



Vietnam's Low National Competitiveness: Causes, Implications and Suggestions for Improvement

LE Quoc Phuong



Working Paper 18-01

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Published April 4, 2018 in Korea by KIEP
ISBN 978-89-322-4275-0 94320
978-89-322-4026-8 (set)
Price USD 3

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Executive Summary

The WEF's annual assessment using the GCI index in 2006-2017 shows that Vietnam's national competitiveness has been low. Globally, Vietnam has ranked in the middle of economies surveyed. Regionally, Vietnam has been in the middle of ASEAN countries. With regard to the level of development, before 2015 Vietnam was in stage 1 (factor-driven), together with Cambodia, Laos and Myanmar. Since 2015 Vietnam has shifted toward a transition to stage 2 (efficiency-driven), which also includes Brunei and the Philippines. The country, however, has lagged behind Indonesia and Thailand (in stage 2), Malaysia (in transition to stage 3) and Singapore (in stage 3, innovation-driven).

To complement the WEF's assessment, this study provides an in-depth analysis of main causes of Vietnam's low competitiveness from the country's perspective. These are structural problems due to its factor-based growth model, expansionary policies to aid growth, slowly improved business environment, low R&D expenditure, poorly performing higher education and under-developed infrastructure.

Further, the research examines implications of these shortcomings for Vietnam. These are low productivity, diminishing GDP growth, middle income trap, macroeconomic instability, low business competitiveness, low technology level, low human capital quality and environmental degradation.

Based on the analysis of the shortcomings and their consequences, policy measures are proposed to improve Vietnam's competitiveness. Major suggestions include structural reforms to change the growth model from factor-based to productivity-based, raising technology level and enhancing human capital quality, improving the business environment, ensuring macroeconomic stability, upgrading infrastructure and learning from advanced economies.

Keywords: Vietnam; Competitiveness; Productivity; Growth model.

JEL Classification: D24, E24, E52, E62, N15, O47, O53, O57.

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Vietnam's Low National Competitiveness: Causes, Implications and Suggestions for Improvement

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1. Introduction

In today's world, globalization and international economic integration have enormous impacts on every nation. International economic integration, in essence, implies competition among economies on the world markets. In this process, national competitiveness is a key as to whether a country can win or lose.

The World Economic Forum (2008) defines national competitiveness as a combination of institutions, policies and factors that determine the productivity level of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by a country. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time.

The concept of national competitiveness is originated from M. Porter (1985), who defined the national competitive advantage as how competitively a nation participates in the international market. Based on this concept, in 2000 Porter introduced the business competitiveness index, which focuses on the microeconomic drivers of prosperity. At the same time, J. Sachs developed the growth competitiveness index, which involves largely macroeconomic factors of growth based on the

economic growth theory. In 2004, X. Sala-i-Martin developed the global competitiveness index (GCI), which incorporates both macroeconomic and microeconomic factors (WEF, 2004).

Research Necessity and Purpose. Since 1986, Vietnam has implemented radical economic reforms to shift the country from a central planning system to a market-oriented and open economy. Enormous efforts have been committed to integrate Vietnam into the world economy. Unleashed by the economic reforms, Vietnam's economy has grown dramatically. The country has moved from the low income group into the lower middle-income club since 2008. Vietnam has become the world's leading exporter of many commodities and has been joined the ranks of economies with high level of economic openness.

Despite these significant achievements, Vietnam's national competitiveness has remained relatively low, as assessed by the WEF in its annual surveys since 2006. Why does Vietnam's competitiveness remain low? How to accelerate its improvement, so that the country could grow faster in a sustainable way? What could Vietnam learn from the experience of successful economies?

To answer these questions, the research aims to shed some light on the weaknesses of Vietnam's competitiveness and their implications. Based on the analysis, policy measures are proposed to improve the country's competitiveness.

Literature on Vietnam's National Competitiveness. Despite the importance of national competitiveness and the measurable volume of literature on this subject worldwide, literature on Vietnam's national competitiveness is rather limited. The main reason, perhaps, is the complexity of the subject, which covers the broad range of aspects of Vietnam's economy.

There are articles, though, on separate aspects of Vietnam's national competitiveness. Ohno (2015) asserts that Vietnam has been trapped in the lower middle income range due to its low competitiveness. Vuong Dinh Hue (2016) acknowledges Vietnam's low national competitiveness and offers some measures to improve it. Chu Van Cap (2016) gives an overview of Vietnam's economic structure and puts forward some proposals to restructure the economy. This author provides some preliminary analyses of Vietnam's national competitiveness in Le Quoc Phuong (2012 and 2016).

As there have been no comprehensive analytical works on this topic to date, this research attempts to provide some in-depth analyses of Vietnam's national

competitiveness from the country's perspective. The research identifies main causes of the country's low competitiveness and analyzes implications of these shortcomings for the economy.

Methodology. The study combines two research methods.

First, to analyze Vietnam's national competitiveness in the global and regional context, the analytical framework of national competitiveness introduced by the WEF is applied.

Second, to complement the WEF's assessment and to remedy its limitations, the research analyzes, from Vietnam's perspective, major causes of the country's low national competitiveness and their impacts on the economy. The analysis covers a whole range of issues of Vietnam's development, from economic (trade, investment, growth, inflation, debt and business development) to social (education, health and human development) and environmental aspects (pollution and deforestation).

Data. The two research approaches use two main data sources.

The analysis, based on the WEF's framework, mainly uses data from the WEF.

The analysis of causes and implications of low competitiveness, which examines a broad range of aspects of Vietnam's economy, derives latest data available (up to 2017) from recognized international and Vietnamese sources.

International data sources involve the World Bank (WB), UNESCO Institute of Statistics (UIS), OECD, Asian Development Bank (ADB) and Asian Productivity Organization (APO). Vietnamese data sources include the General Statistical Office (GSO), Foreign Investment Agency (FIA), Ministry of Finance (MOF), Ministry of Planning and Investment (MPI), Ministry of Science and Technology (MOST) and Vietnam Productivity Institute (VNPI).

Research Structure. The research consists of seven parts as follows.

Following Part I (Introduction), Part II (National Competitiveness Framework) provides an overview of the study's analytical framework – the national competitiveness. The aim is to show the development of this concept and its measure. Part III (Vietnam's National Competitiveness in the Global and Regional Context) focuses on Vietnam's national competitiveness in the global context as assessed by the WEF in its annual surveys. It also evaluates Vietnam's stage of development in the global context and in the regional context of ASEAN.

Part IV (Causes of Vietnam's Low Competitiveness) identifies and analyzes main reasons why Vietnam's competitiveness has been low. Part V (Implications for

Vietnam) examines implications of these shortcomings for Vietnam. Based on the analysis of the shortcomings and their consequences, policy measures are proposed in Part VI (Policy Recommendations) to improve Vietnam's competitiveness. Part VII (Conclusion) summarizes major findings and contribution of the research.

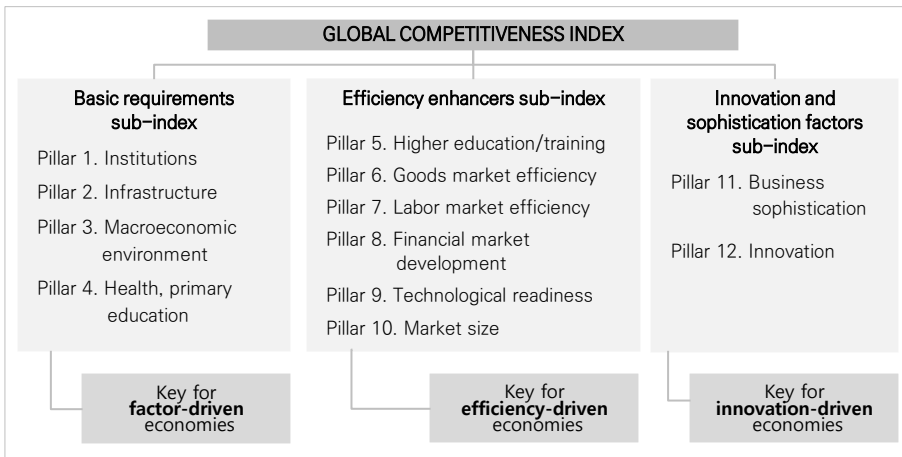
2. National Competitiveness Framework

2-1. Global Competitiveness Index

As mentioned above, the WEF (2004) defines national competitiveness as a combination of institutions, policies and factors determining a country's level of productivity. The level of productivity determines (i) the level of prosperity that can be reached by a country, and (ii) the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates.

Due to the significance of the concept of national competitiveness, there have been attempts to find a way to measure it. To evaluate national competitiveness in a comparative way on the global scale, in 2000, J. Sachs developed the growth competitiveness index based on the economic growth theory, which involves macroeconomic factors of growth. Almost simultaneously, M. Porter introduced the business competitiveness index, which focuses on the microeconomic drivers of prosperity. In 2004, X. Sala-i-Martin developed the global competitiveness index (GCI), which incorporates both macroeconomic and microeconomic factors of growth (WEF 2004).

Figure 1. The GCI Framework



Source: WEF (2017a).

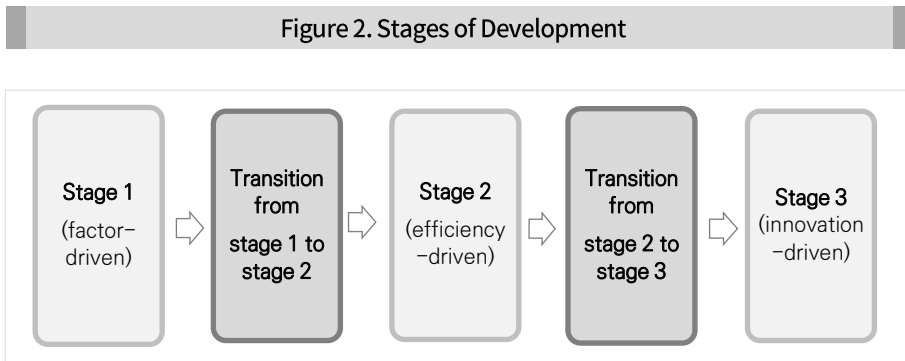
Since 2006, the WEF has conducted the GCI-based assessment of national competitiveness of economies on the global scale and has published it in the annual Global Competitiveness Report.

The GCI combines 114 indicators that reflect major factors of competitiveness. Each indicator is given a value between 1 (lowest) and 7 (highest) based on the survey's results. The indicators are grouped into 12 categories, or pillars (Figure 1).

The GCI includes data from recognized international organizations such as the International Monetary Fund and the United Nations. It also includes indicators derived from the WEF's Executive Opinion Survey that reflect qualitative aspects of competitiveness (WEF 2004).

2-2. Stages of Development

In addition to assessing the competitiveness of economies based on the GCI, the WEF allocates economies into stages of development (Figure 2).



Source: WEF (2017a).

The GCI takes the stages of development into account by giving higher relative weights to those pillars that are more relevant for an economy given its particular stage of development. To implement this concept, the pillars are organized into three sub-indexes, each critical to a particular stage of development (Figure 1).

- (i) The basic requirements sub-index groups those pillars, most critical for countries in the factor-driven stage.

- (ii) The efficiency enhancers sub-index includes the pillars, critical for countries in the efficiency-driven stage.
- (iii) The innovation and sophistication factors sub-index includes the pillars, critical to countries in the innovation-driven stage.

The weights given to each sub-index in every stage of development are shown in Table 1.

Two criteria are used to allocate countries into stages of development. The first criterion is GDP per capita at market exchange rates, which is used as proxy for wages. The second criterion is based on the assumption that countries which have primary goods accounting for more than 70% in total exports are, to a large extent, factor-driven.

Table 1. Stages of Development: Income Thresholds and Sub-index Weights

	Stage 1 (Factor-driven)	Transition From stage 1 to stage 2	Stage 2 (Efficiency -driven)	Transition From stage 2 to stage 3	Stage 3 (Innovation- driven)
GDP per Capita (US\$)	<2,000	2,000– 2,999	3,000– 8,999	9,000– 17,000	>17,000
Sub-index Weights:					
Basic Requirements	60%	40–60%	40%	20–40%	20%
Efficiency Enhancers	35%	35–50%	50%	50%	50%
Innovation and Sophistication Factors	5%	5–10%	10%	10–30%	30%

Source: WEF (2017a).

In the latest 2017 report, 137 economies surveyed were allocated by the WEF into the following groups (Table 2):

- Stage 1: 35 less developed economies.
- Transition from stage 1 to stage 2: 15 developing countries.
- Stage 2: 31 economies.
- Transition from stage 2 to stage 3: 20 economies.
- Stage 3: 36 economies (largely OECD members and some other countries).

