

INDUSTRIALIZATION AND DEVELOPMENT IN ASEAN COUNTRIES: CHALLENGES AND PROSPECTS



V G R Chandran Govindaraju, PhD
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Development Through Industrialization:
Korea's Experience and Knowledge
Transfer

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3. Industrialization Path and Process
4. Challenges of Industrialization
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1. INTRODUCTION



Introduction

- Development in ASEAN countries: Progress and Achievements
 - Industrial development – has a tremendous transformative potential
 - For instance, Singapore, Malaysia, and Thailand, through active use of industrial policy, benefited in terms of employment, growth etc.
 - Historically, ASEAN countries have progressed – e.g. growth, per capital income, standard of living, trade surplus; investment, etc.
 - Structural Shift – Agricultural – Manufacturing – Services

Table 1: Basic Indicators, ASEAN

Country	Total population ^{1/}	Annual population growth ^{1/}	Gross domestic product ^{2/} at current prices	Gross domestic product per capita at current prices		International merchandise trade ^{4/}			Foreign direct investments infow ^{5/}	
	thousand	percent	US\$ million	US\$ ^{2/}	US\$ PPP ^{3/}	Exports	Imports	Total trade	US\$ million	US\$ million
	2009	2009	2009	2009	2009	2009	2009	2009	2008	2009
Brunei Darussalam	406.2	2.1	14,146.7	34,827.0	49,266.8	7,168.6	2,399.6	9,568.2	239.2	176.8
Cambodia	14,957.8	2.1	10,368.2	693.2	1,802.3	4,985.8	3,900.9	8,886.7	815.2	530.2
Indonesia	231,369.5	1.2	546,527.0	2,362.1	4,174.9	116,510.0	96,829.2	213,339.2	9,318.1	4,876.8
Lao PDR	5,922.1	2.8	5,579.2	942.1	2,431.3	1,237.2	1,725.0	2,962.1	227.8	318.6
Malaysia	28,306.7	2.1	193,107.7	6,822.1	13,593.8	156,890.9	123,330.5	280,221.4	7,318.4	1,381.0
Myanmar	59,534.3	1.8	24,972.8	419.5	1,093.4	6,341.5	3,849.9	10,191.3	975.6	578.6
The Philippines	92,226.6	2.0	161,357.6	1,749.6	3,525.1	38,334.7	45,533.9	83,868.6	1,544.0	1,948.0
Singapore	4,987.6	3.1	182,701.7	36,631.2	49,765.8	269,832.5	245,784.7	515,617.1	10,912.2	16,256.2
Thailand	66,903.0	0.6	264,322.8	3,950.8	8,072.2	152,497.2	133,769.6	286,266.8	8,570.5	5,956.9
Viet Nam	86,024.6	1.2	96,317.1	1,104.2	3,067.9	56,691.0	69,230.9	125,921.9	9,579.0	7,600.0
ASEAN	590,638.3	1.4	1,499,400.8	2,533.5	4,829.3	810,489.2	726,354.1	1,536,843.3	49,499.8	39,623.0

Source: ASEAN Secretariat

Table 1: Annual Growth rate in selected ASEAN countries and other emerging countries (%)

Country	1990	1995	2000	2005	2006	2007	2008	2009
Singapore	9.22	8.15	10.06	13.30	8.64	8.54	1.78	-1.28
Indonesia	9.00	8.40	4.92	5.69	5.50	6.35	6.01	4.55
Malaysia	9.01	9.83	8.86	5.33	5.85	6.18	4.63	-1.72
Thailand	11.17	9.24	4.75	4.60	5.15	4.93	2.46	-2.28
Brunei Darussalam	1.09	4.48	2.85	0.39	4.40	0.62	n/a	n/a
Philippines	3.04	4.68	5.97	4.95	5.34	7.08	3.84	0.92
Vietnam	5.10	9.54	6.79	8.44	8.23	8.46	6.18	5.45
Korea, Rep.	9.16	9.17	8.49	3.96	5.18	5.11	2.30	0.20
India	5.53	7.57	4.03	9.30	9.44	9.63	5.12	7.66
China	3.80	10.90	8.40	11.30	12.70	14.20	9.60	9.10

