

Policy Options In Vietnam's Current Context

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Abstract:

Recently, there have been ideas of experts and specialised agencies that Vietnam's aggregate demand management policy should be further promoted, and that there should be measures to increase the aggregate demand. In reality, the level of impacts of demand in short term depends on the supplying capacity of the economy. If the capacity is low, the aggregate demand stimulation may lead to the increase in commodity prices and trade deficit, and the actual output may not change much. Conversely, if Vietnam's potential growth rate is improved, it will be possible that the final aggregate demand stimulation will actually augment the output, as mentioned in Keynes' theory. This research quantified the influence of domestic final demand side factors on output, import, value added based on 2 Vietnam's input output tables (I/O table). A specific calculation of impacts of factors of demand on output, outcome, and import carried out for a clearer picture of pervasiveness of final aggregate demand toward production can be considered an important base for our policy recommendation.

Keywords: Policy; economic, Input – output table; Final demand; Income; Impact.

I. Introduction

Recently, there have been ideas of experts and specialised agencies that aggregate demand management policy should be further promoted, and that there should be measures to increase the aggregate demand. Particularly, the National Financial Supervisory Commission (NFSC) persistently states that business sector is facing difficulties due to low aggregate demand for investment and consumption. Hence, the aggregate demand of the economy must be stimulated. In terms of consumption, although the gross retail level and sales of consumption service have increased higher than that in the same period of 2013, the improvement level still remains quite low. In the meantime, the increase in commodity transportation volume in the first 7 months of 2014 (4.8%) is lower than that of 2013 (13.7%). As evaluated by the NFSC, the low aggregate demand causes difficulties in commodity consumption. Hence, the average turnover of listed enterprises in Quarter II/2014 decreased by 22.6% year-on-year. Besides, the increasing in input cost hinders the business sector to lower the selling prices to address the issue of consumption.

When it comes to investment, as estimated by the NFSC, in June 2014, private investment takes up 10.3% GDP year-on-year. Meanwhile, FDI in the first 7 months of only increase by 2.3%, compared with that of the same period last year (6.4%).

As forecasted by the NFSC, if there were no effective aggregate demand stimulation measures, the growth rate in 2014 could only remain at 5.6-5.7%. Hence, long-term growth depends on aggregate supply, along with the improvement of labour productivity and quality of the economy. However, while increasing aggregate supply takes a considerable amount of time to lay influences, the demand must be properly maintained.

II. Methodology

2.1 Supply-side policy and Aggregate demand management policy

Supply-side policy can be developed through micro-reforms and can be considered micro foundations of macroeconomic enhancing the potential growth of the economy.

In short term, there will be difference between actual growth and potential growth due to the impacts of economic cycles; and aggregate demand management policy, therefore, will help the economy best absorb economic shocks and make significant changes in aggregate demand through policy instruments laying influences on components of aggregate demand³. Three principles of implementing aggregate demand stimulation policy agreed by economists include timeliness, right target, and short-term utilisation.

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³ In the models of overall balance and System of National Accounts, the aggregate demand is understood to consist of intermediate demand and final demand. Final demand includes household expenses, and regular expenses of the Government, gross capital formation and balance of export and import of goods and services; GDP is the final aggregate demand. The definition is similar to Keynes'. He stated that the impact(s) of demand will stimulate the supply. The relation has been quantified by Leontief.

In reality, beside supply-side policies laying impacts primarily on aggregate supply (policies related to industry, science and technology, etc.) and those only influencing aggregate demand (increasing Government expenses, salary raising, etc.) there are other policies affecting both aggregate demand and aggregate supply such as taxation policy, public investment policy, etc. The distinguishment of the influences of policy can be a difficult task yet one of the most important ones in terms of policy developing since it requires calculation of the trade-off between costs and effects⁴.

2.2 Impact analysis of final demand

An important feature of I-O analysis is that it provides the link between final demand and production, income and import. Input-Output table of Leontief was developed basing on Keynes' theory. An expansion of Keynesian in input-output table of Leontief developed base on each factor's impact of demand⁵.

The Leontief system was estimated as the equation below:

$$X - AX = C + I + E - M \quad (1)$$

Where X, C, I, E, M are the vectors of gross output, household consumption, gross capital formation, export and import respectively.