Table 2. Economies Classified by Level of Development, 2017

Stage 1 (Factor-driven)	Transition From Stage 1 to Stage 2	Stage 2 (Efficiency-driven)	Transition From Stage 2 to Stage 3	Stage 3 (Innovation-driven)
1. Bangladesh	1. Algeria	1. Albania	1. Argentina	1. Australia
2. Benin	2. Azerbaijan	2. Armenia	2. Chile	2. Austria
3. Burundi	3. Bhutan	3. Bosnia Herzegovina	3. Costa Rica	3. Bahrain
4. Cambodia	4. Botswana	4. Brazil	4. Croatia	4. Belgium
5. Cameroon	5. Brunei	5. Bulgaria	5. Hungary	5. Canada
6. Chad	6. Honduras	6. Cape Verde	6. Latvia	6. Cyprus
7. Congo, DR.	7. Kazakhstan	7. China	7. Lebanon	7. Czech Rep.
8. Ethiopia	8. Kuwait	8. Colombia	8. Lithuania	8. Denmark
9. Gambia	9. Mongolia	9. Dominican Rep.	9. Malaysia	9. Estonia
10. Ghana	10. Nicaragua	10. Ecuador	10. Mauritius	10. Finland
11. Guinea	11. Nigeria	11. Egypt	11. Oman	11. France
12. Haiti	12. Philippines	12. El Salvador	12. Panama	12. Germany
13. India	13. Ukraine	13. Georgia	13. Poland	13. Greece
14. Kenya	14. Venezuela	14. Guatemala	14. Romania	14. Hong Kong
15. Kyrgyz	15. Vietnam	15. Indonesia	15. Saudi Arabia	15. Iceland
16. Lao PDR		16. Iran	16. Seychelles	16. Ireland
17. Lesotho		17. Jamaica	17. Slovak Rep.	17. Israel
18. Liberia		18. Jordan	18. Trinidad & Tobago	18. Italy
19. Madagascar		19. Mexico	20. Turkey	19. Japan
20. Malawi		20. Montenegro	21. Uruguay	20. Republic of Korea
21. Mali		21. Morocco		21. Luxembourg
22. Mauritania		22. Namibia		22. Malta
23. Moldova		23. Paraguay		23. Netherlands
24. Mozambique		24. Peru		24. New Zealand
25. Nepal		25. Russian Federation		25. Norway
26. Pakistan		26. Serbia		26. Portugal
27. Rwanda		27. South Africa		27. Qatar
28. Senegal		28. Sri Lanka		28. Singapore
29. Sierra Leone		29. Swaziland		29. Slovenia
30. Tajikistan		30. Thailand		30. Spain
31. Tanzania		31. Tunisia		31. Sweden
32. Uganda				32. Switzerland
33. Yemen				33. Taiwan, China
34. Zambia				34. United Arab Emirates
35. Zimbabwe				35. United Kingdom
				36. United States

Source: WEF (2017a). ASEAN countries are highlighted.

3. Vietnam's National Competitiveness in the Global and Regional Context

3-1. Background: Vietnam's Rising Economy

As described by this contributor in Le Quoc Phuong (2017), Vietnam was a poor country, devastated by nearly a century of French colonial rule (1858-1945) and the brutal wars that followed, including the Indochina War (1946-1954) and the Vietnam War (1965-1975). On top of this, the economy was severely hurt by the international embargo (1979-1995) after Vietnamese forces overthrew the genocidal Khmer Rouge regime in 1979.

Before 1986, Vietnam followed a central planning system. All economic activities were planned ahead by the government. The economy was largely closed and inward-looking. The trade regime was characterized by state monopoly, tight trade regulations and rigid quantity targets. Trade volume was tiny as Vietnam was a poor economy, trading mainly with the Soviet bloc. There were no FDI activities in the country.

Since 1986, Vietnam has implemented radical economic reforms to shift the country to a market-oriented and open economy. The central planning system has been partially abolished. Private sector has been given more important role while state sector has undergone restructuring. Radical policy changes have been conducted to liberalize trade regime. State monopoly was partially removed. Private companies were allowed to participate in foreign trade. Quotas were removed from almost all export and import goods. Vietnam has moved from trade mainly with the Soviet bloc to dealing with other major trade players such as the US, the EU and Japan. These changes have unlocked the country's huge trade potential. Major measures have been conducted to open up the economy to FDI. Following these moves, FDI funds began flowing in.

To facilitate further expansion of exports and FDI, Vietnam has joined various regional and multilateral groups including ASEAN (in 1995), APEC (in 1998) and WTO (in 2006). To date, the government has concluded 12 free trade agreements (FTA), 90 bilateral trade agreements, 50 investment promotion and protection agreements and 40 double tax avoidance agreements (Vietnam's WTO Center 2017).

Table 3. Vietnam's Growing Economy, 1986 and 2016

Indicators	1986 ^a	2016 ^b
GDP (Current US\$ billion)	4.8	201.3
GDP Per Capita (Current US\$)	80	2,173
GDP Structure (%)		
– Agriculture	38.1	16.3
– Industry and Construction	28.9	42.7
– Services	33.0	40.9

Source: a) GSO (2001); b) GSO (2017c), WEF (2017a).

Unleashed by economic reforms, Vietnam's GDP has increased enormously, from US\$4.8 billion in 1986 to US\$201 billion in 2016. GDP per capita has risen from US\$80 to US\$2,173 over the same period, moving Vietnam from the low-income range into the lower middle-income group since 2008. Vietnam's GDP structure has shifted drastically from agriculture toward industry and services (Table 3).

3-2. Vietnam's Competitiveness in the World

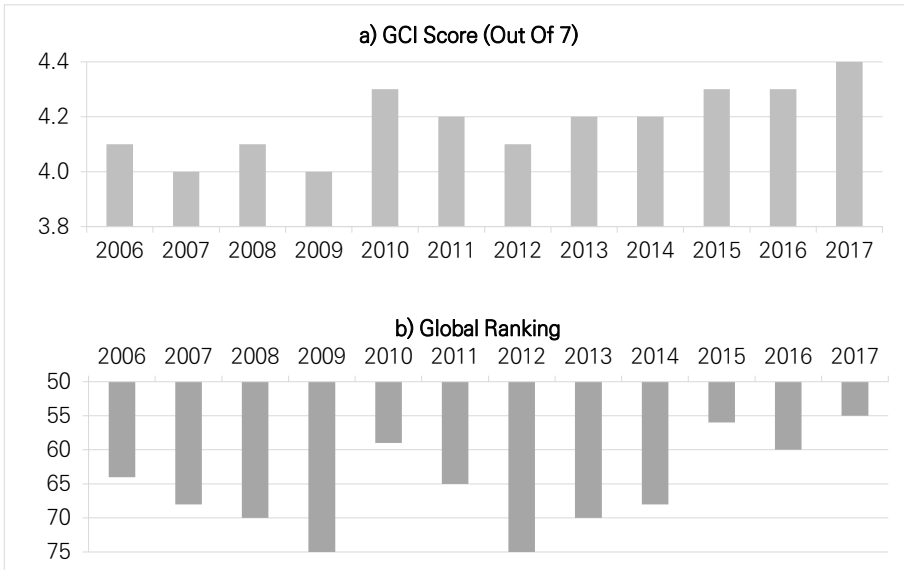
3-2-1. Vietnam's GCI Score and Ranking

Despite significant improvement in the economic performance in the last 30 years since the reforms began in the late 1980s, Vietnam's national competitiveness in the world remains low (Figure 3).

In the 12-year period since the WEF began the GCI-based assessment (2006-2017), there has been no consistent and significant improvement in Vietnam's competitiveness. The country's GCI score has been relatively low, varying between 4.0 and 4.4 (out of 7). For comparison, the world's highest score in the 2017 survey is 5.86 (earned by Switzerland) and the lowest is 2.87 (Yemen).

Accordingly, the ranking of Vietnam's competitiveness in the global context has gone up and down, varying between 55th and 75th, which traps the country in the middle group (between 50th and 100th) of economies surveyed (the number of economies involved in the WEF surveys in 2006-2017 varies between 122 and 148).

Figure 3. Vietnam's National Competitiveness, 2006-2017



Source: Constructed from WEF (2006, 2008, 2011, 2013, 2014, 2015, 2016, 2017a).

3-2-2. Ranking of the GCI's Pillars

Vietnam's competitiveness is low because the majority of pillars of the country's GCI rank low (Table 4).

In the latest 2017 survey, only pillar 10 (Market size) earned a relatively high ranking (31st), thanks to Vietnam's sizable domestic and foreign markets. Vietnam owns a considerable domestic market size because the country is the world's thirteenth-largest nation in terms of population (93.7 million as of 2017) with rising income. The country has joined the lower middle-income group since 2008. Vietnam's foreign market size is also measurable thanks to the country's export-oriented policy and enormous international economic integration efforts, implemented in the last 30 years. As a result, Vietnam has traded with 225 out of 240 economies in the world. The country's exports reached \$US214 billion in 2017, mounting its exports-to-GDP ratio to more than 95%, which is among the highest in the world (author's calculation from GSO 2017c and WEF 2017a).

Table 4. Pillars of Vietnam's Competitiveness, 2017

Sub-index	No.	Pillars	Global Ranking (Out Of 137)
Basic Requirements	1	Institutions	79
	2	Infrastructure	79
	3	Macroeconomic environment	77
	4	Health and primary education	67
Efficiency Enhancers	5	Higher education and training	84
	6	Goods market efficiency	91
	7	Labor market efficiency	57
	8	Financial market development	71
	9	Technological readiness	79
	10	Market size	31
Innovation and Sophistication Factors	11	Business sophistication	100
	12	Innovation	71

Source: WEF (2017a).

Two other pillars (4 and 7) gained a modest ranking. Pillar 4 (Health and primary education) gained a modest ranking (67th) because Vietnam has managed to set up a health-care network across the country. In addition, the country's primary education completion rate amounts to 99% while its adult literacy rate reaches 94.5%. Pillar 7 (Labor market efficiency) earned a modest ranking (57th) thanks partly to Vietnam's gold-population structure.¹ As a result, the country's labor force now makes up 70.2% of its 93 million population (ADB 2017a).

The other nine pillars all ranked low. Pillar 11 (Business sophistication) gained the lowest ranking (100th), followed by pillar 6 (Goods market efficiency) at 91st, pillar 5 (Higher education and training) at 84th, pillars 1, 2 and 9 (Institutions, Infrastructure and Technological readiness, respectively) at 79th, and pillar 3 (Macroeconomic environment) at 77th.

¹ Gold-population structure refers to a country with working-age people making up more than two-third of its population.

Low competitiveness due to the low ranking of most of Vietnam's GCI pillars implies that to improve the country's national competitiveness, adequate policy measures should focus on enhancing the weak pillars in the sub-index groups as follows:

- Basic requirements sub-index: institutions, infrastructure, and macroeconomic environment.
- Efficiency enhancers sub-index: higher education and training, goods market efficiency, financial market development, and technological readiness.
- Innovation and sophistication factors sub-index: business sophistication and innovation.

3-3. Vietnam's Competitiveness in ASEAN

Vietnam's competitiveness in ASEAN is presented in Figure 4. Brunei, Myanmar and Laos are not shown due to their missing data for several years.² In the latest surveys where these countries were presented, Brunei was the world's 58th and ASEAN's 8th (2016) while Laos was the world's 98th and ASEAN's 9th (2017), and Myanmar was the world's 131st and ASEAN's 10th (2015).

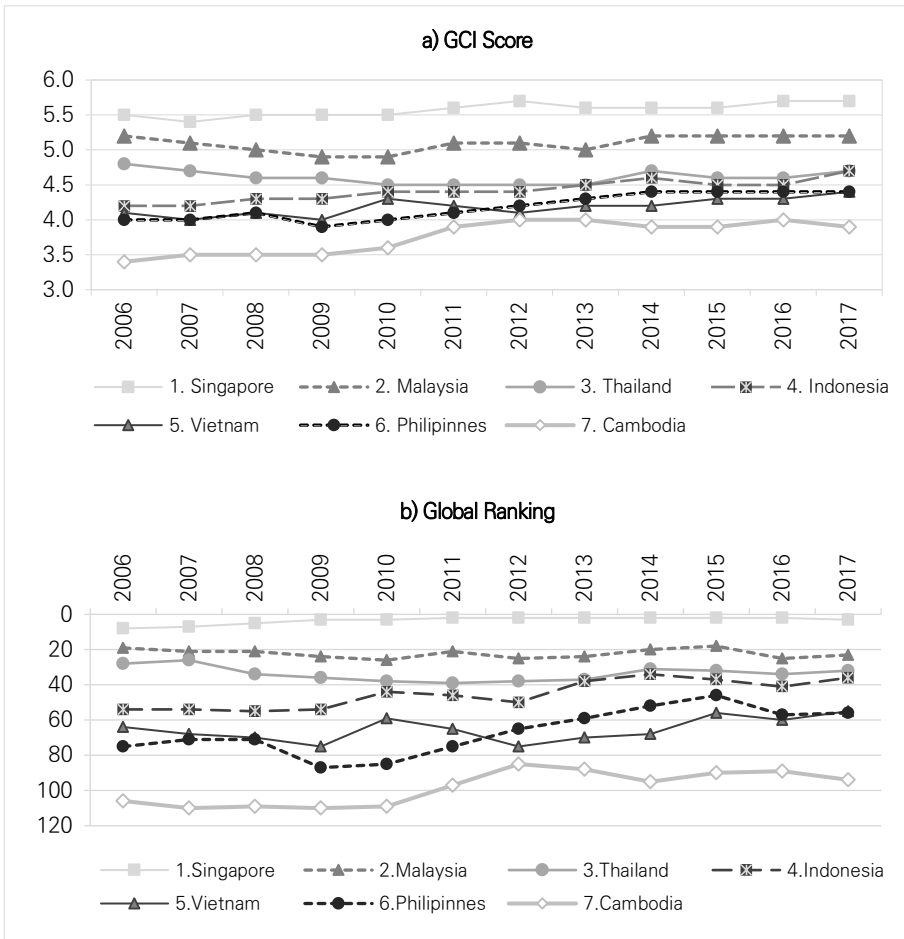
In 2006-2017 surveys, Vietnam has been in the middle of ASEAN, ranking between 5th and 6th in the ten-member group, above Cambodia, Laos and Myanmar (ASEAN's less developed countries).