Source: ADB, 2010

Crisis , previous and recent, has shown that the economy is much more fragile – interdependent e.g. developing and developed countries & among developing countries



2. INDUSTRIAL DEVELOPMENT - COMMON FEATURES

Industrial Development (Common features)

- Shift from agriculture to industrial economies especially manufacturing through
 - Export-oriented strategies – industrial zone, EPZs
 - Clustering Approach
 - High dependence on FDI (in various sectors)
 - Low labor cost, Incentives and promotional activities
 - Liberalization (trade)
 - Regional and global integration
 - Macroeconomic stability -

Table 2: Structure of Output (% of GDP)


Country/Industry	1986			1990			2009		
	Agriculture	Industry	Services	Agriculture	Industry	Services	Agriculture	Industry	Services
Singapore	0.8	35.1	67.1	0.3	31.9	67.8	0.0	26.3	73.7
Indonesia	32.5	26.6	40.9	19.4	39.1	41.5	15.3	47.6	37.1
Malaysia	20.0	38.5	42.7	15.0	41.5	43.5	9.3	43.4	47.3
Thailand	15.7	33.1	51.3	12.5	37.2	50.3	11.6	43.3	45.1
Philippines	23.9	34.6	41.5	21.9	34.5	43.6	14.8	30.2	55.0
Vietnam	38.1	28.9	33.1	38.7	22.7	38.6	20.9	40.2	38.8
Source: ADB, 2010									



3. INDUSTRIALIZATION PATH AND PROCESS

Industrialization Paths

- **Import Substitution Policy (IS)**
 - Encourage foreign production set up to supply finished goods previously imported – provide subsidies, incentives credit facilities, industrial zones, protective tariffs
- **Early Export Orientated Industrialization**
 - Encourage export-oriented industries through favorable investment climate, fiscal incentives, EPZ, etc.
 - Early stage – resource based industries, labor-intensive manufacturing
- **Heavy Industrialization – second wave of IS**
e.g. Malaysia
- **Regional Relocation, Liberalization and Renewed Export-led Industrialization**
 - Massive relocation of manufacturing activities, from Northeast Asia including Taiwan and even South Korea
 - Adoption of more liberal conditions
- **Knowledge and Innovation and service-led industrialization**
 - Focus on knowledge and innovative industries
 - Inclination to promote industrialization through information process and higher technologies



Late comers may also skip some of the path and catch-up



Moving to the next stage remain a challenge, even sustaining export-led industrialization is becoming difficult