The equation (8.1) can be written as follows:

$$X - AX = C + I + E - M^p - M^c \quad (2)$$

Where M^p is the import for intermediate input, M^c is the import of final products, $M = M^p + M^c$.

Expand the equation (8.2):

$$X - A^d X - A^m X = C^d + I^d + E + C^m + I^m - M \quad (3)$$

Where $AX = A^d X - A^m X$

$A^m X = M^p$ and $M^c = C^m + I^m$. A^d is matrix of intermediate consumption of domestic products, while C^m, I^m are the final consumption and gross capital formation vectors of domestic products, respectively.

Putting $Y^d = C^d + I^d + E$ where Y^d denotes final demand of domestic products vector, now we can rewrite the equation (8.3) as follows:

$$X = (I - A^d)^{-1} \cdot Y^d = (I + A + A^2 + A^3 + \dots) Y^d \quad (4)$$

Where $(I - A^d)^{-1}$ is the Leontief matrix multiplier that shows domestic product requirements for a unit increase in domestic final demand. Given a change of final demand, I-O analysis makes it possible to determine the output requirements needed to meet that final demand through the equation:

$$X = (I - A^d)^{-1} Y^d \quad (5)$$

Where: X is the vector of output, A^d is coefficient matrix of domestic input, $(I - A^d)^{-1}$ is the inverse matrix and Y^d is the matrix of domestic final demand.

Final demand for goods and services has repercussive or multiplier effects on the economy. In the first round, an increase in demand for a product of a particular sector will require additional output requirement for that sector. Subsequently, the first-order increases in output would require further inputs to generate them. The increased demand therefore translates to an increase in output, which in turn result to increases in income of the sectors involved and so on.

The linkage between final demand and production income and this relation presented as follow:

⁴ According to Nguyen Thang, "Bonds, policy room, and effects of macroeconomic policies in Viet Nam".

⁵ Bui Trinh, Pham Le Hoa, Bui Chau Giang (2009) Import multiplier in input-output analysis Journal of Science Vietnam National University, Hanoi, Volume 25, No. 5E

$$V = v.(I-A^d)^{-1}.Y^d \quad (6)$$

Where: V is matrix of value added, v is coefficient matrix of value added.

On the other hand, the equation (3) can be formulated as follows:

$$X - A^m.X = A^d.X + C^d + I^d + E + C^m + I^m - M = TDD - M^p$$

Where total domestic demand including intermediate expenditure, final consumptions, investment and export (TDD)

$TDD = A^d.X + C^d + I^d + E$, we obtain:

$$X = (I - A^m)^{-1}.(TDD - M^p) \quad (7)$$

$$\text{or: } X = (I - A^m)^{-1}.(TDD + C^m + I^m + E - M^p) \quad (8)$$

Matrix $(I - A^m)^{-1}$ is the import multiplier matrix. Equations (7) and (8) present the demand of import multiplier by domestic demand. The input-output table should be built as non-competitive import type in which intermediate demand and final demand have been separated into domestic products and import. Then the existing input-output table for Vietnam should be mathematically changed to non-competitive import type. A^m and A^d are calculated as follows:

$$A^m X = \Phi.A.X \text{ and } A^d X = (I - \Phi).A.X \quad (9)$$

where $m_i = M_i / TDD_i$,

M_i is imported good i and

TDD_i is the total domestic demand of good i excluding export and

$m_i \leq 1$ Φ is the diagonal matrix of import coefficient m_i

M^c can be defined as $M^c = (I - A^m)^{-1}.C^d$ and M^c is the import multiplier matrix that is induced by domestic final consumption.

$M^e = (I - A^m)^{-1}.E$. Where M^e is the import multiplier matrix induced by export.

Meanwhile $M^I = (I - A^m)^{-1}.I^d$, And M^I is the import multiplier matrix induced by the accumulation from domestic products.