Vietnam and the Philippines have swapped places several times. In 2006-2011, Vietnam stood above the Philippines, but in 2012-2016 was surpassed by the Philippines. In 2017 Vietnam managed to surpass the Philippines again narrowly (55th against 56th).

The country, however, stands below ASEAN's more advanced economies. Singapore has ranked between 2nd and 3rd, followed by Malaysia (between 18th and 26th), Thailand (between 26th and 39th) and Indonesia (between 31st and 34th).

² In twelve GCI-based surveys to date (2006-2017), Laos is absent in seven surveys (2006-2012), Myanmar is absent in nine surveys (2006-2012, 2016 and 2017) and Brunei is absent in five surveys (2006, 2007, 2014, 2015 and 2017).

Figure 4. Competitiveness in ASEAN, 2006-2017



Source: Constructed from WEF (2006, 2008, 2011, 2013, 2014, 2015, 2016, 2017a). Laos, Myanmar and Brunei are excluded due to missing data.

3-4. Vietnam's Stage of Development

Before 2015 Vietnam was classified by the WEF as a factor-driven economy (stage 1). Cambodia, Laos and Myanmar have been in this stage to date.

Since 2015 Vietnam has shifted toward a transition from stage 1 to stage 2 (efficiency-driven), in which are now Brunei and the Philippines. However, Vietnam is

behind Indonesia and Thailand which have been in stage 2, Malaysia in transition from stage 2 to stage 3, and Singapore in stage 3 – innovation-driven (see Table 1).

In other words, as classified by the WEF, Vietnam now is on a similar level of development with Brunei and the Philippines while it stands not far ahead of ASEAN's less developed economies (Cambodia, Laos and Myanmar). The country, however, is to catch up Indonesia and Thailand, which are on the next ladder of development. So far, Vietnam is ways from Singapore (ASEAN's most advanced economy) and Malaysia.

3-5. Limitation of WEF's Approach

Vietnam's shift from stage 1 to transition to stage 2 indicates significant improvement in its development. However, this improvement should be interpreted with some caution, as the shift was made based on the WEF's two criteria, which in turn are based on simplistic benchmarking, rather than on underlying factors.

The criterion of income per capita classifies economies with GDP per capita less than US\$ 2,000 into stage 1 and those with GDP per capita between US\$ 2,000 and US \$3,000 into transition to stage 2. Vietnam was qualified to be in transition to stage 2 as the country has surpassed the threshold of US\$ 2,000 for GDP per capita.

However, Vietnam's actual income per capita is significantly lower. The reason is, a considerable part of Vietnam's GDP belongs to foreigners as the FDI sector now accounts for 20% of the country's GDP (GSO 2017a).

The criterion of export commodity structure assumes that countries with primary goods accounting for more than 70% in their total exports are, to a large extent, factor-driven (stage 1). As primary goods now make up only 30% of the country's exports, Vietnam was fully qualified for moving out of stage 1.

However, this criterion does not take into account the fact that FDI companies make up 72.6% of Vietnam's total exports in 2017, leaving just 27.4% of exports to domestic firms. Moreover, although manufactures now account for more than 70% of Vietnam's exports, most of manufactures are assembled, hence low value-added. Vietnam's exports, therefore, are low value-added, despite high value gained.

4. Causes of Vietnam's Low Competitiveness

To complement the WEF's assessment and to remedy its limitation as indicated above, this study provides some in-depth analyses of causes of Vietnam's low competitiveness based on the latest data available (up to 2017) from recognized international and Vietnamese sources.

From Vietnam's perspective, the main causes are the country's structural problems due to its outdated growth model, poor business environment, expansionary policies to aid growth, low R&D expenditure, poorly performing higher education and under-developed infrastructure.

4-1. Factor-Driven Growth Model

From Vietnam's perspective, the primary cause of the country's low competitiveness is the long-maintained factor-driven growth model (also known as an input-based or extensive growth model). This model, in use since Vietnam's economic reforms began in the late 1980s, has generated growth largely from increases in the country's endowed factors:

- (i) Large labor force thanks to large population of 93.7 million, which enjoys the gold structure with more than 70% of the population (or 54.8 million people) in working age (GSO 2018).
- (ii) Relatively abundant resources: (a) Tropical climate and vast arable land occupying considerable parts of the 330,000-square-km area, providing good opportunities for farming; (b) Huge water territories off the 3,200-km-long coastline and large number of rivers, creating excellent conditions for fishery industries; (c) Various minerals (crude oil, coal, metal ores, etc.).
- (iii) Increased capital input thanks to the government's expansionary policies to aid growth.

Vietnam's economy, based on this model, has grown rapidly in the early period of reforms. However, 30 years on since the reforms began in 1986, the extensive growth model now shows its limitations.

4-1-1. Leading Role of Input Factors, Minor Role of TFP

The input-based growth model is characterized by the leading role of input factors (labor and capital) in fostering growth while the total factor productivity (TFP)³ plays a minor role.

In fact, the largest contribution to Vietnam's relatively high average growth (7.5%) in 2001-2005 was made by capital (53.8%), followed by labor (24.4%) while the TFP contribution's was minimal (21.8%). Similarly, average GDP growth of 7% in 2006-2010 was contributed mainly by capital (57.6%) and labor (24.4%) while TFP accounted for a minor share (16.4%).

In 2011-2015, although TFP's contribution increased to 30.3% to surpass that of labor (16.3%), it was far below capital's contribution of 55% (Table 5).

Table 5. Contribution of Labor, Capital and TFP to Vietnam's GDP Growth, 2001-2015

Period	Factor			Contribution to GDP		
	Capital	Labor	TFP (%)	Capital	Labor	TFP (%)
2001-2005 ^a	10.95	2.9	1.64	53.8	24.4	21.8
2006-2010 ^a	11.74	2.77	1.15	57.6	26.0	16.4
2011-2015 ^b	7.43	1.52	1.79	53.4	16.3	30.3
Average 2001-2015 ^c	10.0	2.4	1.5	55.0	22.2	22.8

Source: a) VNPI (2011); b) VNPI (2016); c) Author's calculation.

4-1-2. Slow TFP Improvement

As shown in Table 5, Vietnam's rate of TFP increase averaged 1.5% pa for 2001-2015, very low compared to 10% of capital and 2.4% of labor.

³ TFP is a broad definition of productivity which is calculated as residual growth after the increases in factor inputs such as labor and capital are accounted for. TFP is regarded as a measure of an economy's long-term technological change.

4-2. Structural Problems

The long reliance on the input-based growth model has created structural problems, which hinder further development of Vietnam's economy.

4-2-1. Domination of Low Value-added Sectors

Vietnam's economy, based on the input factors, is made up overwhelmingly by low value-added sectors. The mining sector is low value-added as it mainly extracts minerals (such as crude oil, coal, metal ores, etc.) and exports them as raw materials. The agricultural sector is also low value-added since it largely produces raw products (such as coffee, rice, natural rubber, cassava, etc.). The manufacturing sector is low value-added as it principally makes labor-intensive products (such as garment and footwear) and assembly-based manufactures (such as smart-phones, consumer electronics, assembled cars and other transport equipment).

4-2-2. Exports: High Value but Low Value-added

High Export Value. Thanks to the export-led growth strategy Vietnam has followed since the late 1980s, exports grew dramatically from US\$ 350 million in 1986 to US\$ 214 billion in 2017. Average export growth for 1987-2017 amounted to 24%, placing Vietnam in the group of economies with top export growth. Exports-to-GDP ratio increases from 9% in 1986 to 95% now, putting Vietnam in the group of countries with this top ratio. The country has become the world's leading exporter of many commodities such as cashew (the world's largest), coffee and footwear (second-largest), rice, garment, natural rubber and seafood (third-largest), and wood products (fourth-largest) (Le Quoc Phuong 2017).

Low Export Value-added. Despite high export value gained, actual benefits from exports (value-added) have been low. The low export value-added is a direct result of the dominant low value-added sectors in the economy. Most mining products and agricultural commodities (including Vietnam's top agricultural export items in the world such as coffee, rice and seafood) have been exported as raw materials. Most export manufactures are completed in Vietnam at the last stage of assembly, the lowest value-added stage in the global value chains.

Compared to other ASEAN countries, Vietnam has much lower export value-

added. As can be seen from Table 6, among five ASEAN countries included in ADB data, Vietnam gained the lowest domestic value-added for all export sectors (primary, low-technology, medium-technology and high-technology manufacturing), and hence the lowest overall domestic value-added of exports.

Table 6. Domestic Value-added of Exports by Sector in ASEAN, 2015

Sector	Indonesia	Philippines	Thailand	Malaysia	Vietnam
Primary Sector	96.28	91.52	84.15	86.46	77.95
Low-technology Manufacturing Sector	88.08	82.12	71.74	61.15	49.78
Medium- and High-technology Manufacturing Sector	89.66	75.49	61.94	64.84	53.53
Total Domestic Value-added of Exports	90.6	83.7	71.09	68.76	65.67

Source: ADB (2017a).

4-2-3. Domination of FDI in Industrial and Export Sector

After the Law on Foreign Investment was promulgated in 1987, between 1988 and 2017, 126 countries and territories have invested in 24,580 projects in Vietnam with a total registered capital of US\$ 317 billion, of which US\$ 171 billion (or 54%) have been realized (FIA 2017). The FDI sector has made significant contributions to Vietnam's development, creating more than 3.77 million jobs (almost 30% of the country's total workforce) and making up some 60% of the country's industrial output (GSO 2017a).

FDI now dominates many sub-sectors of Vietnam's industrial sector such as consumer electronics, smart-phones, transport equipment, and even clothing and footwear. The export sector has also been dominated by FDI companies. The share of the FDI sector in Vietnam's exports increased from 10% in 1989 to 72.6% in 2017, leaving just 27.4% to the domestic sector (GSO 2018).

However, real benefits from FDI are questionable. Many investors came to Vietnam to take advantage of cheap labor, abundant natural resources, low environmental standards and weak enforcement. Accordingly, FDI projects concentrate in labor-intensive and assembly-based manufacturing, resources and real estate sectors. The flow-on effects of FDI on Vietnam's economy are minimal as there has been

limited technology transfer from FDI firms to domestic firms and very weak linkage between the two sectors.

4-2-4. Low Investment Efficiency

Although Vietnam's national investment has been high, averaging 37.3% of GDP for 2000-2017 (author's calculation from GSO data), the efficiency of investment has been low, as reflected by the incremental capital-output ratio (ICOR).⁴ The average value of the ICOR for 2000-2017 was 5.6 (author's calculation), very high compared to the world average of 3. To put it simple, while other economies, on average, invest US\$ 3 to gain US\$ 1, Vietnam has invested some US\$ 5.6 for the same gain in the last 17 years.

Compared to other ASEAN countries, Vietnam has a far higher ICOR. As can be seen from Table 7, among four ASEAN countries included in the OECD data, Vietnam had the highest ICOR value (averaging 6.05 for 2005-2011), meaning the lowest investment efficiency.

Table 7. Investment Efficiency in ASEAN, 2005-2011

Year	Indonesia	Malaysia	Thailand	Vietnam
2005	4.31	4.04	4.53	4.37
2006	4.05	4.07	4.90	4.37
2007	3.95	4.19	6.20	5.24
2008	4.19	4.16	6.43	6.52
2009	4.21	3.92	5.66	7.18
2010	4.22	3.89	3.61	7.42
2011	3.86	4.00	2.84	7.23
Average 2005-2011	4.11	4.04	4.88	6.05

Source: OECD (2013).