Industrialization Process: The case of Malaysia

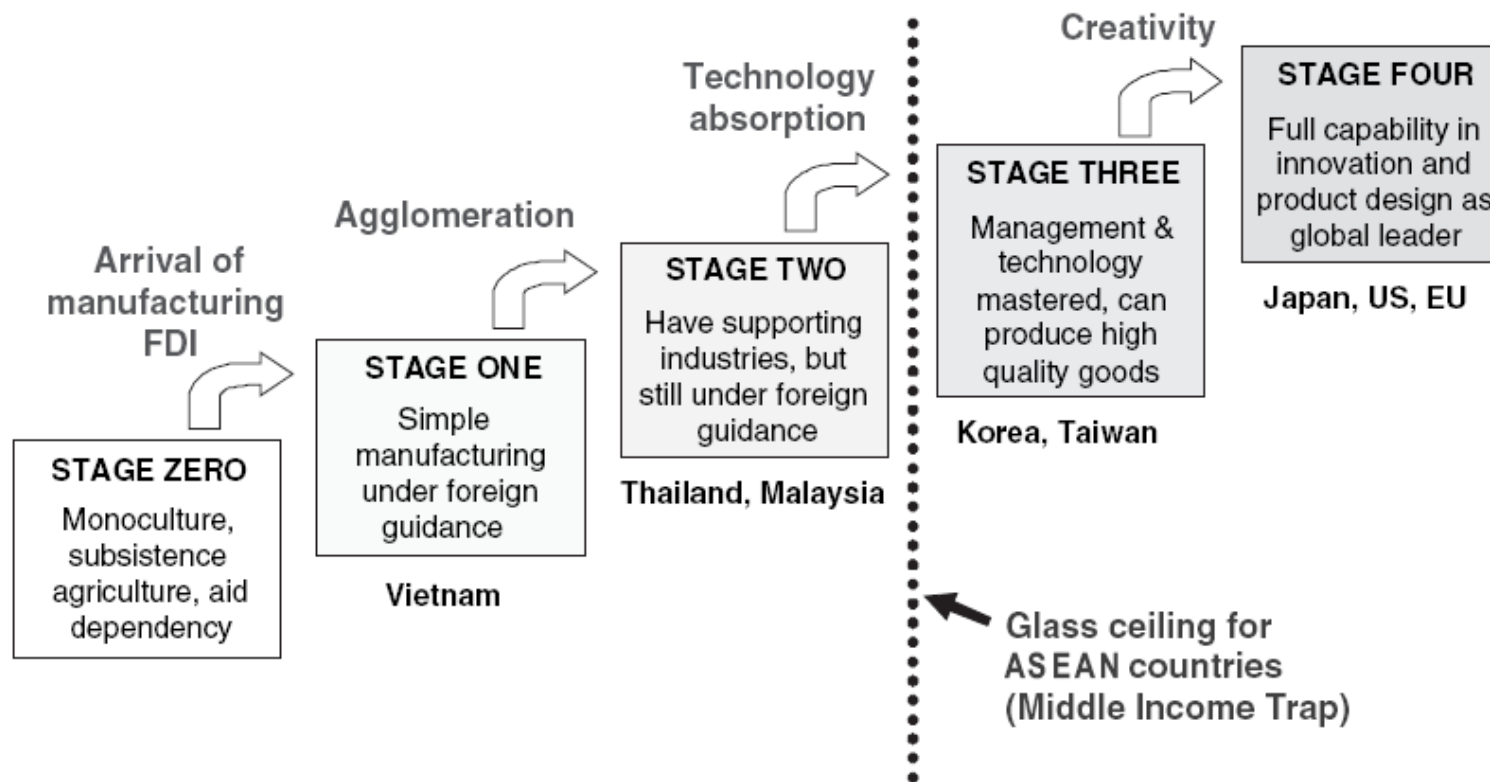
Periods	Industrial Orientation	Investment, Technology and Industrial Policies
Colonial Period	<ul style="list-style-type: none"> - Resource based – rubber and tin - Import processing and packaging of food and simple consumer products 	Technological progress limited in rubber and oil palm sectors
After Independence – Early periods of 1957 till-1969	<ul style="list-style-type: none"> - Still dependent on tin and rubber but also expanded to other products such as palm oil, cocoa, pepper. - Import substitution industrialization (ISI) 	<ul style="list-style-type: none"> - Pioneer Industries Ordinance (1958) – to promote ISI - Federal Investment Development Authority 1965 - Industrial Incentives Act (1968) to attract labor incentive and export oriented industries.
1969-1980	<ul style="list-style-type: none"> - Export oriented industrialization - NEP – poverty reduction and income redistribution -1970 - Licensed Manufacturing Warehouse Program (1973) to attract export processing industries. 	<ul style="list-style-type: none"> - 1968 Investment Incentives Act – encourage investment to manufacture exports due to the limits of ISI - Free Trade Zones Act (1972) - Industrial Coordination Act (1975) – comply with equity and employment distribution and export requirements.

Industrialization Process: The case of Malaysia

Periods	Industrial Orientation	Investment, Technology and Industrial Policies
1981-1985	<ul style="list-style-type: none"> - Heavy Industrialization - Look East policy (Japan and South Korea) - HICOM (1980), Car manufacturing projects - Second wave of ISI - Global economic slow down 	<ul style="list-style-type: none"> - Malaysia Incorporated policy – encourage civil servants to be more private sector friendly (1983) - Income Tax Act, 1967 amendment in 1983 – provide tax incentives to firms undertaking R&D
1986 - 1996	<ul style="list-style-type: none"> - Economic Liberalization – trade openness, privatization, stock market promotion - Export oriented industrialization - Promoted technology deepening and greater linkages with greater incentives - Inflows of FDI through incentives - Local sourcing conditions imposed since 1991 - MTDC and MIGHT (1992 and 1993) - MSC in 1996 	<ul style="list-style-type: none"> - Promotion of Investment Act (1986) - National Development Policy - ASEAN Free Trade Area from 1993. - Industrial Master Plan (1986-1995) - Policy liberalization on foreign equity (1986) - Free Zone Act 1990 replaced FTZ Act 1972 - National Development Policy (OPP 1991-2000) - Second IMP (1996-2005) - Action Plan for Industrial Technology Development (1990) - Industrial Technical Assistance Fund (1988)
1997-2010	<ul style="list-style-type: none"> - High Tech Industries - Knowledge based industries - Service sectors – Financial Liberalization - New Economic Model (2010) 	<ul style="list-style-type: none"> - Capital Control and Fixed Exchange Regime (1998) - Financial Crisis (1997-98) - Export and equity condition relaxed - Removal of Local content requirements (2000) - Tax incentives for knowledge-based industries (2002) - Lower corporate tax for SMEs - Third Industrial Master Plan (2006-2015)