III. Empirical Study: Should or should not the aggregate demand be stimulated in Viet Nam's current context?

The Keynes – Leontief relation suggests that the increase in demand factors will stimulate the production, which then spread to income. Among the demand side factors including the intermediate demand and final demand are domestic products and imported products. On the other hand, the suggestion by OECD regarding this issue provided a quantitative method of value added by exports (Trade in value added: Concepts, methodologies and challenges, 2012). Robert Kopman et al (2008) studied China in a working paper “How much of Chinese export is really made in China? Assessing Domestic value added when processing trade is pervasive”. They analyze this case by quantifying the value added of crudely exported products and processed exported products. This research is research continua of paper on “Economic Structure's Change Based on the Relationship between Domestic Final Demand and Production, Value Added and Import” was published at British Journal of Economics, Management & Trade, 2014

This research quantified the influence of domestic final demand side factors on output, import, value added based on 2 Vietnam's I/O tables. This study was based on Vietnam I/O tables at 2000 and 2010 to analyze the change in the structure of the induced impacts for 2 periods. The 2000 I/O table represented for the 2000-2005 period and the 2010 I/O table represented for the 2006-2010 period that used 2010 as the base year. Normally, the year which compiling the input - output table should be basic year, But Vietnam General Statistics Office always chose basic year arbitrary which does not based on any principles. Vietnam GSO used the year of 1994 and 2010 as basic year but only for GDP, they didn't make for output. But they have production price index (PPI) for every year. That can explain why this research has to move the input - output table, the year of 2010's price the year of 2000.

In reality, the level of impacts of demand in short term depends on the supplying capacity of the economy. If the capacity is low, the aggregate demand stimulation may lead to the increase in commodity prices and trade deficit, and the actual output may not change much. Conversely, if the potential growth rate is improved, it will be possible that the final aggregate demand stimulation will actually augment the output, as mentioned in Keynes' theory.

When analysing and proposing demand stimulation policy, it should be understood that Keynes-Leontief quantifies not only impacts from final demand on output but also influences from supply on income (gross value added) of the economy. A specific calculation of impacts of factors of demand on output, outcome, and import carried out for a clearer picture of pervasiveness of final aggregate demand toward production can be considered an important base for the above-mentioned policy recommendation. The following sections are the policy recommendation of demand stimulation for the total impacts of factors of demand:

3.1. Household consumption – C- lays a strong pervasive impact on the decrease in production (-14.1%). When it comes to household consumption, including domestic and imported goods consumption, imported goods consumption, instead of helping to increase GDP, cause the decline in GDP; domestic consumption only stimulates the import of raw materials from abroad since Viet Nam's economy focuses primarily on material processing with no auxiliary industry. Indeed, statistics show that materials for production took up 60% of import, while machinery and consumption comprise 30% and 10% respectively.

Calculation from the overall balance model shows that the pervasive impacts of demand for consumption on current income level decreased by 20.4 points year-on-year. Therefore, it can be seen that it is necessary to specifically identify commodity group(s) for demand stimulation. According to the research team, agricultural products and industrial products used for agricultural product processing.

Table 1. Pervasiveness coefficients of impacts of factors of final demand on production and income in 2000 and 2010

	Year 2000			Year 2010		
	Final demand for consumption	Total investment	Export	Final demand for consumption	Total investment	Export
Pervasiveness from final demand to production value	1.27	1.35	1.53	1.09	1.12	1.70
Percentage of changes				-14.1%	-17.1%	11.7%
Pervasiveness from final demand to income	0.60	0.43	0.69	0.48	0.41	0.59
Percentage of changes				-20.4%	-5.6%	-13.3%
Pervasiveness from domestic demand to import	0.22	0.39	0.31	0.19	0.37	0.48
Percentage of changes				-12.1%	-3.9%	52.0%

Source: Authors' calculation based on Viet Nam's I/O tables

3.2. Demand for investment: As calculated by the research team, the level of pervasiveness of investment has dramatically decreased (-17.1%) while the decreased pervasiveness of investment to the added value is only about -5.6%. This shows that the capital spent did not reach production. Statistics also show that in Viet Nam, there are two significantly-different indicators reflecting the issues of investment and gross accumulated asset (Table 1). In the aspects of investment capital and gross accumulated asset, it can be seen that the investment demand, compared with GDP, has declined by 9% in the period of 2010-2012. It should be noted that savings, compared with GDP, has become equal or even

higher than gross accumulated asset compared with GDP while the amount of debt still remains high⁶. As explained by the State Bank of Viet Nam (SBV), by July 31st, credit growth only reached 3.7%, lower than that of the same period in 2013 (4.7%). Therefore, it can be seen that though the level of savings of the economy remains high, it only stays in banking system and failed to reach production.