⁴ ICOR is computed as investment-GDP ratio (I/Y) divided by real growth ($\Delta Y/Y$). It can be used as a measure of the inefficiency with which capital is used. The higher the ICOR, the more capital formation is required for growth, thus investment is inefficient. In most countries, the ICOR is in the neighborhood of 3.

4-2-5. SOEs' Growing Size but Poor Performance

SOEs' Growing Size. Since the time of central planning, state-owned enterprises (SOEs) have played a leading role in the economy and have been given preferential treatment. However, they have poorly performed. Since the 1990s, the government has implemented the SOEs reform program, which aims to reduce the government support for, and enhance the performance of SOEs. As a result, the number of SOEs dramatically dropped (from 5,591 to 2,836 between 2000 and 2015) while their size increased. In particular, SOEs average capital size increased almost 20 times (from 132 VND billion to 2,607 VND billion) for the same period (Table 8).

Compared to both private and FDI companies, SOEs are now much larger. The average capital size of SOEs is 95 times larger than that of private firms and 7 times larger than that of FDI firms. Their average labor size is 26.8 times larger than that of private firms and 1.5 times larger than that of FDI firms (GSO 2017a).

Table 8. SOEs' Growing Size, 2000-2015

	Number of Firms	Average Labor Size (employees)	Average Capital Size (VND billion)
2000	5,591	370	132.3
2015	2,836	484	2,607.5

Source: GSO (2017a), as of December 31, 2015.

SOEs' Low Efficiency. The results of SOEs reform program are mixed. Despite their considerably growing size, SOEs' performance has not improved accordingly. SOEs have exhibited relatively poor performance compared to private and FDI sectors (Table 9).

In 2015, SOEs' capital turnover (0.41) was far lower than that of private (0.74) and FDI firms (1.01). SOEs's rates of return on capital (2.1%) and return on sales (5.6%) were lower than that of FDI companies (5.5% and 5.8%, respectively). At the same time, SOEs's debt-to-equity ratio (3.2) was far higher than that of private (1.9) and FDI firms (1.7).

Table 9. Operating Efficiency: SOEs versus Private and FDI Firms, 2015

Sector	Capital Turnover	Rate of Return on Capital, %	Rate of Return on Sales, %	Debt-to-equity ratio
SOEs	0.41	2.1	5.6	3.2
Private	0.74	1.3	1.9	1.9
FDI	1.01	5.5	5.8	1.7

Source: GSO (2017a), as of December 31, 2015.

4-3. Expansionary Policies to Aid Growth

Not only has Vietnam's input-driven economy required large increases in labor and natural resources to gain high growth, it has also relied on a measurable increase in capital. In the 2000-2010 period, which witnessed Vietnam's relatively high average growth of 7.2% (author's calculation from GSO data), high growth was resulted partly from a large increase in capital, which was brought about by the government's expansionary policies.

4-3-1. Expansionary Fiscal Policy to Boost Investment

Historically, public investment has played a leading role in Vietnam as private investment has been small. To expand public investment to facilitate economic growth, in 2000-2010 the government used expansionary fiscal policy.

As a result, Vietnam's national investment for this period amounted to the average of 40.2% of GDP (author's calculation from GSO data), quite high by the world standard. However, the efficiency of investment has been low, as shown in Section 4.2 above. High level of investment and low investment efficiency combined has contributed to rising budget deficit and growing public debt, which in turn put high pressure on inflation.

4-3-2. Easy Monetary Policy to Expand Money Supply and Credit

To foster growth, the government has used another tool - the easy monetary policy to expand money supply (M2) and credit.

In 2000-2010, the average M2 growth and credit growth was 27% and 29.1%,

respectively (author's calculation from GSO data), which far exceeded average GDP growth (7.2%). This huge gap between quantity of goods and services produced (represented by GDP growth) and amount of money issued (indicated by M2 growth) and used on the market (assessed by credit growth) for long period of time has imminently resulted in high inflation.

4-4. Slowly Improved Business Environment

Assessed by the Easy of Doing Business Index, published annually by the WB since 2006, Vietnam's business environment has improved at a slow and unstable pace (Table 10). Globally, Vietnam moved from 115th in 2006 to 78th in 2015, but went down to 90th and 82nd in the last two years (2016-2017). The country has been in the middle of between 155 and 190 economies surveyed.

In ASEAN, Vietnam has been ahead of not only ASEAN's less developed economies (Cambodia, Laos and Myanmar) but also Indonesia, the Philippines. The country, however, has been behind Singapore, Malaysia, Thailand and Brunei.

Table 10. Ease of Doing Business Ranking in ASEAN, 2006-2017

	Sin.	Mal.	Thai.	Bru.	Viet.	Indo.	Phil.	Cam.	Lao.	Myan.	Total Economies Surveyed
2006	2	21	20	99	115	-	113	-	-	-	155
2015	1	18	26	101	78	114	95	135	148	177	189
2016	1	18	49	84	90	109	103	127	134	167	189
2017	2	23	46	72	82	91	99	131	139	170	190

Source: WB (2006, 2015, 2016, 2017).

The main reason for the poor business environment is the inadequate legal framework, created by poorly performing institutions. The line ministries in Vietnam's government are given power to issue business conditions (often dubbed 'daughter' and 'grand-daughter permits') in their management fields.

To date, more than 300 regulatory documents have been issued, which contain more than 3,400 business conditions. The largest number of business conditions have been issued by Ministry of Industry and Trade (700), followed by Ministry of

Finance (490), Ministry of Transport (376), Ministry of Public Health (327), Ministry of Agriculture and Rural Development (270) and so on (MPI 2017).

These business conditions cause difficulties for business operation. Recently, the government has required ministries to review business conditions and remove irrelevant ones. This process, however, has been slow, since some ministries are reluctant to simplify business conditions, which have been regarded as a tool for management and control. The government has also required that business conditions now not be included in ministerial circulars, but be included in the governmental decrees. However, some ministries have tried to shift business conditions from circulars to decrees.

4-5. Low R&D Expenditure

Statistics on Vietnam's R&D expenditure provided by international and Vietnamese sources differ, due perhaps to different concepts of R&D activities. According to the WB (2017), Vietnam's gross expenditure on research and development (GERD) as share of GDP increased from 0.18% in 2002 to 0.37% in 2013 (Table 10). But according to Vietnam's Ministry of Science and Technology (MOST 2016), Vietnam's GERD has consistently declined from 0.51% GDP in 2006 to 0.35% in 2014, then slightly moved up to 0.41% in 2015.

Based on either of these sources, Vietnam's GERD is extremely low compared to the world average (2.04% in 2002 and 2.06% in 2013). In ASEAN, Vietnam stood above the group's less developed countries (Cambodia, Laos and Myanmar) as well as Brunei, Philippines and Indonesia. However, it lagged far behind ASEAN's most advanced economies - Singapore and Malaysia (Table 11).

The main reason for Vietnam's low GERD is the low spending by both government and business sectors. Historically, as business sector's expenditure has been small, the government has played a leading role in financing for R&D activities, accounting for more than 80% of GERD.

Although since the early 2000s, the government's share has gradually decreased while that of the business sector has risen, in 2015 the state budget still contributed 56.7% of GERD while the business and FDI sector covered only 41.8% and 1.5%, respectively (MOST 2016). The public sector's spending, however, has been constrained by the persistent budget deficit.

Table 11. Gross Expenditure on R&D in ASEAN, 2002-2013

Country	GERD (% of GDP)	
	2002	2013
Singapore	2.06	2.01
Malaysia	0.65	1.1
Thailand	0.23	0.44
Vietnam	0.18	0.37
Myanmar	0.16	-
Philippines	0.14	0.14
Indonesia	-	0.09
Cambodia	0.05	-
Laos	0.04	-
Brunei	0.02	-
World Average	2.04	2.06

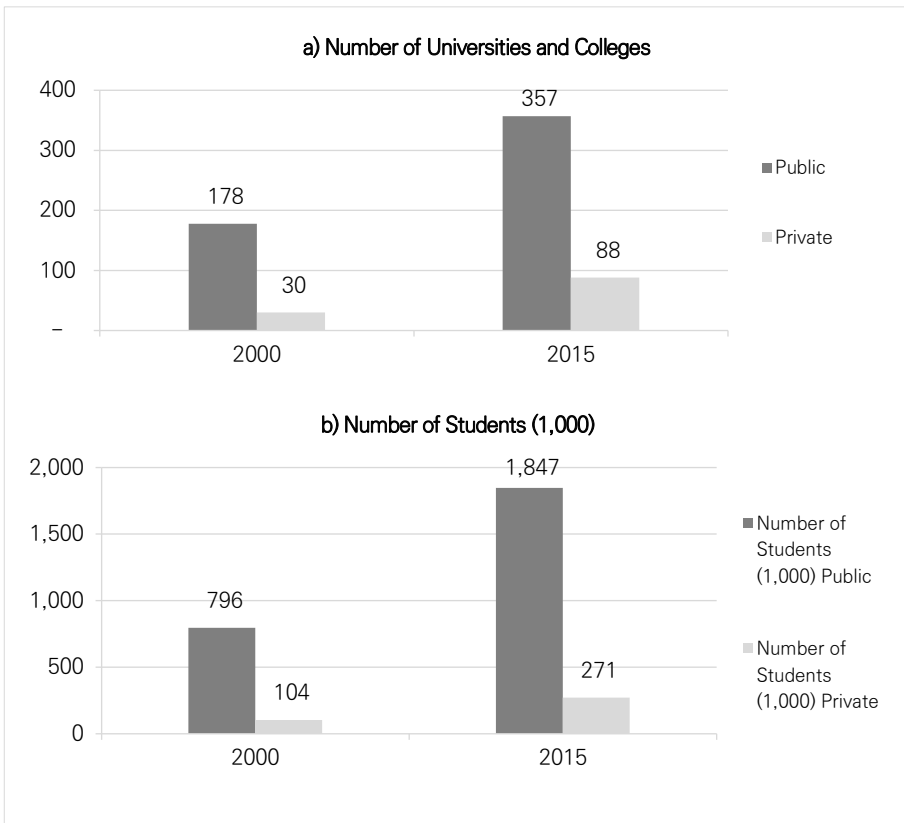
Source: WB (2017).

4-6. Higher Education: Fast Rising but Poor Quality

Fast Rising Higher Education System. Vietnam's higher education system has grown rapidly in recent years (Figure 6). Between 2000 and 2015, the number of public universities and colleges doubled (from 178 to 357) while private colleges nearly tripled (from 30 to 88). For the same period, the number of students in public sector more than doubled (from 796 thousand to 1.847 million) while those in the private sector almost tripled (from 104 thousand to 271 thousand).

The higher education system has grown dramatically since the late 1990s after the private sector has been allowed to participate. The high demand thanks to the country's large population combined with the booming economy and deregulation of the higher education sector has led to explosive growth. Another important contributor to the blossoming higher education system is the long-rooted traditional 'love for university degrees' among most Vietnamese.

Figure 5. Vietnam's Higher Education, 2000-2015



Source: GSO (2017c).

Thanks to this boom in higher education, Vietnam's tertiary enrollment ratio⁵ amounted to 30.48% in 2015, ranking the country above not just ASEAN's less developed members (Cambodia, Laos, and Myanmar), but also ahead of more developed members such as Malaysia and Indonesia (Table 12).

⁵ The tertiary enrollment rate is the percentage of total enrollment, regardless of age, in post-secondary institutions to the population within five years of the age at which students normally graduate high school.

Table 12. Gross Tertiary Enrollment Ratio (%) in ASEAN, 2015

Country	Sing.	Mal.	Thai.	Phil.	Bru.	Viet.	Indo.	Cam.	Lao.	Myan.
Gross Tertiary Enrollment	-	26.07	48.56	35.75	30.85	30.48	24.26	13.88	16.91	13.53

Source: UIS (2017). For the Philippines: 2014, Myanmar: 2012.

Poor Quality. However, the fast growth in Vietnam’s higher education sector has not been accompanied by adequate quality. Facilities are either outdated or overloaded, or both. Most of universities and colleges use outdated teaching program and textbooks. The majority of them apply obsolete learning practices, whereby students simply follow lecturers passively. Many teaching staff have no research activities and cannot use a single foreign language.

Class size is relatively big, indicated by student-to-teaching staff ratio of 22.7 (author’s calculation from GSO 2017c). In this regard, even China, a developing country and the world’s most populous nation, fares better with 19 students per teacher (OECD 2017).