Source: Chandran & Rasiah, 2010

The catching-up process



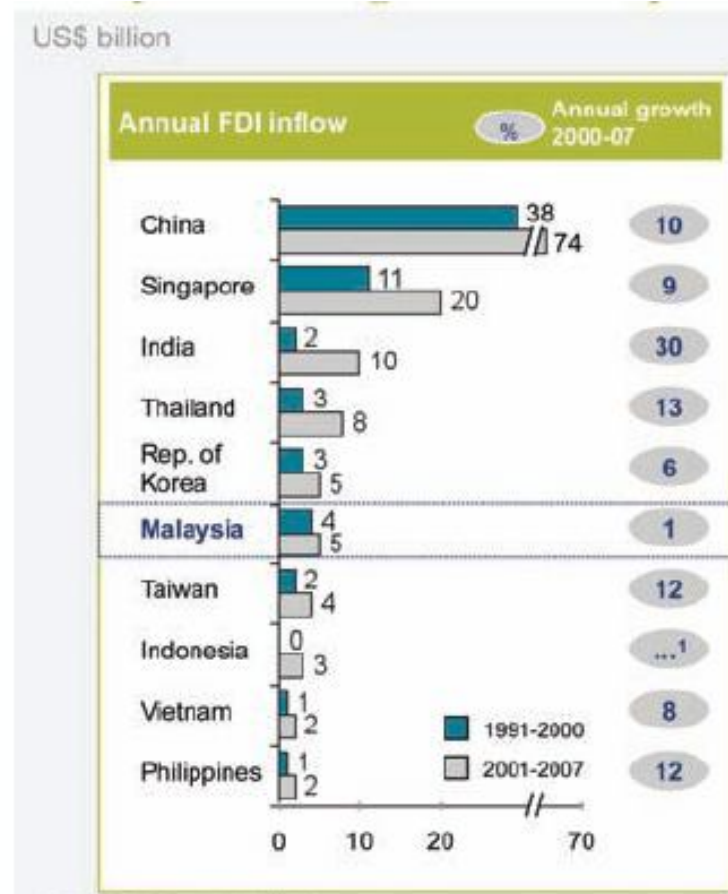
Source: Ohno, K. (2009)



4. CHALLENGES OF INDUSTRIALIZATION

Challenges of Industrial Development

- Intense competition for FDI and export markets



Source: Economic Planning Unit, Malaysia, 2010

Challenges of Industrial Development

- Export Markets



Source: Economic Planning Unit, Malaysia, 2010



Challenges of Industrial Development

- FDI – Renewed Perspective
 - Urgent need to view FDI in a more realistic perspective
 - Of course, FDI cannot be entirely ignored due to the increasing efforts of globalization and the importance of global networks
 - However, need to understand that FDI cannot substitute for domestic efforts and in certain circumstance may hinder domestic firms performance
 - Balance should be strike – hybrid model



Challenges of Industrial Development

- Technological Progress and Learning
 - Limited technology transfer and technological progress – technological deepening
 - Low level of productivity
 - Low technological capabilities among supporting industries especially SMEs
 - Low level of absorptive capacity
 - Weak learning progress – due to low human capital development
 - Suppliers largely remain captive to MNCs – poor indigenous technology - lack of investment in R&D, poor linkages, poor eco-systems of innovation
 - Reliance on imported equipments and machinery