When analysing investment demand through investment effectiveness and its pervasiveness to production and income, FDI gained lowest income among 3 sectors. Also, of all the factors of final demand, FDI is the factor laying the lowest pervasive impacts on income⁷. This shows that FDI is one of the reasons causing the low effectiveness of investment during the recent time. Besides, it can be seen that investment of the State sector, if separately assessed, dramatically decreased in terms of its pervasiveness to production and income⁸. The situation has raised the question of “where has the investment of State sector gone?” since it failed to support production and generate added value.

It can be seen clearly from the calculation that the period of 2006-2011 has manifested the shortcoming that the pervasiveness of private investment and FDI to production increased yet their pervasiveness to income show some differences (private sector increased while FDI fell sharply), along with the loss and inefficiency of State investment. It is despite of the fact that, foreign direct investment and the investment of the State sector still get more preferential than the investment of the private sector. It can show that in recent time, the orientated priorities of Vietnam investment is not in the right direction. Attracting foreign investment has not been selectively, thus, the added value that this sector brings considering both investment and exports are not significant (Table 2).

Table 2. Impacts of factors of final aggregate demand on production and income. ($I = I_s + I_p + FDI$)

	2000					2011				
	C	I_s	I_p	FDI	E	C	I_s	I_p	FDI	E
Production value	1.49	1.68	1.63	1.70	1.58	1.62	1.54	1.92	1.83	1.76
Added value	0.71	0.62	0.65	0.61	0.67	0.72	0.57	0.76	0.55	0.63

Source: Phuong Thao's calculation.

Therefore, according to the above calculation, it is only the private sector that should be stimulated if the demand stimulation policy keeps being implemented. However, in this case, it is a must to consider the constraints and costs, while the profitability of the private sector is declining down to just over 1% (as table 2) yet deposit rate is 6-7% and the interest payable on bank is 10% approximately. In term of economy, those enterprises have no incentive to invest to expand production. Furthermore, the unequal treatment in compare to FDI and State sector, together with obstacles in administrative procedures as well as informal costs that those private enterprises have to face are also barriers.

⁶ In general, the overall economy has to borrow 2.2 pences for every penny saved as investment capital while the rate is 3.3 in State sector.

⁷ Statistics calculated from Viet Nam's I/O tables

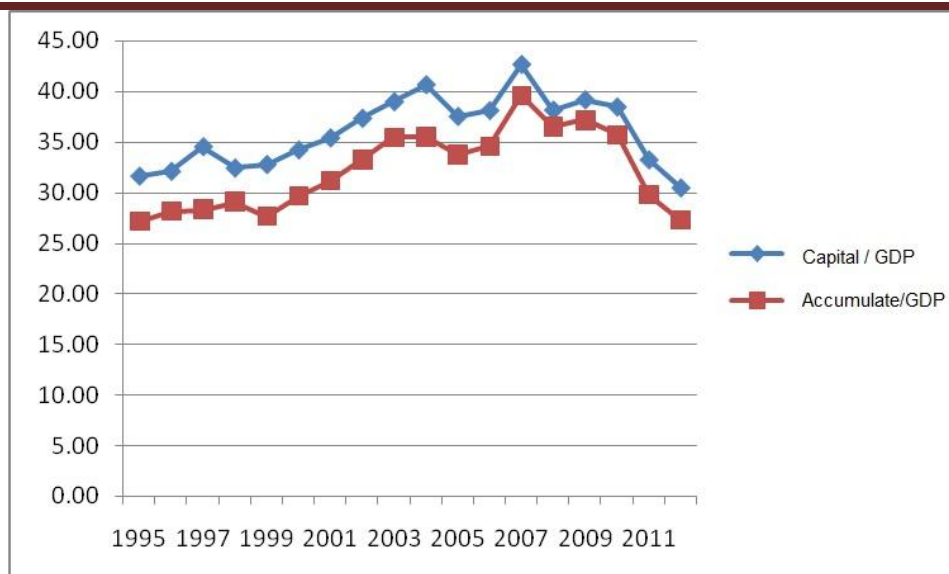
⁸ Statistics calculated through Viet Nam's I/O tables

Table 3. Profit margins compared with capital and revenue.