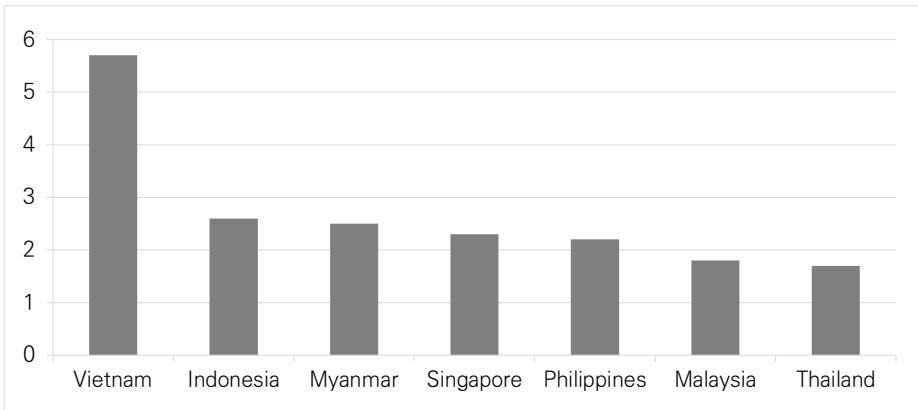
4-7. Under-developed Infrastructure

Vietnam has heavily invested in infrastructure in recent years. The country’s national investment in infrastructure (both public and private) amounted to an average of 5.7% of GDP for 2011-2014, which was highest in ASEAN (Figure 5). Other ASEAN countries invested less for the same period. Indonesia, Myanmar, Singapore and the Philippines spent less than 3% while Malaysia and Thailand invested less than 2% of GDP in infrastructure.

Although Vietnam’s infrastructure has been upgraded thanks to the high level of investment, it is still far from meeting the country’s rising demand. At this stage of development, Vietnam faces a number of challenges as follows.

While Vietnam’s investment in infrastructure as share of GDP has been high, many infrastructure projects are not productive due to the poor planning, high costs of land clearing, frauds and corruption. This results in under-developed infrastructure, which reduces its contribution to economic growth.

Figure 6. Infrastructure Investment in ASEAN (% GDP, 2011-2014 Average)



Source: ADB (2017b).

Transport network and electricity, the two most important components in Vietnam's infrastructure system, have exhibited serious problems. Traffic congestion is a frequent phenomenon, especially in big cities and on vital highways. Power outage takes place often.

Currently, Vietnam needs colossal funds for infrastructure upgrading. The financing sources, however, are limited. For the 2016-2020 period, an estimated US\$ 480 billion is needed to upgrade infrastructure (MOF, cited in Vietnam Financial Time, December 16, 2016). This is a huge amount in light of Vietnam's relatively small GDP size (some US\$ 200 billion).

Since private participation has been small (less than 10% of the total), financing for infrastructure has been based largely on the public sector. Public investment, however, has been constrained by the chronic state budget deficit.

Another important source, on which Vietnam has heavily relied, is foreign financing. In fact, foreign funds have accounted for more than 30% of Vietnam's total infrastructure investment, very high compared to 13% for the Philippines and 1% for China (ADB 2017b). However, official development assistance (ODA), which has been a significant source of foreign finance for Vietnam's infrastructure, has gradually decreased since the country joined the lower middle-income group in 2008.

5. Implications for Vietnam

The above-analyzed causes of Vietnam's low competitiveness have far-reaching consequences, preventing the economy from growing further in a sustainable way.

The extensive growth model, which relies on cheap and unskilled labor, has resulted in a low-productivity economy. Both technology level and skilled labor – the two most important components of the TFP – have remained low due to the low R&D expenditure and poor performance of higher education. Low productivity has resulted in the economy's diminishing growth, which, in turn, leads to the middle-income trap. Expansionary policies to aid growth have led to rising macroeconomic imbalances. Long reliance on natural resources has led to the exhaustion of resources and worsening environmental conditions.

These implications are examined below.

5-1. Low Productivity

5-1-1. Low Labor Productivity

As Vietnam's economy has been based on the factor-driven model, the country has been among the group of economies with lowest productivity in the region (Table 13).

Table 13. Labor Productivity in ASEAN, 2015
(GDP per worker, 2011 PPP at constant prices)

Country	Labor Productivity (US\$ 1,000)a	Comparing with Vietnam=1b
Singapore	127.8	13.3
Malaysia	55.7	5.8
Thailand	20.7	2.2
Indonesia	24.3	2.5
Philippines	18.1	1.9
Laos	11.1	1.2
Vietnam	9.6	1.0
Cambodia	5.7	0.6
Myanmar	5.7	0.6

Source: a) APO (2017); b) Author's calculation.

In 2015, Vietnam’s labor productivity was below even that of Laos, one of ASEAN’s four less developed countries (known as CLMV - Cambodia, Laos, Myanmar, Vietnam). The country stood above only two other less developed fellow members (Cambodia and Myanmar) while it was well below not only more advanced ASEAN economies (Singapore, Malaysia, Thailand and Indonesia) but also of the similar level of development (the Philippines).

5-1-2. Slow Rate of Productivity Growth

Vietnam’s slow TFP growth, as analyzed above, results in the country’s slow improvement in productivity (Table 14). The average labor productivity growth for 2001-2005, 2006-2010 and 2011-2015 was significantly below average GDP growth for the same periods. High GDP growth gained at low productivity growth in this period confirms, again, that Vietnam’s economic growth has been driven mainly by increases in input factors (capital and labor), rather than by productivity.

Table 14. Vietnam’s Productivity Growth versus GDP Growth, 2001–2015

Period	Productivity Growth (%) ^a	GDP Growth (%) ^b
2001–2005	4.47	7.5
2006–2010	4.12	7.0
2011–2015	4.33	5.9
2001–15 ^b	4.3	6.8

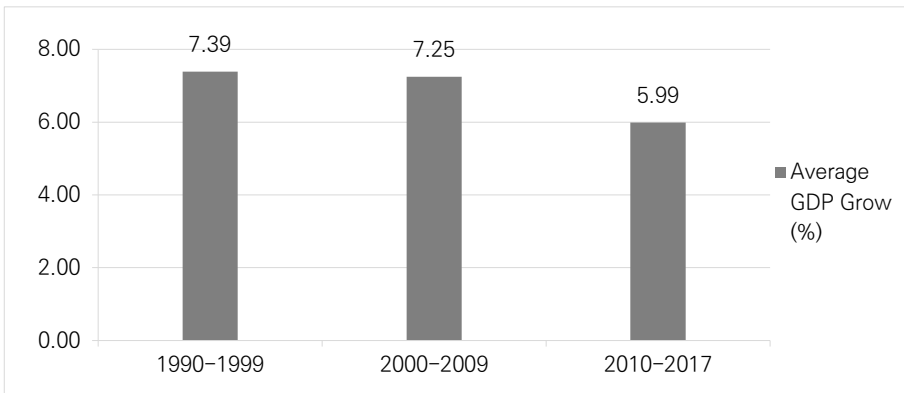
Source: a) VNPI (2009, 2011, 2016); b) Author’s calculation.

5-2. Diminishing Growth

As Krugman (1994, p. 67) asserts in regard to the extensive growth model, *“Mere increases in inputs without increase in the efficiency, with which those inputs are used, must run into diminishing return; input-driven growth is limited”*.

Indeed, Vietnam’s economy, based on this model for more than 30 years, has experienced diminishing growth. The average GDP growth consistently fell from 7.39% for 1990-1999 to 7.25% for 2000-2009, then to 5.99% for 2010-2017 (Figure 7).

Figure 7. Vietnam's Diminishing GDP Growth, 1990-2017



Source: Author's calculation from GSO (2001, 2017b, 2018).

5-3. Middle Income Trap

The WB (2013) classifies countries into the following four categories based on their income level - gross national income (GNI) per capita:

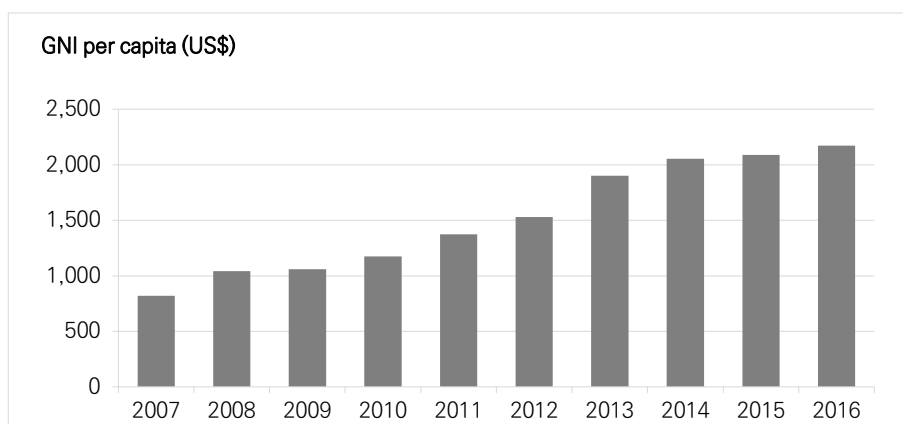
- (i) Low income: GNI per capita < US\$ 1,005
- (ii) Lower-middle income: US\$1,005 < GNI per capita < US\$ 3,975
- (iii) Upper-middle income: US\$3,975 < GNI per capita < US\$ 12,275
- (iv) High income: GNI per capita > US\$ 12,275

Based on this classification, Vietnam became lower-middle income country in 2008, when its GNI per capita surpassed US\$ 1,005. Since then, however, Vietnam's income per head has risen slowly, reaching US\$ 2,173 in 2016 (Figure 8). In the last three years (2014-2016), the average growth of income per capita was 4.56% (author's calculation from WEF, 2015, 2016, 2017a). The slow income growth was a result of the country's diminishing growth. If Vietnam's income continues to grow at such slow pace, it would take decades before the country could reach the high income threshold of US\$ 12,275.

This prompts Ohno (2015) to argue that Vietnam, like Malaysia and Thailand, has become trapped in the middle income range. The main reason is, the country

now faces a number of problems which prevent it from acquiring a higher income level. These include diminishing growth, low labor productivity and lack of structural shift. As analyzed above, these are consequences of the extensive growth model that Vietnam has maintained for too long.

Figure 8. Vietnam's Middle Income Trap, 2007-2016



Source: WEF (2008, 2011, 2013, 2014, 2015, 2016).

5-4. Macroeconomic Instability

5-4-1. High Growth Accompanied with Macroeconomic Imbalances in 2000-2010

As Vietnam's high economic growth in 2000-2010 was generated by the increase in input factors and aided by expansionary policies, the price for this was Vietnam's worsening macroeconomic environment (Table 15).

The inflation rate in this period was very high, varying between 12.6% and 19.9% (except for 2009 when it dropped to 6.9% because of the 2008-2009 global crisis). Pushed up by high inflation, interest rates surged on financial markets. By 2011, deposit rates were between 18% and 20% pa while lending rates were between 22% and 25%. This made the capital rent unbearably high for firms and consequently reduced their competitiveness.

The public debt increased rapidly from 11.5% of GDP in 2001 to 56.3% in 2010. The government budget deficit in this period was high, varying between 4.6% and 5.9% of GDP.

Vietnam's trade deficit rose from US\$ 1.2 billion in 2000 to the all-time record of US\$ 18 billion 2008. In particular, trade deficit was above US\$ 10 billion in the five consecutive years of 2007-2011.

Table 15. High GDP Growth and Macroeconomic Imbalances, 2000-2010

Year	GDP Growth ^a	Credit Growth ^a	Money Supply M2 Growth ^a	Budget Deficit ^a	CPI ^a	Trade Deficit ^a	Public Debt ^b	Total Investment ^a	ICOR ^c
	%	%	%	% GDP	%	US\$ bil	% GDP	% GDP	
2000	6.8	20.7	29.5	5.0	-0.6	-1.2		34.2	5.0
2001	6.9	23.3	24.5	4.8	0.8	-1.2	11.5	35.4	5.1
2002	7.1	31.7	21.1	4.6	4.0	-3.0	13.3	37.4	5.3
2003	7.3	27.8	24.0	5.0	3.0	-5.1	16.1	39.0	5.3
2004	7.8	26.7	19.1	4.9	9.7	-5.6	19.4	40.7	5.2
2005	8.4	18.9	24.4	4.9	8.7	-4.3	23.2	40.9	4.9
2006	8.2	33.5	29.8	5.1	6.6	-5.1	27.7	41.5	5.1
2007	8.5	50.1	43.7	5.5	12.6	-14.2	33.8	46.5	5.5
2008	6.3	23.3	23.3	4.6	19.9	-18.0	36.3	41.5	6.6
2009	5.3	38.0	27.5	6.9	6.9	-12.2	41.9	42.7	8.1
2010	6.8	26.3	29.8	5.5	11.8	-11.5	56.3	41.9	6.2
Average 2000-2010 ^c	7.2	29.1	27.0	5.7	8.3	-	-	40.5	5.7

Source: a) GSO (2017c); b) MOF (2013a, 2013b); c) Author's calculation.

5-4-2. Macroeconomic Stabilization at Reduced Growth in 2011-2017

Faced with deteriorating macroeconomic conditions in 2000-2010, the government has implemented measures to curb inflation and restore macroeconomic stability. The government's Resolution 11 in 2011, followed by three other resolutions in 2012-2014, imposed a set of tough measures including tightening fiscal and monetary policy to stabilize the macroeconomic conditions (Vietnamese Government 2011-2014). As a result, the macroeconomic environment has significantly improved since 2011 (Table 16).