Mean Scores of Technological Capabilities Index (TCI), 2007, Malaysia

Industry	Overall TCI	Investment	Production	Linkages
Food Processing	0.343	0.295	0.275	0.279
Textiles	0.316	0.272	0.255	0.250
Garments	0.263	0.217	0.206	0.222
Chemicals	0.447	0.401	0.383	0.317
Rubber & Plastics	0.386	0.365	0.320	0.276
Machinery & Equipments	0.373	0.343	0.294	0.298
Electronics	0.491	0.474	0.441	0.313
Motor Vehicles	0.425	0.350	0.363	0.329
Wood & Furniture	0.314	0.240	0.243	0.290

Source: World Bank, 2009

Note: The score ranges from 0 to 1, where 1 denotes the highest (maximum) value. The scores were computed from Malaysia Productivity and Investment Climate Survey by EPU and DOS. Investment, production and linkages measure 7, 14 and 9 separate activities respectively. The scores are normalized scores.



Challenges of Industrialization

- Moving Industries up the value chain – through R, D and C.
 - Weak National Innovation Systems
 - Strengthening industry's role in driving innovation
 - Enhancing competency of public officials on managing innovation
 - Risk averse public sector venture funds



Challenges of Industrial Development

- Plugging into global knowledge and market channels
 - Strategic partnership initiatives with global players
 - Superior technology alone is not enough, need to develop marketing capability



Challenges of Industrial Development

- Institutional Capacity and Capability
- Government
 - Role of government must change from regulatory to that of facilitators through public-private efforts
 - Improve delivery systems and enhance transaction efficiency for business
 - Develop and support specific strategic initiatives
 - Reduce bureaucracy cost and corruption
 - Improve HR capability in public sector
- Others include – R&D institutions, universities, industry associates, financial institutions etc. including rules and regulations & public policy



Challenges of Industrial Development

- Labor Market Conditions
 - Mismatch between supply and demand
 - Lacks the skilled workforce
 - Foreign Labor Policy – e.g. Malaysia
 - HR practices – less investment in training by firms
 - Wages fail to compensate productivity

Challenges of Industrialization

- Productivity

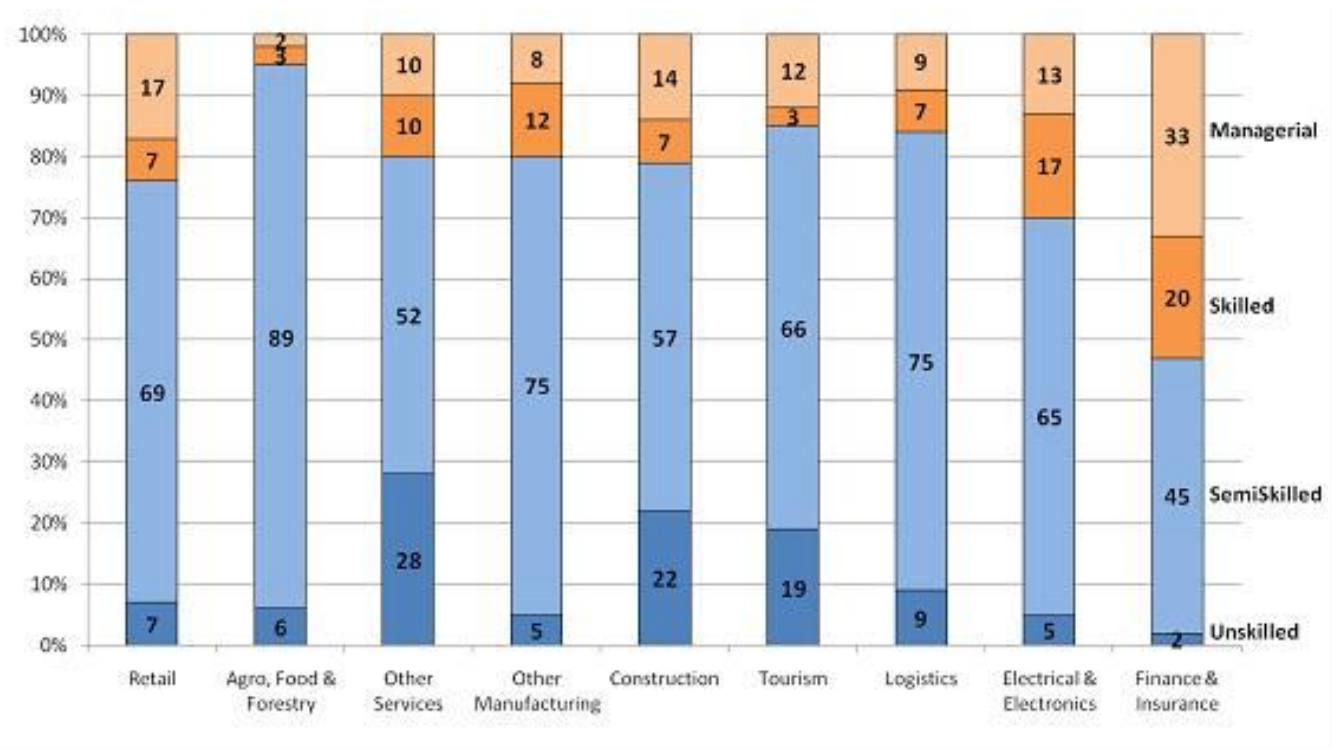
Labour productivity growth of selected Asian countries, annual average change