	Profit margin/capital (%)	Profit margin/revenue (%)
State-owned enterprises		
2011	3,0	5,2
2010	2,9	5,3
2009	3,8	7,9
2008	2,9	5,1
2007	3,6	6,8
2006	0,4	0,6
Non-state enterprises		
2011	1,1	1,5
2010	1,9	2,7
2009	1,8	2,3
2008	1,3	1,2
2007	2,6	2,8
2006	2,0	1,7
FDI enterprises		
2011	4,4	5,1
2010	6,6	8,8
2009	9,1	11,0
2008	9,7	10,6
2007	11,7	13,1
2006	13,1	14,2

Source: Calculated from statistics of GSO.

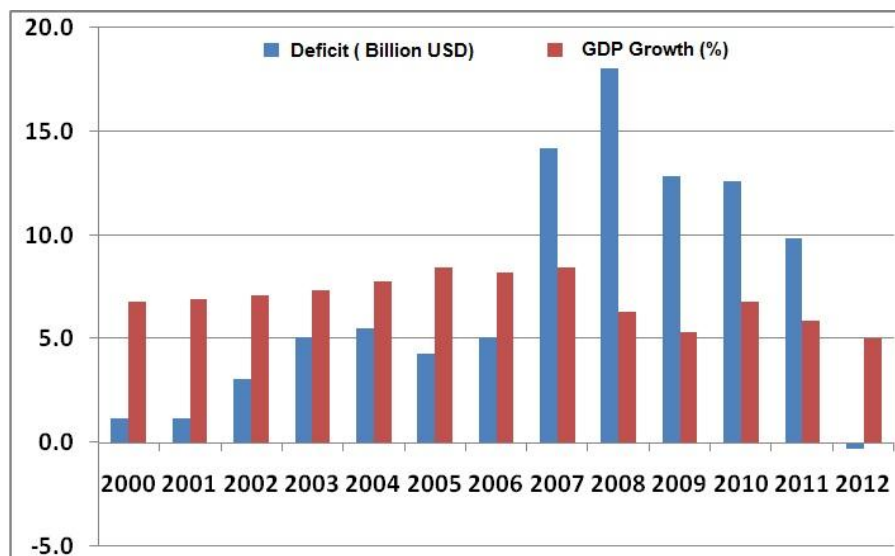
Figure 1. The proportion of capital and accumulated gross assets to GDP



Source: GSO and authors' calculation.

3.3. Export: Although the production has been increased almost 12%, the pervasiveness to added value went down (-13.3%) and especially, the pervasiveness to import showed a strong increase (52%). It implied that export at the moment is basically exporting raw products, resources and processed products, which also caused a strong deficit. 2008 was the peak year, when total merchandise trade deficit is over \$ 18 billion. As a growing economy like Vietnam, the trade deficit problem is not necessarily bad, if the imported goods are to serve the needs of production and domestic consumption. However, the fact shows that the goods imported mainly cater to FDI, an area where most of machinery, equipment, raw materials, etc. for production mainly to import, and then served for export. The export items such as electronics; computers and accessories; phones and components; textiles; footwear, etc. are assembly heavily processed, with low value-added content, and low the economic efficiency. It can be seen in the research of deficit and GDP growth situation over the period 2000-2012 in the image below. No matter that the trade deficit has remained high or low, GDP still grew quite well during this period. In 2012, when the trade surplus was 284 million, the GDP growth still achieved 5.03%, even it was the lowest over the past 12 years.

Figure 2. Deficit and GDP growth during 2000-2012

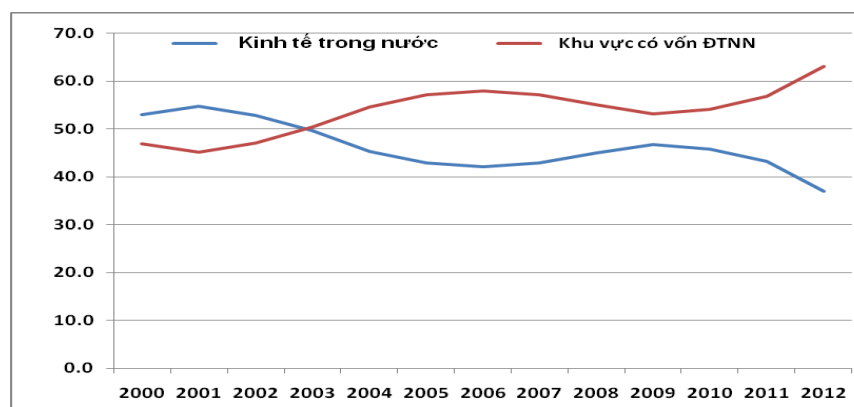


Source: GSO and authors' calculation.

