Vietnamese Economic Structural Change and Policy Implications

By Bui Trinh, Kiyoshi Kobayashi, Pham Le Hoa & Nguyen Viet Phong

Kyoto University

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Strictly as per the compliance and regulations of:

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I. Introduction

Normally, when analyzing the short-term and long-term economic growth, Keynesian's and Solow's theory are brought forward as a testament to the analysis and forecast of any economy. Keynes's theory explains and analyzes the economy in a short time without being interested in a far future; besides the Keynesian multipliers (Keynes-Leontief) sometimes contain risks, while doing the research of inter-region for instance, there are some cases (regions) of the State investment expenditure does not increase total demand adequately, when Keynesian multiplier is less than one which means an increase in one unit of investment will not get one unit in return from the supply side.

When analyzing long - term economic growth, most countries around the world follow the Solow growth model which was developed based on production functions. According to this method, the fundamental contribution for economic growth consists of the contribution of labor, capital and operating surplus. This surplus is considered as a total factor productivity (TFP). it is not only including changes in the technological process but also other factors such as management methods, results of policies and errors occurred by input data. If input data which is un adequately provided will results in un interpretation. A research conducted by Professor James Riedel pointed out that in some cases, the Solow model can not figure out a whole picture of the growth origin, it is because of the different understanding about a change of each dependent factor of labor, capital and TFP. It is easy to see that the role of technological change is difficult to separate with the role of investment. He also pointed out

this is not true with the case of China. Bui Trinh and Nguyen Quang Thai also calculated Total Factor Productivity for three ownership sectors are the State, non-state, foreign invested sector, of which the contribution of TFP on the growth of state-owned sector is the largesse seems to be absurd and it is made sure that the research team does not fully believe it.

Through many researches and statistics showed that Vietnam's economic growth in recent years mainly depends on the contribution of capital factor. So a question to be raised is where sources taken from to invest. For many countries, the primary source for investment comes from savings. Each family or nation should know how much money they can save and how to use that sum. Under System of National Accounts (SNA), saving is the surplus of National Disposable Income (NDI) after being used for final consumption.

Thus, it is clearly seen that the main resource for investment comes from saving. If a country which has experienced a low ratio between saving and investment for many years, it is necessary for them to review their macro-economic policy and economic structure. This seems a paradox for the Keynes 's short-term growth theory.

II. Methodology

Based on the Vietnam input-output tables, 2003 (updated) and 2007, in order to compare factors of supply size, demand size and intermediate input ratio of 2 stages, we have assumed the input-output table of 2003 presenting for 2000-2005 stage and the input-output table of 2007 presenting for 2006-2010. The ICOR, TFP and saving of two stages was also compared.

More over, the Leontief system was used for comparing economic structure change of two stages. The basic equations include:

$$\partial X = ((I-A^d)^{-1}.\partial Y^d$$

$$F = \Sigma (I-A^d)^{-1}.Y^d \div (\Sigma Y^d) = (\Sigma X) \div (\Sigma Y^d)$$

$$\partial M = m. (I-A^d)^{-1}.\partial Y^d$$

where: X is gross output vector, A^d is coefficient matrix of domestic intermediate consumption, Y^d is matrix of domestic final demand, F is an output requirement induced by domestic final demand (Y^d), M is import; ($\div$) presents division each element of the two matrix (vector) respectively.

Author α : Centre for sustainable development policy studies of Vietnam. E-mail : buitrinhcan@gmail.com.