	Pre crisis 1987-97	Post crisis 1998-2007
China	4.5	9.2
India	3.5	4.4
Asian NIEs	4.8	3.4
Malaysia	5.5	2.9
Thailand	5.2	3.1
Indonesia	3.1	3.0
Singapore	4.5	2.4
Philippines	-0.7	2.3

Source: Economic Planning Unit, Malaysia, 2010

Challenges of Industrialization

Skills Composition across sectors, 2007, Malaysia



Source: Economic Planning Unit, Malaysia, 2010



Challenges of Industrial Development

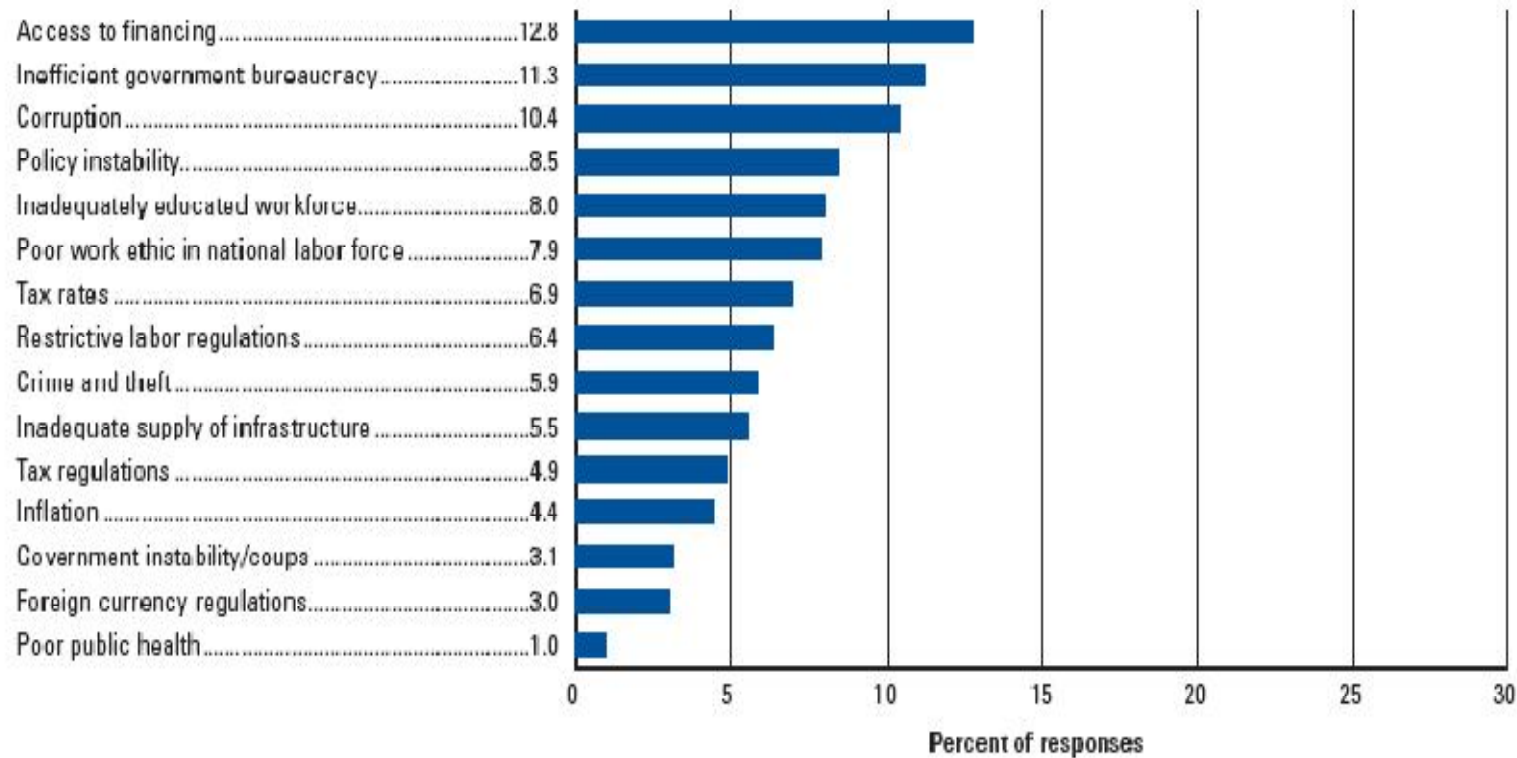
- Human Capital Development
 - Education systems – quality of education remain main concern, align education with economic objectives
 - Managing talent – brain drain
 - Training Institutions – shortage of skilled workers