Under the impacts of tight monetary policy, M2 growth fell from an average of 27% in 2000-2010 to 18.1% in 2011-2017. The inflation rate (measured by CPI) dramatically dropped from 18.13% in 2011 to 4.74% in 2016, which in turn helped stabilize financial markets. Deposit rates reduced from 18-20% in 2011 to 5-7% in 2015 while lending rates decreased from 20-25% to 7-10% for the same period.

Due to tight fiscal policy, public investment decreased. Private investment also fell due to the economic hardship caused by the tightening measures. As a result, total investment shrank from average of 40.2% of GDP in 2000-2010 to 32.5% in 2011-2016. At the same time, the investment efficiency slightly improved, with ICOR being reduced from average of 5.7 in 2000-2010 to 5.6 in 2011-2017 (author's calculation).

In the foreign trade sector, trade balance switched from chronically high deficit in the period before 2012 to surplus in 2012-2014 and 2016-2017. The volatile exchange rate has stabilized, changing less than 2% pa in 2012-2016. The foreign exchange reserves have increased year after year since 2012, from US\$ 25.4 billion in 2012 to an all-time record of US\$ 53 billion in 2017, reaching the international benchmark of 12 weeks of imports.

Table 16. Macroeconomic Improvement at Reduced GDP Growth, 2011-2017

Year	GDP Growth ^a	Credit Growth ^a	Money Supply M2 Growth ^a	Budget Deficit ^a	CPI ^a	Trade Deficit ^a	Public Debt ^b	Total Investment ^a	ICOR ^c
	%	%	%	% GDP	%	US\$ bil	% GDP	% GDP	
2011	5.8	19.9	21.5	4.9	18.1	-9.9	54.9	34.6	5.9
2012	5.2	17.4	22.5	4.8	6.8	0.3	50.8	33.5	6.4
2013	5.4	12.5	18.6	5.3	6.0	0.9	54.5	30.4	5.6
2014	6.0	14.2	18.1	5.3	1.8	2.0	58.0	31.0	5.2
2015	6.7	17.3	15.6	6.28	0.6	-3.5	61.0	32.6	4.9
2016	6.2	17.0	16.5	5.64	4.7	2.7	63.6	33.0	5.3
2017	6.8	14.5	14.2		3.5	2.7	-	33.6	4.9
Average 2011-2017 ^c	6.0	16.1	18.1	-	6.4	-	-	32.5	5.6

Source: a) GSO (2017c, 2018); b) MOF (2014, 2016, 2017); c) Author's calculation.

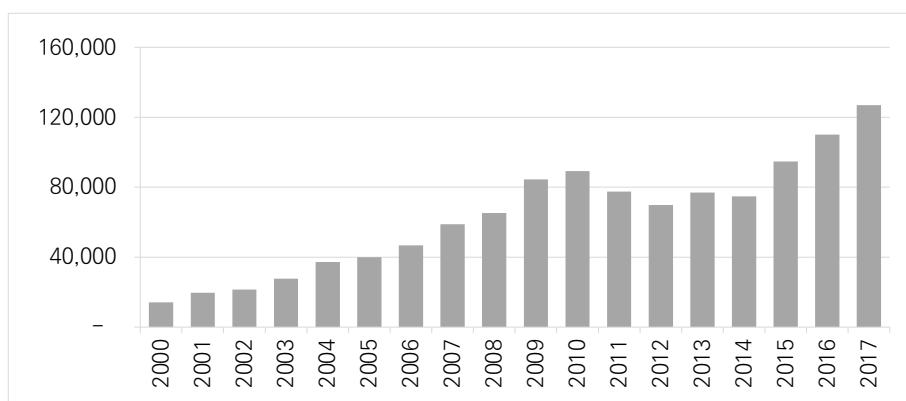
However, these improvements were gained at a price. Reduced investment and falling consumption (both private and government) caused by the tightening fiscal and monetary policy, led to a fall in GDP growth from an average of 7.2% for 2000-2010 to 6% for 2011-2017 (author's calculation from GSO data).

Furthermore, while some macroeconomic variables have been stabilized, some other important variables remain in critical conditions. Budget deficit remains high (6.28% of GDP in 2015 and 5.64% in 2016). Public debt kept rising, almost reaching the set ceiling of 65% of GDP in 2016.

5-5. Low Business Competitiveness

The economic reforms since the late 1980s have created favorable conditions for business development. As a result, the number of new firms – especially in private and FDI sectors – has increased rapidly. After the adoption of the new Law on Enterprises in 1999, then in 2005, the number of newly established firms jumped from 14,150 in 2000 to a record of 89,200 in 2010. In 2011-2014, due to the economic slump, caused by the government's tough measures to combat macroeconomic imbalances, the number dramatically fell. Since 2015, however, as the economy has gradually recovered, business establishment has surged again to reach the new record of 127,000 in 2017 (Figure 9).

Figure 9. Newly Established Firms, 2000-2017



Source: GSO (2017a, 2018).

Despite the fast-growing business establishment, the competitiveness of Vietnam's firms has remained low, due to the poor business environment which results in high costs for business.

5-5-1. High Business Costs

Compared to ASEAN-6 (Singapore, Malaysia, Thailand, Indonesia, Brunei and the Philippines), Vietnam's business costs of dealing with administrative procedures are far higher. In 2013, Vietnam's firms, on average, spent 876 hours to pay taxes against the ASEAN-6 average of 171 hours. Similarly, Vietnam's firms on average spent 21 days to deal with exports and the same amount of time to deal with import procedures, compared with the ASEAN-6 average of 14 days and 13 days, respectively (Table 17).

Table 17. Business Costs: Vietnam and ASEAN-6, 2013

Time Spent Per Year	ASEAN-6						ASEAN-6 Average	Vietnam
	Sing.	Malay.	Thailand	Indone.	Brunei	Philip.		
Hours to Pay Taxes	82	133	264	259	96	193	171	876
Days to Deal with Exports	5	11	14	17	19	15	14	21
Days to Deal with Imports	4	8	13	23	15	14	13	21

Source: Vietnamese Government (2014).

5-5-2. Limited Labor and Capital Size

The private sector accounts for 96.7% of firms, but most private firms are small and medium-size enterprises (SMEs). Taking into account the number of SMEs in the state- and FDI sector, SMEs make up 98% of Vietnam's firms. Large companies concentrate largely in the state sector and FDI sector, but state-owned enterprises (SOEs) and FDI companies account for only 0.6% and 2.7%, respectively, of the total (Table 18).

Table 18. Vietnam's Firms by Ownership, 2015

Ownership	Number of Firms	% of Total
SOEs	2,835	0.6
Private	427,710	96.7
FDI	11,940	2.7
All	442,485	100.0

Source: GSO (2017a), as of December 31, 2015.

Limited Labor Size. 92.6% of firms employ less than 50 workers and 68.7% have less than 10. Private firms are overwhelmingly small: 94.2% of them employ less than 50 employees and 70.4% - less than 10 (Table 19).

Table 19. Labor Size of Vietnam's Firms, 2015

Firms by Ownership	% of Firms by Labor Size (Employees)						
	<10	10-49	50-199	200-499	500-999	1,000-4999	>5,000
SOEs	3.3	20.1	36.4	21.1	9.6	8.2	1.3
Private	70.4	23.8	4.7	0.8	0.2	0.1	0.0
FDI	23.6	29.2	23.7	11.7	5.6	5.3	0.9
All	68.7	23.9	5.42	1.2	0.42	0.30	0.04

Source: GSO (2017a), as of December 31, 2015.

Limited Capital Capacity. The overwhelming number of firms (91.6%) have their capital below VND50 billion (approximately US\$ 2 million), 42.2% have their capital below VND5 billion (some US\$ 200,000). In particular, private firms have very limited capital capacity, as 92.9% of them are below US\$ 2 million and 43.1% below US\$ 200,000 (Table 20).

Table 20. Capital Size of Vietnam's Firms, 2015

Firms by Ownership	% of Firms by Capital Size (VND billion)							
	<0.5	0.5-1	1-5	5-10	10-50	50-200	200-500	>500
SOEs (0.6% of total firms)	1.3	0.1	3.4	4.7	22.4	27.5	15.4	25.2
Private (96.7% of total firms)	4.0	5.4	33.7	20.4	29.4	5.6	1.0	0.5
FDI (2.7% of total firms)	4.2	2.6	13.0	9.6	28.9	22.5	9.6	9.5
All	4.0	5.3	32.9	20.0	29.4	6.2	1.3	0.9

Source: GSO (2017a), as of December 31, 2015.

5-5-3. Falling Efficiency

The low competitiveness of Vietnam's firms can be seen in the falling business efficiency as indicated by the indicators of firm efficiency (Table 21).

Table 21. Operating Efficiency of Vietnam's Firms, 2000-2015

Indicators	2000	2015
Rate of Return on Capital, %	0.81	0.69
Rate of Return on Sales, %	5.2	3.6
Capital Turnover	3.7	2.3
Profit-making Firms, %	77.9	47.1
Loss-making Firms, %	20.1	43.3

Source: GSO (2017a), as of December 31, 2015.

Average rate of return on capital (represented by profit before tax-to-capital ratio) decreased from 0.81% in 2000 to 0.68% in 2015.

Average rate of return on sales (represented by profit before tax-to-sales ratio) fell from 5.2% to 3.6% while average capital turnover (represented by sales-to-capital ratio) was reduced from 3.7 to 2.3 for the same period.

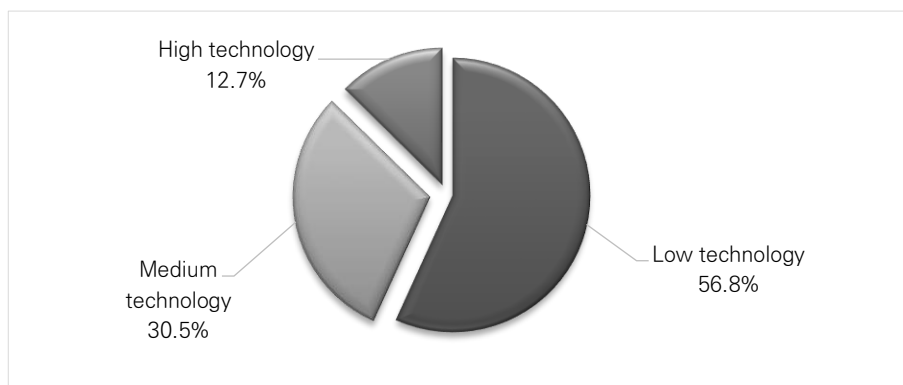
The share of profit-making firms fell sharply from 77.9% in 2000 to 47.1% in 2015 while that of loss-making firms rose measurably from 20.1% to 43.3% for the same period.

5-6. Low Technology Level

Vietnam's low expenditure on R&D, both by the government and business, has resulted in the low level of technology. The majority of Vietnam's manufacturing firms use low technology and medium technology while only a small share of firms utilize high technology (Figure 10).

By another measure, low-technology products accounted for a lion's share of 74.4% in Vietnam's manufactures in 2016, while medium-technology and high-technology products together make up only a minor share of 25.6% (ADB 2017a).

Figure 10. Technology Level of Vietnam's Manufacturing Firms, 2015



Source: GSO (2017a), as of December 31, 2015.

5-7. Low Human Capital Quality

Despite the large quantity of labor force, the quality of Vietnam's human capital is relatively low. Only some 49% of the work force has been trained (19% undertake training for more than 3 months). The poor quality of higher education system, as analyzed above, has resulted in Vietnam's poor quality of labor.

As assessed by WEF (2017b) based on the Global Human Capital Index (GHCI), Vietnam ranked 64th out of 130 economies surveyed in 2017 in terms of human capital quality. In ASEAN, while Vietnam stood above ASEAN's less

developed members (Cambodia, Laos and Myanmar), the country shared an approximately similar score with Brunei and Indonesia. Vietnam, however, stood below ASEAN's more developed members such as Singapore, Malaysia and Thailand (Table 22).

Table 22. Human Capital Quality in ASEAN, 2017

Country	GHCI Score (Out Of 100)	Global Ranking (Out Of 130)	ASEAN Ranking (Out Of 10)
Singapore	73.28	11	1
Malaysia	68.29	33	2
Thailand	66.15	40	3
Philippines	64.36	50	4
Brunei	62.82	58	5
Vietnam	62.19	64	6
Indonesia	62.19	65	7
Laos	58.36	84	8
Myanmar	57.67	89	9
Cambodia	57.28	92	10

Source: WEF (2017b).

5-8. Environmental Degradation

The use of low technology level and outdated equipment, which is polluting and energy-consuming, has resulted in rising pollution and worsening environmental conditions.