Author σ : Kyoto University.
E-mail : kobayashi.kiyoshi.6n@kyoto-u.ac.jp

Author ρ : Vietnam Private consultant.
E-mail : hoatrinhbui@gmail.com

Author ω : Vietnam General Statistics Office.
E-mail : phonggsovn@yahoo.com

III. Analysis of Vietnam Economic Situation

a) Identifying Viet Nam's economic situation

In recent years, most of government policy experts and advisors have focused on the currency issue in order to prevent the increase in price, without considering other factors. Even the resolution of inflation is just the emergence of the problem. The main reason of the inflation is due to the inefficiency of production and investment and sharp decrease in TFP. The ICOR coefficient is continuously increasing, from 5 during 2000-2005 to 7 for the period 2006-2010. While the contribution of TFP to GDP was 22% during 2000-2005 reduced to 10% for the period 2006-2010 (some other calculations showed that the contribution of total factor productivity growth is only about 1%). Besides, if calculating the ratio between value added and gross output from the period 2000 till now, this ratio is getting smaller. In the year of 2000, producing 10 units of gross output would create more than 4 units of value added while in the current period, producing 19 units of gross output would only generate less than 3 units of value added. Therefore, an amount of money is used to invest but a little quantity of goods is made in return, which will break the cash-goods relation contributing to the increase in cost of domestically produced goods. Also, accumulation of internal economy through indicators to spend (saving) falling. The accumulation in the internal economy accounts for about 36% of GDP for the period 2000-2005, it is less than 30% for the period 2006-2010 while annual investment increasingly high proportion of GDP, this shows the growing debt that borrowers use the money as an inefficient huge risks in the long term.

Table 1 : Some macro comparison of the period 2000-2005 and 2006-2010.

	2006-2010	2000-2005
	%	%
Total resources (supply)	100	100
Domestic product	73.82	79.25
Import	26.18	20.75
Total demand	100	100
Intermediate demand	45.32	42.99
Final demand	54.68	57.01
Consumption (C + G)	21.28	26.42
Investment/Saving	12.25	10.75
Export	21.15	19.85
Index of Intermediate cost /Gross output	62	54
Index of value added/ Gross output	38	46
ICOR	7,43	4,89
The contribution of total factor productivity (TFP) on growth	2,3	23
Saving / GDP ratio	28	36
GDP growth	6,5	7,5
Investment / GDP ratio	41	38,5

To reinforce the argument above, the research team calculated the output requirement for one unit increase in final demand (including final consumption (C, G), cumulative gross capital formation and export).

b) Output requirements for final demand

Table 2 implies the output requirement for one increased unit in each factor of the final use. The results has shown that the output requirement increased one unit of final use for the period of 2006-2010 is much higher than the period of 2000-2005. For instance, in the last period, when increasing one unit of final use, the output requirement would be 1.49 while in the current period, it increases by 1.8 times (increase by 22%). Hence, the average output requirement for one increased unit in final demand in the current period would be higher than the previous period of approximately 14%. These results can be reviewed:

+ If the domestic production is effective and sustainable, the change of demand would experience a power of dispersion in production locally for the period of 2006-2010, and it has even become a turning point for the economic growth

+ If the domestic production is weak and ineffective, the increasing of final demand would lead to the increase in price. Thus, the stimulating in 2009 was a mistake ?

Table 2 : The effect of final demand elements on production.

	2006-2010	2000-2005
C	1.80	1.49
G	1.44	1.13
I	1.69	1.61
E	1.53	1.46
Average	1.615	1.4225

c) The effect of production's elements over import

Table 3 shows the index and power of dispersion on import of 16 industries. Only two industry groups that have economic spread index and power of dispersion on import greater than 1, are agriculture sector and processing agriculture product sector. Most of the manufacturing sectors have enjoyed the high power of dispersion on import. The service sector has both low power of dispersion on import and low spread index. A research by the Economics University under Hanoi National University demonstrates that if increased production efficiency and restructuring export of 20% from the industrial sector to the service sector, the economic spread index would be higher than the average rate (> 1) and service sector would be able to make up 50% of GDP. This raises a reasonable question to if the economic structure with the following priority order of industry, service and agriculture is an appropriate structure ?

Table 3 : Output multiplier and power of dispersion on import.