Challenges of Industrial Development

- Development of SME
- SME in ASEAN countries accounts for nearly 52-99% employment but contributes only 10-58% value added and 10-20% of exports.
- Urgent need to strengthen SMEs capability
 - Need to strengthen the support systems for SMEs
 - Access to finance
 - Creating innovation opportunities
 - Public procurement, regulations
- Entrepreneurship

Challenges in doing business, Malaysia



Source: Global Competitiveness Report, 2009-2010, World Economic Forum.



Challenges of Industrial Development

- Leadership
 - The progress in NIC is partly due to strong leadership
 - Even the progress of some of the ASEAN countries is shaped by the visionary leaders
 - Not only at country level but at all levels – e.g. institution and firm levels
 - Ability to drive the economy, overcoming barriers, improving competitiveness, competing in international markets, creativity

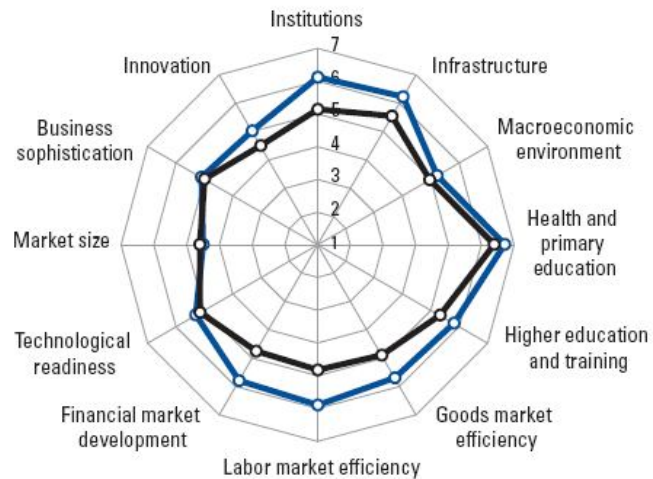


Challenges of Industrial Development

- **Balanced Development and Sustainable Industrial Development**
 - Agriculture sector still matters – e.g. food security, increasing price of food- Malaysia recorded large deficits in food trade
 - Green initiatives – green technology
 - Issues of climate change
 - Issues of inequality – Malaysia is currently recording larger gap