In ASEAN, Vietnam has been one of the largest polluting sources (Table 23). Assessed by total emissions, Vietnam, with its total emissions amounting to nearly 174 million tons CO₂ equivalent in 2012, has been the fourth-largest polluting economy in ASEAN after Myanmar, Indonesia and Thailand. Assessed by emissions per head, Vietnam has been 6th with 2 tons CO₂ equivalent per head (after Laos, Myanmar, Cambodia, Brunei and Thailand).

Vietnam has also been a fast-growing emissions source. Between 2000 and 2012, the country's nitrous oxide (N₂O) emissions increased by almost 75%, while its

methane emissions and other greenhouse gases rose by 51% and 344%, respectively.

Although Vietnam has maintained a negative deforestation rate in recent years (showing the higher reforestation rate compared to the deforestation rate) thanks to the government's active reforestation program, reforestation efforts have not kept up pace with deforestation, as the deforestation rate has been on the rise, from -2.06% in 2000 to -0.9% in 2013 (ADB 2017a).

Table 23. Pollution in ASEAN

	Nitrous Oxide Emissions			Methane Emissions			Other Greenhouse Gases			2012	
	(1000 tons CO ₂ equivalent)			(1000 tons CO ₂ equivalent)			(1000 tons CO ₂ equivalent)			Emissions*	
	2000	2012	% change	2000	2012	% change	2000	2012	% change	Total	tons/head
Singapore	6,635	1,909	-71.2	1,684	2,386	42	1,410	3,299	134.0	7,594	1.4
Malaysia	13,822	15,310	10.8	29,309	34,271	17	5,144	3,866	-24.8	53,447	1.8
Thailand	18,677	30,833	65.1	83,564	106,499	27	8,756	45,556	420.3	182,888	2.6
Indonesia	94,933	93,139	-1.9	170,032	223,316	31	63,048	2,556	-95.9	319,011	1.3
Brunei	395	342	-13.4	3,882	4,539	17	101	427	322.8	5,308	13.3
Phillipines	12,365	12,762	3.2	49,911	57,170	15	12,487	3,891	-68.8	73,823	0.8
Vietnam	19,746	34,494	74.7	75,430	113,564	51	5,782	25,707	344.6	173,765	2.0
Laos	3,265	8,987	175.3	7,219	15,011	108	13,588	136,841	907.1	160,839	24.7
Cambodia	3,295	16,685	406.4	14,985	35,915	140	23,021	73,300	218.4	125,900	8.4
Myanmar	31,300	26,783	-14.4	66,942	80,637	20	78,176	406,274	419.7	513,694	9.4

Source: ADB (2017a); *) Author's calculation.

6. Policy Recommendations

Based on the above analysis, a set of policy measures is suggested to enhance Vietnam's competitiveness. The importance of the proposed measures is indicated by their order of appearance.

Among the proposed measures, the central task is to restructure the economy and change the growth model from the current quantity growth (based on input factors) to growth in quality (based on productivity). To implement this task, raising the technology level and enhancing human capital quality is a key. Further, a high level of national competitiveness cannot be achieved without improving the business environment, ensuring macroeconomic stability and upgrading infrastructure. Drawing lessons from the experience of advanced economies would help Vietnam to go faster on the way to higher level of development.

As these measures are closely related and interacted, efficient (or inefficient) implementation of one measure would have positive (or negative) impacts on the others.

6-1. Central Task: Structural Reforms to Change Growth Model

To raise Vietnam's national competitiveness, the most vital task is to implement structural reforms to change the growth model from a factor-based to productivity-based model. The reforms should address the major structural problems, identified in the above analysis, as follows.

Change the economic structure from low value-added sectors (primary and assembly-based manufacturing) to high value-added sectors. To realize this move, the government should design relevant schemes to attract domestic and foreign investment into technology-intensive industries, which should be based on enhanced technology capacity and skilled labor of domestic firms.

Further, to move the manufacturing sector from its assembly-based stage to higher value-added stages, the government should implement measures to develop supporting industries, which are vital in providing parts and materials for manufacturing firms, instead of importing them.

As indicated in Le Quoc Phuong (2010), the experiences of many economies which have successfully developed supporting industries (such as Japan, Korea, Taiwan, Thailand), show that SMEs play a vital role in supporting industries. There-

fore, the relevant measure to develop supporting industries in Vietnam is to provide adequate support for SMEs in order to raise their competitiveness and capacity to be able to join supporting industries.

Change the export structure from raw materials and assembly-based manufactures to processed products and high value-added manufactures. To do so, the government should implement appropriate measures to build up the mineral-processing industry and food-processing industry, which will boost exports of processed products instead of raw materials, thus gain higher export value-added.

Re-orient FDI to attract foreign investment into high value-added, technology-intensive, processing and supporting industries, rather than low value-added industries such as labor-intensive and assembly-based. Priority should be given to these FDI projects with actual technology transfer.

Restructure SOEs and public investment to make them more efficient.

Since the high value-added economy is based on the productivity-driven growth model, which in turn is engineered by advanced technology and skilled labor, improved technology and enhanced higher education is a key to success.

6-2. Raise Technology Level

Increase government R&D expenditure in the short term. One of the reasons for Vietnam's low technology level is low expenditure on R&D by both the government and business sector. As Vietnam's GERD currently still depends, to a large extent, on the support of the public sector, the government, at least in the short term, needs to increase its R&D expenditure to help boost GERD.

Promote business sector's leading role in the long term. Only when firms really get interested in R&D activities and spend more on it, then Vietnam's R&D, hence its technology level, will be improved. The government thus should create incentive schemes and implement relevant policies to encourage firms to invest more on R&D, thus strengthening their technology capacity.

Create sound environment for technology transfer. The government must create a sound environment for technology transfer, both from abroad and from FDI companies to domestic firms. On the other hand, Vietnamese firms should raise their capacity in order to absorb new technology and to invent their own technology in the long term.

6-3. Enhance Human Capital Quality

Efficient higher education system is a key to providing quality human capital, which is pivotal in raising the country's productivity and national competitiveness.

Vietnam should reform its higher education system to make it more efficient in providing skilled labor. Teaching programs and textbooks should be updated based on global good practices. The passive learning way should be changed to more interaction between teachers and students. Quality of teaching staff, in particular their research skills and foreign language, should be raised.

6-4. Improve Business Environment

Institutions play a pivotal role in creating a sound business environment, which in turn is vital to achieving a high level of national competitiveness. Recognizing the importance of institutions in creating a sound business environment, in recent years the government has implemented measures to improve institutions. These include governmental resolutions with the same number 19 in three consecutive years 2014-2016 and Resolution No. 35 in 2016 (Vietnamese Government 2014-2016).

Although these measures have improved Vietnam's business environment, numerous administrative procedures still exist, making it hard for business operations. Vietnam, therefore, needs to make more efforts to simplify administrative procedures and improve institutions, in order to make the business environment more favorable for business operation.

6-5. Ensure Macroeconomic Stability

A stable macroeconomic environment is a vital factor for national competitiveness. Vietnam's macroeconomic environment has significantly stabilized in 2012-2016, thanks to the government's measures implemented since 2011 to control inflation and stabilize macroeconomic conditions.

But as macroeconomic conditions have become relatively stable in recent years (2014-2017), the government may resort again to expansionary policies to foster economic growth. The excessive use of expansionary policies would, again, lead to macroeconomic instability, as it did in the past.

Vietnam should regard macroeconomic stability as a priority in pursuing economic growth. In other words, the government should promote economic growth by raising the productivity of the economy, rather than by excessive use of expansionary policies.

6-6. Upgrade Infrastructure

Infrastructure is one of the keys to raising national competitiveness. Although Vietnam's infrastructure system has been upgraded thanks to past measurable investments, it is far from sufficient to meet the economy's growing demand. Vietnam's infrastructure, in particular its power supply capacity and road network, should be upgraded.

In the context of budget constraints and declining ODA funds, Vietnam should create a relevant framework to encourage participation by the private sector, which so far accounts for quite a small share in total investment in infrastructure, due to a number of problems.

With regard to the power system, the main obstacle is the price of electricity, which has been kept low as a measure to control inflation and reduce input costs for the economy. This pricing policy, however, has discouraged private investors. In relation to the road system, the current mechanism for private investment is build-operate-transfer (BOT).⁶ The problem is, many private companies over-charge tolls on the roads they build. This has led to strong protests from road users, which in turn discourages private firms from getting involved.

The government, therefore, should create a relevant environment for larger private involvement in infrastructure investment.

6-7. Learn from the Experience of Advanced Economies

The experience of East Asian economies such as Japan and Asian NIEs (Korea,

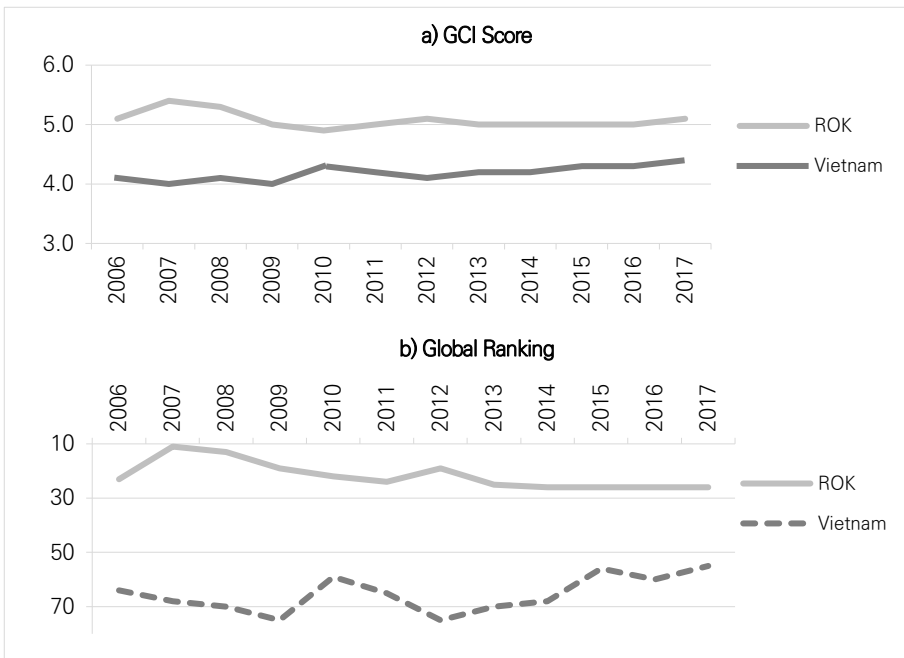
⁶ BOT is a form of project financing, wherein a private entity receives a concession from the private or public sector to finance, design, construct and operate a facility stated in the concession contract. This enables the project proponent to recover its investment, operating and maintenance expenses in the project.

Singapore, Hong Kong and Taiwan of China), which have successfully raised their national competitiveness, could be useful for Vietnam. In this regard, this research focuses on cooperation with Korea, which shares many commonalities and has a sound relationship and strong economic ties with Vietnam.

6-7-1. Competitiveness and Stage of Development: Korea versus Vietnam

For a relatively short period of 40 years since the Korea War ended in 1953, the Koreans have managed to turn their war-torn country into an innovation-driven nation. In 1996 Korea joined the OECD, the club of the world's most developed economies with high income per capita. By contrast, more than 40 years since the Vietnam War ended in 1975 and more than 30 years since the sweeping economic reforms began in 1986, Vietnam is still a developing country with lower middle-income per capita.

Figure 11. National Competitiveness: Vietnam and Korea, 2006-2017 GCI Score



Source: WEF (2006, 2008, 2011, 2013, 2014, 2015, 2016, 2017a).

In terms of national competitiveness, Korea's GCI in 2013-2017 varies between 5.0 and 5.1, well above Vietnam's GCI, which varies between 4.2 and 4.4 in the same period (Figure 11). In relation to competitiveness ranking, Korea has ranked between 25th and 26th in the last 5 surveys (2013-2017), thus being in the top group of 50 economies with highest ranking, while Vietnam has ranked between 55th and 68th, thus being in the middle group of 50 economies with moderate ranking.

With regard to stage of development, Korea has been in the highest level of development – stage 3 (innovation-driven). Vietnam was, until 2014, in the lowest level, stage 1 (factor-driven), and only shifted to transition from stage 1 to stage 2 in 2015.

In terms of income per capita, Korea's GDP per capita is US\$ 27,538 in 2016, far larger than Vietnam's US\$ 2,173 (WEF 2017a).

6-7-2. Favorable Conditions for Vietnam to Learn from Korea's Experience

Common Experience. Vietnam and Korea share many things in common. The two countries are located in East Asia, thus quite close geographically (distance between Seoul and Hanoi is 2,744 km). Both share the past experience of being colonized. Korea was under Japanese colonial rule for 35 years (1910-1945) while Vietnam was under French colonial rule for 87 years (1858-1945). Both countries gained independence after World War II ended in 1945.