	Output multiplier	Power of dispersion on import
Agriculture	1.0293	0.9643
Fishery	1.3505	1.0276
Forestry	0.8934	0.9959
Mining & quarrying	0.7774	1.0039
Food, beverage and tobacco manufactures	1.4492	0.9564
Other consumer goods	1.2093	1.3754
Industrial material	1.2644	1.3595
Capital goods	1.2475	1.3279
Electricity, gas and water	0.7220	0.9011
Construction	1.1949	1.2884
Wholesale and retail trade	0.7303	0.9406
Transport services	1.0476	1.1619
Post and telecommunication	0.7748	0.9090
Finance, insurance, real estate, business services	0.7577	0.8853
Other private services	0.8133	0.9959
Government services	0.7384	0.9169

Calculation of the research team (Nguyen Quang Thai, Bui Trinh) green: Good; red: Not good.

The figure 1 shows that in the period of 1989 to 2007, the "import multiplier" increased from 1.26 to 1.34. It means that the increase of one unit of domestic demand led to 1.26 unit of import and this went up to 1.34 unit of import for the same increase unit of domestic demand.

Figure 1 : Average import spread index per one unit of final demand, 1989-2007.
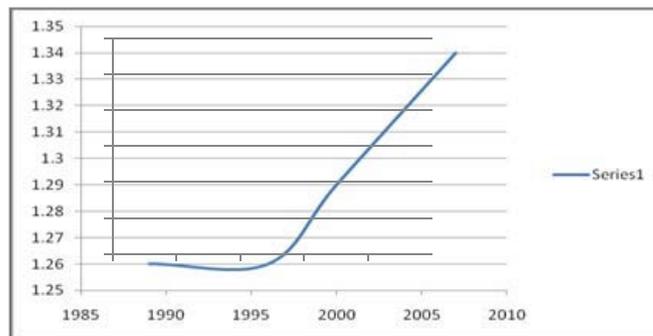
The power of dispersion on import of one sector is the average of its import multiplier. The sector that has the power of dispersion on import is less than one will suffer a power of dispersion lower than the average of the whole economy and vice versa.

The result shows in Table 2 indicates that the power of dispersion on import of almost manufacturing,

processing and construction industries have increased by time. Especially, consumer goods production, material manufacturing industry and machinery manufacturing industry are currently enjoying the increasing power of dispersion on import.

Table 4 : Power of dispersion on import by sectors for one unit of final domestic demand from 1989-2007.

	1989	1996	2000	2007
Agriculture	0.8750	0.9066	0.9035	0.9643
Fishery	1.0141	0.9106	1.0086	1.0276
Forestry	0.8877	0.8687	0.8774	0.9959
Mining & quarrying	1.0110	0.9493	0.8703	1.0039
Food, beverage and tobacco manufactures	0.9264	0.8829	0.9035	0.9564
Other consumer goods	1.0521	1.0513	1.1627	1.3754
Industrial material	1.1066	1.0718	1.2086	1.3595
Capital goods	1.1762	1.3769	1.3556	1.3279
Electricity, gas and water	1.0726	1.0948	0.9596	0.9011
Construction	1.1382	1.1319	1.2584	1.2884
Wholesale and retail trade	0.8394	0.8900	1.0315	0.9406
Transport services	1.1359	1.0940	1.0465	1.1619
Post and telecommunication	0.9833	0.9659	0.9454	0.9090
Finance, insurance, real estate and business services	0.9833	0.8987	0.9327	0.8853
Other private services	0.9232	0.8995	0.9430	0.9959
Government services	0.8750	0.8979	0.9541	0.9169

The results in Figure 2 show the remarkable change in structure of the import demand amongst proportions of domestic products demand. Currently, the accumulation of locally produced products consumption has the highest stimulation over import, but not the consumption of domestic products. If domestic products accumulation increases by one unit, the import will reach 1.69 units. It means that the ineffective investment will require the greater import. The result from a series of research using ICOR (Incremental Capital Output Ratio) ratio proved that the effectiveness of investment is very low at present. Hence, the low effectiveness of investment is one of the reasons that induce high trade deficit.