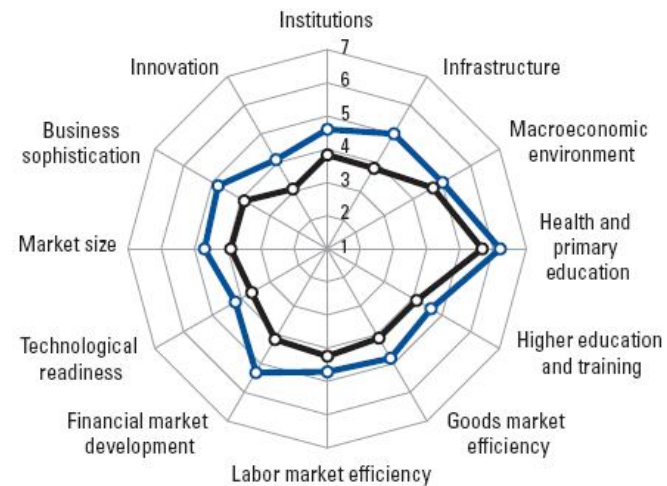
OVERALL LANDSCAPE

Stage of development



— Singapore — Innovation-driven economies

Stage of development

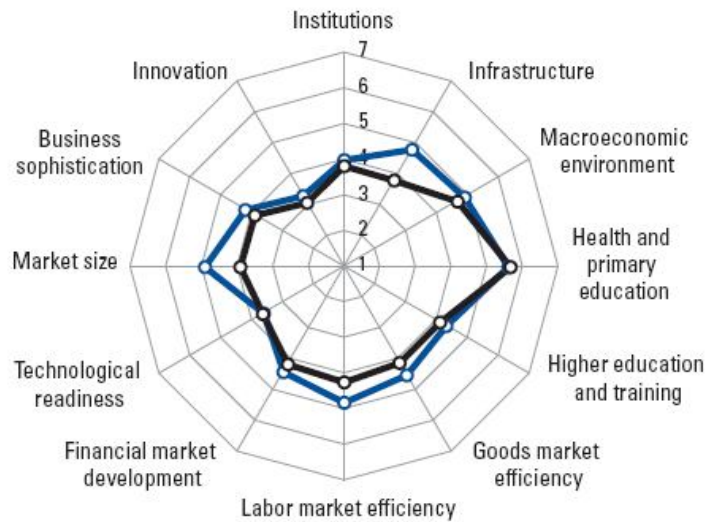


— Malaysia — Efficiency-driven economies

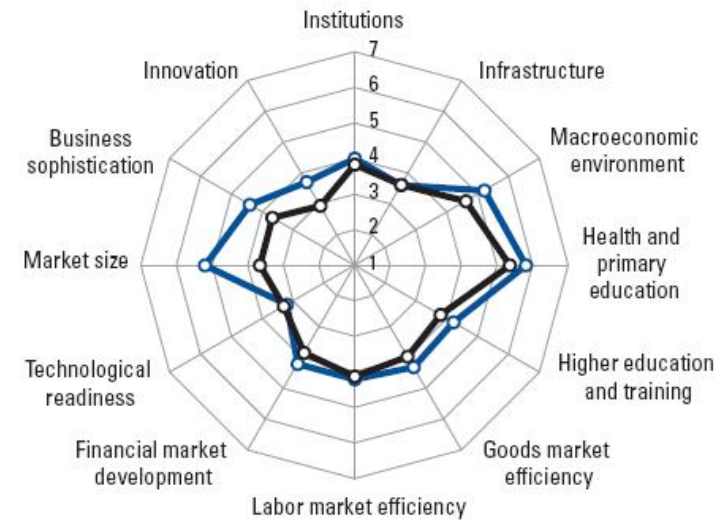
Source: WEF, 2010

OVERALL LANDSCAPE

Stage of development



Stage of development



Source: WEF, 2010



Workable Model

- There is no one formula that fits all.
- Change should be made based on the context of the individual country due to differences between countries
- Among all, Singapore achieves a higher technological ladder than Malaysia and Thailand due to:
 - Capacity to move up and across value chain
 - Market-based industrial policy
 - Desirable attributes of institutions



Way forward

- Systematic development on the above areas of concern is needed to improve industrial competitiveness
- Failing which will definitely erode the progress of the industry to become global players or even be part of the global supply chain
- Role of government, institution capability and leadership is critical in making the next progress.



THANK YOU

V G R Chandran Govindaraju

vgrchan@gmail.com

Department of Economics
Universiti Teknologi Mara,
Malaysia