Both countries were devastated by severe wars that followed. Korea was destroyed by the Korea War (1950-1953). Vietnam was torn by the Indochina War (1946-1954), followed by the Vietnam War (1965-1975) and the war with Cambodia's Khmer Rouge regime (1975-1979) and its Chinese supporters (1979).

Sound Relationship. Bilaterally, the Vietnam-Korea relationship has improved enormously since the two countries established diplomatic relations in 1992. In 2001, the two countries signed a "Comprehensive partnership in the 21st century", which was upgraded to a "Strategic cooperative partnership" in 2009. In 2015, the Vietnam-Korea FTA took effect. Regionally, both countries are members of APEC (which promotes free trade and investment among Asia-Pacific economies), ASEAN+3 (which aims to boost cooperation between ASEAN on the one side, and Korea, China and Japan on the other side), and the ASEAN-Korea FTA (effective since 2007).

Strong Economic Relations. The sound relationship between the two countries helps boost bilateral economic relations. Vietnam is now Korea's fourth-largest trading partner (after US, China, Japan and Hong Kong) while Korea is Vietnam's third-largest trading partner (after US and China). Korea is also the largest FDI investor in Vietnam and second-largest ODA donor for Vietnam (after Japan), while Vietnam is Korea's third-largest FDI recipient and largest ODA recipient (Table 24).

Table 24. Strong Vietnam-Korea Economic Relations

	Korea's Importance to Vietnam	Vietnam's Importance to Korea
Vietnam-Korea Trade	Korea is Vietnam's #3 trading partner	Vietnam is Korea's #4 trading partner
Korea's FDI in Vietnam	Korea is Vietnam's #1 FDI investor	Vietnam is Korea's #3 FDI recipient
Korea's ODA to Vietnam	Korea is #2 ODA donor for Vietnam (after Japan)	Vietnam is Korea's #1 ODA recipient

Source: GSO (2017a), FIA (2017).

Being one of Vietnam's most important economic counterparts, Korea has enormous interests in Vietnam's rising competitiveness. A higher level of national competitiveness would help Vietnam boost its economy, which, in turn, would further expand its economic cooperation with Korea. Vietnam-Korea trade and Korea's FDI in Vietnam could grow further, which would create mutual benefits for both nations.

6-7-3. Proposed Areas for Vietnam's learning from Korea's experience

Suggested areas for Vietnam's learning from Korea's experience are those for which Korea has gained high ranking of competitiveness, while Vietnam's ranking has been low. Infrastructure, macroeconomic environment and innovation would be relevant for this purpose.

Innovation. With regard to innovation (pillar 12 of the GCI), Korea ranks high in the world (18th) while Vietnam ranks low (71st). In fact, Korea, an OECD member, has long been in stage 3 (innovation-driven) while Vietnam only moved from

stage 1 (factor-driven) to transition from stage 1 to stage 2 in 2015. Vietnam, therefore, can learn from Korea as an economy at the high level of innovation.

Macroeconomic Stabilization. In relation to macroeconomic environment (pillar 3 of the GCI), Korea ranks 2nd in 2017 (after only Norway) while Vietnam ranks 77th. Korea, indeed, has managed to maintain stable macroeconomic conditions, especially after the Asian financial crisis (1997-1998). Being both cause and victim of that crisis, Korea paid dear costs for, and drew precious lessons from the crisis. Since then, Korea has set up relatively efficient mechanism to monitor the fluctuations of the macroeconomic variables (such as growth rate, inflation rate, unemployment rate, interest rate, exchange rate, trade balance, foreign reserves, etc.), and timely give relevant responses to excessive variations.

Although Vietnam has managed to stabilize its macroeconomic environment in recent years, the stability is far from sustainable, as indicated in the above analysis. Vietnam, therefore, could learn how Korea has been able to monitor and ensure macroeconomic stability, especially on the financial markets.

Infrastructure Development. With regard to infrastructure (pillar 2 of the GCI), Korea ranked 8th while Vietnam ranked 79th in a 2017 survey. In fact, Korea now enjoys a well-developed infrastructure system, while Vietnam's remains underdeveloped. Vietnam, therefore, could learn how Korea, a poor and war-torn country, has been able to rebuild its almost fully destroyed infrastructure into a highly efficient system which significantly contributes to economic development.

7. Conclusion

As assessed by the WEF, Vietnam's national competitiveness has remained low. Globally, Vietnam has been in the middle of economies surveyed. Regionally, Vietnam has been ahead of only ASEAN's less developed countries (Cambodia, Laos and Myanmar). The main reason for Vietnam's low competitiveness, according to the WEF's assessment, is that the majority of pillars of Vietnam's GCI rank low.

To complement the WEF's assessment, the research analyzes main causes of Vietnam's low competitiveness in some depth. From Vietnam's perspective, the primary cause is its factor-based growth model, which has generated growth largely from input factors such as the large labor force, increased capital input thanks to expansionary policies to aid growth and relatively abundant natural resources. The long reliance on the outdated growth model has led to a number of structural problems such as the domination of low value-added sectors and FDI companies in the economy, low value-added exports, low investment efficiency and poor performance of SOEs.

Another cause is the expansionary fiscal policy and easy monetary policy, used by the government to facilitate economic growth, which has led to rising budget deficit, growing public debt, high inflation and other macroeconomic imbalances.

Further, Vietnam's business environment continues to be poor, caused by poorly performing institutions. Hundreds of regulatory documents have been issued by the line ministries in Vietnam's government, which contain thousands of business conditions, causing acute difficulties for business operations.

Moreover, Vietnam's low level of R&D expenditure, both by public and private sectors, has led to a low level of technology. The poor quality of higher education despite fast growth in quantity has led to the shortage of skilled labor for the economy. Last, but not least, is under-developed infrastructure despite high level of investment.

These shortcomings have major implications for Vietnam. As a result of the long-maintained extensive growth model, the country has been among the group of economies with lowest productivity in the region. Also because of the nation's long reliance on this outdated model, Vietnam has experienced diminishing growth, which in turn has led to slow improvement in income per capita. Although Vietnam became a lower-middle income country in 2008, the country's income per

head has risen slowly. The country is said to have been trapped in the middle income range.

Further, since Vietnam's past growth has been aided by expansionary policies, the price has been a worsening macroeconomic environment. Inflation rates remained high, which in turn pushed up interest rates on financial markets, making capital rent unbearably high for firms and consequently reducing their competitiveness.

The poor business environment has resulted in high costs for business. Compared to ASEAN-6 (Singapore, Malaysia, Thailand, Indonesia, Brunei and the Philippines), Vietnam's business costs are far higher. This in turn has resulted in low firm competitiveness as indicated by firms' small labor size, limited capital and falling business efficiency.

As a consequence of Vietnam's low expenditure on R&D, both by the government and business, the technology level of firms has been low. The majority of Vietnam's manufacturing firms use low and medium technology. The implication of the poorly performing higher education system is poor human capital quality.

The use of outdated technology and obsolete equipment, which is energy-consuming and polluting, has resulted in rising pollution and worsening natural environment. Vietnam has been one of the largest and fastest-growing polluting sources in ASEAN.

Based on the analysis of the shortcomings and their consequences, policy measures are proposed to improve Vietnam's competitiveness.

The most vital task is to implement structural reforms to change the growth model from the factor-based to the productivity-based. The reforms should address the major structural problems. The first is to change the economic structure from low value-added sectors to high value-added sectors, by offering relevant schemes to attract domestic and foreign investment into technology-intensive industries, which should be based on enhanced technology capacity and skilled labor of domestic firms. The second is to change the export sector structure from raw materials and assembly-based manufactures to processed products and high value-added manufactures, by building up the mineral-processing, food-processing, and supporting industries.

Since the high value-added economy is based on the productivity-driven growth model, which in turn is powered by technology and skilled labor, improved technology and enhanced higher education is a key to success. As Vietnam's GERD stil

depends on the public sector, the government at least in the short term needs to increase its R&D expenditure to help boost national GERD. But in the long term, the government should create incentive schemes to encourage firms to strengthen their technology capacity by investing more on R&D. The government must also create sound environment for technology transfer from abroad and FDI companies in Vietnam, to domestic firms. Vietnam's firms should raise their capacity in order to absorb new technology and to invent their own technology in the long term.

Another pivotal task is creating a sound business environment. Although in recent years the government has implemented measures to improve institutions, numerous administrative procedures still exist. Vietnam, therefore, needs to make more efforts to simplify administrative procedures, in order to make its business environment more favorable for business operations.

As a stable macroeconomic environment is an important factor in national competitiveness, Vietnam should regard macroeconomic stability as a priority in pursuing economic growth. The government should promote growth by raising the productivity of the economy, rather than excessively relying on expansionary policy.

Although Vietnam's infrastructure system has been upgraded thanks to the past measurable investments, it is still far from meeting the economy's growing demand. In the context of budget constraints and declining ODA funds, Vietnam should create a relevant framework to encourage the participation of the private sector, which so far has been small.

The experience of successful East Asian economies could be useful for Vietnam. In particular, the experience of the Republic of Korea should be extremely helpful for Vietnam, since the two countries share many commonalities and have a sound relationship and strong economic ties. Suggested areas for learning from Korea's experience are those for which Korea has gained high level of competitiveness while Vietnam's ranking has been low. These include innovation, macroeconomic stabilization and infrastructure development.

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국문요약

2006~17년 글로벌경쟁력지수(GCI)를 이용한 세계경제포럼(WEF)의 국가경쟁력 평가 결과, 베트남의 국가경쟁력은 미진한 것으로 나타났다. 베트남은 조사대상 국가 중 경제적 측면에서 중위권 국가에 해당된다. 베트남의 발전 단계를 살펴보면, 2015년 이전에는 베트남이 캄보디아, 라오스, 미얀마와 함께 1단계(factor-driven, 요소 주도형) 수준에 있었으나, 2015년 이후부터 브루나이, 필리핀이 속한 2단계(eficiency-driven, 효율성 주도형) 수준으로 향상되었다. 그럼에도 불구하고 베트남은 2단계에 속한 인도네시아, 태국을 비롯하여 3단계 전환과정에 있는 말레이시아와 3단계(innovation-driven, 혁신 주도형)의 싱가포르보다 낙후되어 있다. 본 연구는 국가적인 측면에서 WEF의 평가 결과를 개선하기 위해 베트남의 국가경쟁력 수준이 낮은 주요 원인을 심층 분석한다. 베트남의 성장을 저해하는 요인으로는 광범위한 장기 경제성장 모델, 팽창정책, 취약한 사업환경 및 기반 시설, 낮은 연구개발 지출, 저조한 고등 교육 투자와 같은 구조적인 문제가 나타났다. 이러한 분석을 바탕으로 베트남의 문제점은 낮은 생산성, GDP 성장률 하락, 경제의 불안정, 중간 소득 함정, 취약한 비즈니스 경쟁력, 낮은 수준의 기술 및 인적 자본, 환경의 저하임을 알 수 있다. 베트남의 국가경쟁력 수준이 낮은 주요 원인과 문제점을 기반으로 국가경쟁력을 제고할 수 있는 방안을 모색한 결과, 경제 개혁과 경제성장 모델의 변화, 기술 및 인적 자본 수준 강화, 비즈니스 환경 개선, 거시경제 안정성 보장, 선진국 벤치마킹을 통한 인프라 개선이 필요하다는 결론이 도출되었다.

핵심용어: 국가경쟁력, 경제성장 모델, 사업환경, 기술 및 인적 자본

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Vietnam's Low National Competitiveness: Causes, Implications and Suggestions for Improvement

LE Quoc Phuong

The World Economic Forum's (WEF) annual assessment using the Global Competitiveness Index (GCI) since 2006 shows that Vietnam's national competitiveness has been relatively low. Globally, Vietnam has been in the middle of economies surveyed. Regionally, Vietnam has been in the middle of ASEAN countries. Regarding level of development, before 2015 Vietnam was in stage 1 (factor-driven), which includes ASEAN's less developed countries (Cambodia, Laos and Myanmar). Since 2015 Vietnam has shifted to a transition toward stage 2 (efficiency-driven), which includes Brunei and the Philippines. The country has lagged behind Indonesia and Thailand (in stage 2), Malaysia (in transition to stage 3) and Singapore (in stage 3, innovation-driven).

To complement the WEF's assessment, this study provides some in-depth analyses of main causes of Vietnam's low competitiveness. These are structural problems due to its factor-based growth model, expansionary policies to aid growth, slowly improved business environment, low R&D expenditure, low-quality higher education and under-developed infrastructure. The research also examines implications of these shortcomings for Vietnam. These are low productivity, diminishing GDP growth, middle income trap, macroeconomic instability, low business competitiveness, low technology level, low human capital quality and environmental degradation. Based on the analyses, policy measures are proposed to improve Vietnam's competitiveness. Major suggestions include structural reforms to change the growth model from factor-based to productivity-based, raising technology level, enhancing human capital quality, improving business environment, ensuring macroeconomic stability, upgrading infrastructure and learning from advanced economies such as Korea.