Besides, increasing one unit of export product results in increasing 1.5 units of import which is higher than the previous period (17%). Meanwhile, the expenditure for the final consumption of domestic

products dispersing on import falls off by 1.26 against 1.4 in the last ten years. This above analysis has proven the considerable increase of power of dispersion on import of export and domestic products accumulation. All of these analyses have made people to more carefully consider the saying "Devaluation of Vietnam dong in order to stimulate export and restraint import". In some cases, this solution will benefit other countries, because export of some sectors are actually made in favor of other countries.

Figure 2 : Power of dispersion on import induced by domestic demand factors.
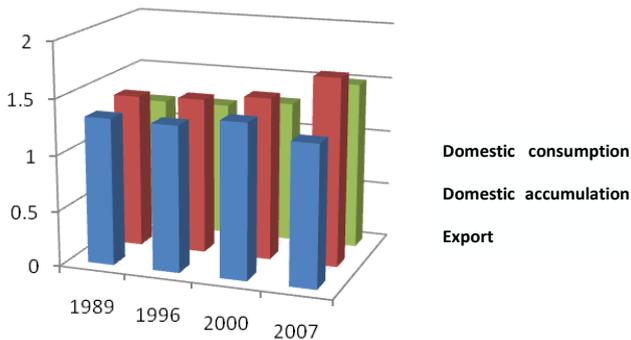

Figure 3 presents the export of manufacturing & processing industry stimulated the import quite strongly, of which export of material manufacturing industry products, of consumer goods producing and machinery manufacturing industry products enjoyed the highest power of dispersion on import. So was the export of transport services.

Figure 3 : Power of dispersion on import induced by export.
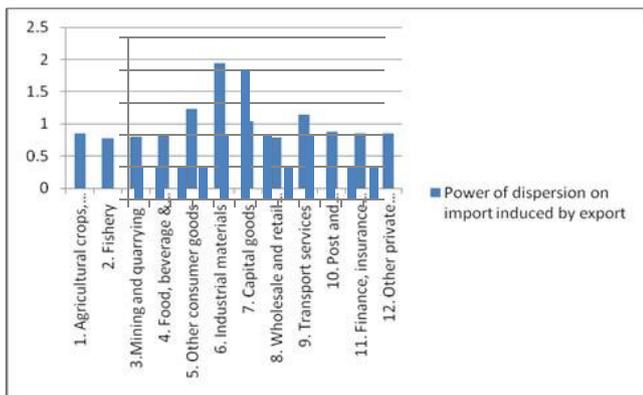
d) Policy implications

Throughout the year of 2011, Vietnamese Government and its bodies conducted the monetary tightening policy aimed at preventing inflation, without caring the fate of enterprises (fundamental component of the economy). Some of enterprises were "dead" and some were "waiting for death". In the first quarter of 2012, the "waiting for death" enterprises in 2011 are totally "dead" and other enterprises has been added to the new list of "waiting for death " in 2012. The "dead" and "waiting for death" enterprises are usually non-state enterprises whose value-added contribution to GDP is about 48%. While state owned and foreign direct investment enterprises have performed with a very low investment efficiency. The ICOR of non-state enterprises (2006 - 2011) was about 4, while the ICOR state owned enterprises was 9.7 and it was even over 10 for FDI enterprises. What is going to happen if non-state

enterprises become bankrupt, insolvent or cannot wait for extension of production? Production stagnation would lead to the decrease of total value added of the economy. If the income from production reduces, the purchasing power would also declined, followed by a crisis of demand which is getting serious and hardly to stop..

Through some of the surveys, it is seen that the difficulties small and medium enterprises have undergone are not only the high interest rates but also the following reasons :

– *Access to capital :* It is found difficult. If there is any chance to access, they have to suffer a higher interest rate which prevents them for expending their production. This has definitely affected the economy growth.

