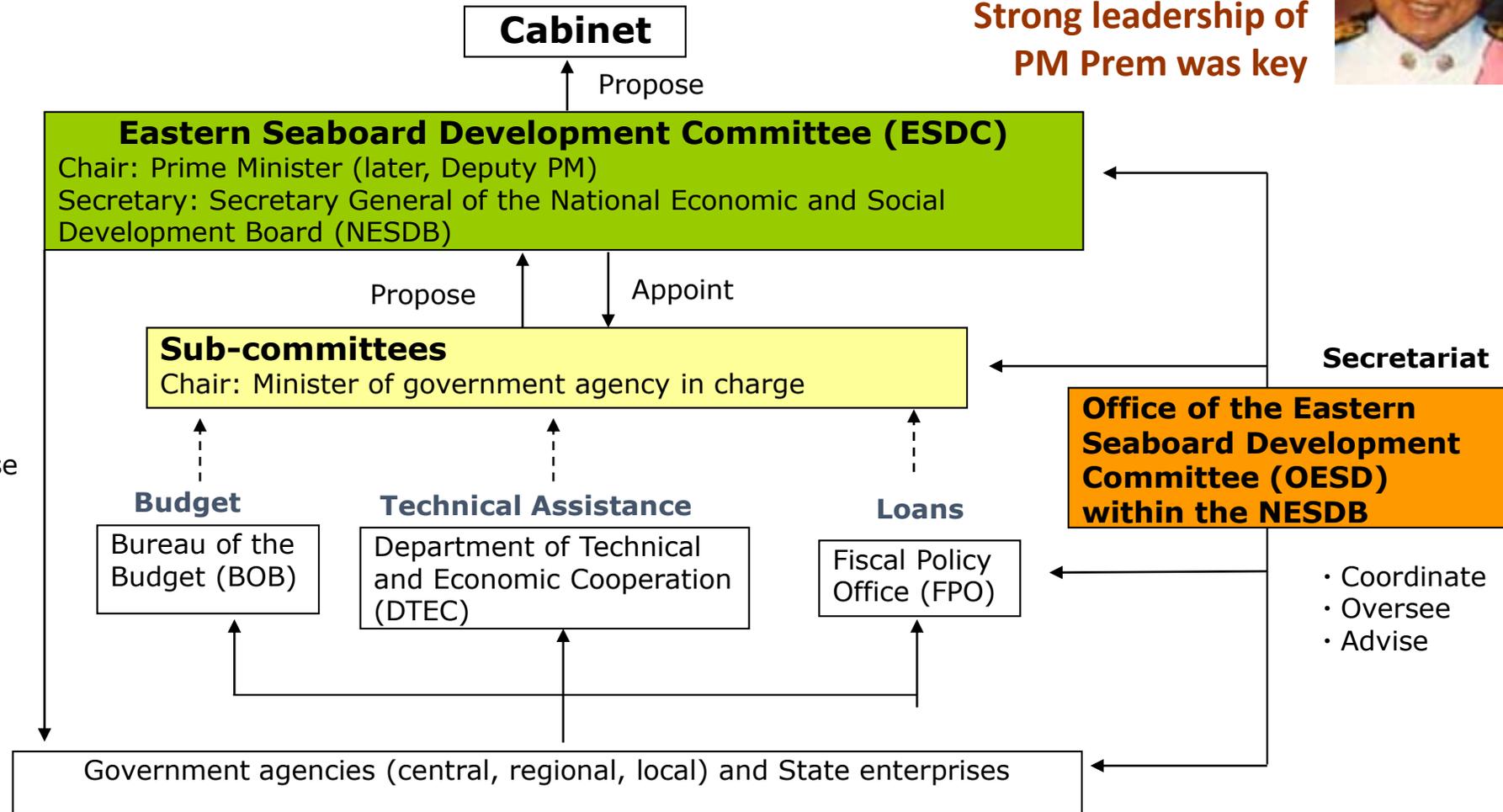


Strong leadership of PM Prem was key

PM-led Committee, sub-committees and secretariat were set up

- Approve
- Control
- Direct
- Supervise

Budget, TA and loans were managed by respective agencies and reported to higher-up



Secretariat

- Coordinate
- Oversee
- Advise

Thailand Automotive Institute (TAI)

- TAI is an MOI-affiliated NPO established in 1998 with private and official funding. It now receives no government budget.
- It is a hub of automotive policy linking local and FDI firms, MOI and other ministries, and universities. It drafts an automotive master plan every five years. It also provides training and testing services.
- TAI launched the eco-car initiative, set industrial targets, worked with donors, built a testing track, etc.



Past TAI presidents



Vallop Tiasiri
(1999-2012)



Patima Jeerapaet
(2012-2015)



Vichai Jirathiyut
(2015-2018)

Vietnam?

- Despite Vietnam's developmental success in the 1990s, 2000s, and 2010s, policy quality has not improved. Policy support for domestic businesses is insufficient.
- Vietnam shows various signs of an approaching middle income trap:
 - ✓ Growth slowdown at middle income
 - ✓ Shortage of high-skill engineers, innovators, and scientists
 - ✓ Moderate performance of labor productivity and TFP
 - ✓ Heavy reliance on FDI and limited participation in GVCs
- To cope with these problems, Vietnam needs to enhance the capacity of national leadership and economic technocrats.
- Active promotion of technology and innovation are needed with less bureaucracy.

Summary and Conclusion

Key Ingredients of Good Policymaking

- **A national leader** who is active, economically wise, and personally directs important policies is essential (top-down management).
- **Competent, dedicated, and clean technocrats** are equally critical for policy implementation (bottom-up capability).
- **Policy content** and **policy organization** can be chosen flexibly to fit each country. There is no one-size-fits-all.
- **Policy learning** is required to enhance policy capacity. International experiences should be collected and compared. This can be done through government's self-effort, mobilization of private experts, or assistance of qualified foreign advisors (as Japan, Korea, Taiwan, Singapore, etc. did in the past).