– *Transportation :* Enterprises have experienced the difficulties in poor condition of the infrastructure and lots of fees during goods circulation. This has led to the increase in cost born by buyers and so is consumer price index. However, the profitability earned by enterprises has not increased (or in other word, the value added of the enterprises does not increase, and inefficient in production).

– *Administrative procedures :* are found slow and wordy. It prevents enterprises from expanding their production especially opportunities for export. This is one of the reasons that make the production efficiency reduced and intermediate costs of most enterprises increased. This has led to the increase in product price contributing to the higher consumer price index (CPI).

– *"Extra contribution":* it is provided for government offices when holidays or anniversaries come. This kind of contribution has annoyed businesses. It motivates their production process or push up the product price.

The rate of tax on GDP in Vietnam is considered the highest in the world (25-27%) that is not including other fees and implicit "inflation tax". This is to understand how much Vietnamese enterprises are under pressure.

Recently the central bank has made an effort to cut down the interest rate to 1% . This is an appropriate solution because the inflation tends to decrease and liquidity is no longer as intense as the last months of 2011. However, there is a doubt if this is enough to boost the production. Over a long period of tightening credit increased interest rate leading to stagnating production and bankruptcy of many businesses. All of these plus the "inflation tax" have resulted in reduction of employers' income followed by the decrease of purchasing power (final consumer demand). Being badly affected by the credit tightening policy and high interest rate for a long period of time, throughout of 2011 till the first quarter of 2012, in associated with the

decrease of purchasing power, many enterprises have found themselves demotivates to extend their production. Consequently, enterprises in "good health" do not find the need to borrow money for their production extension and others in "poor health" find hard to get access to the loan. Exclaimed by a business owner "if the bank goes bankrupt, it will be saved by the government. If an enterprise goes bankrupt, who will save them then?" .

Thus, there is a question to be considered if Vietnamese economy can rely on export? This depends on the economic growth and purchasing power of other countries in the world. the world's economic situation is not bright enough and it is forecasted that the export situation in 2012 will not be as great as 2011. Knowing this, enterprises do not dare to make loan from the bank to expand their production. For outsourcing firms, they do not need loans because they produce by orders. It is advised that these firms are not encouraged to operate because their products will be dispersion on import..

To this effect, all three elements of total domestic final demand (consumption, investment and export) to form GDP have been proved to decline leading to stagnation of production. A big amount of money in the bank has been stagnated too. Inflation threatens to come back because the money -goods relationship has been broken again.

IV. Recommendations

The bank should have the controlled loan policy for consumers

- The government should loosen the loan for real estate by choice.
- The government and local authorities should simplify administrative procedures and reduce some hidden fees.

V. Acknowledgements

References Références Referencias

1. Bui Trinh,(2001), "Input-Output Model and its applications in economic and environmental analyzing and forecasting", HoChiMinh City Publisher
2. Bui Trinh, Kiyoshi Kobayashi, Vu Trung Dien, (2011) "Economic integration and trade deficit : A Case of Vietnam" Journal of Economic and International finance, Vol 3(13), pp 669-675, 7, November, 2011
3. Department of Economic and Social Affairs, Statistics Division (1999)" Handbook of input-output table compilation and analysis", series F, Number 4, New York: United Nations, 1999
4. James Riedel,(2010) "Long-term growth and short-term" Economic Research Journal No. 5-2010
5. Nguyen Quang Thai and Bui Trinh (2010) "Analysis of the components contributing to economic growth" Journal of Economic Research, No. 5.6
6. Nguyen Quang Thai and Bui Trinh "Vietnam Public Debt in the safe limitation ? " VNR500
7. Pham Le Hoa, (2010) "If the firgure can speak?" Saigon Economic Times, June/02/20100
8. Pham Do Chi, "Forecasts of CPI" (unpublished yet)
9. Wassily Leontief (1986)"Input – Output Economics" New York Oxford University Press, 1986
10. UN, SNA, 1968
11. UN, SNA 1993