It is needed to note that the trend of import and export of FDI is also increasingly "dominating", and gradually gaining market share of the domestic sector. The structure of goods exports in the domestic sector in 2000 was 52.98%, down to 36.93% in 2012; while FDI increased to 47.02% in 2000 and 63.07% in 2012. The structure of imports also changes significantly, while that domestic economy sector must "give" 24.9% of the market for FDI in the period 2000-2012.

Figure 3. Structure of exports of goods 2000-2012 period

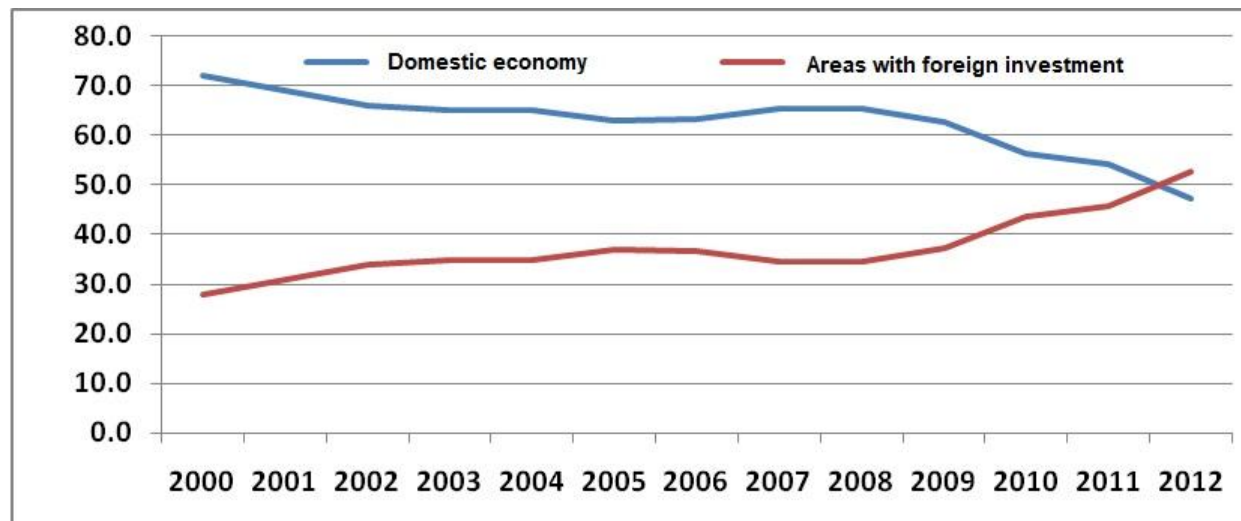
Calculation unit: %



Source: GSO and authors' calculation

Figure 4. Structure of imports of goods from 2000 to 2012 period

Calculation unit: %



Source: GSO and authors' calculation.

It is clearly that the economy has been facing with the problem of "self-ownership restructuring" while increasing its dependence level on imports. As the final result of imports mostly just to cater to exports alone, the production becomes "comprehensively outsourcing".

Recent survey shows that the rate of intermediate costs on production values increasing gradually, from 52% in 2000 to 63% in 2010 (increase over 10%) and continuously increase to 71% approximately due to 2012 survey. This percentage increased basically because the continuously increase in energy and transport costs. Thus, it can be estimated that this percentage will increase to around 73% in 2015.

IV. Conclusions

It can be seen that all interference in the demand's factors does not increase the income from production yet only increase trade deficit and inflation risks. Apparently, the aggregate demand management policies are not consistent with Vietnam current situation, when potential output shows no improvement signs despite of appropriate supply-side policies and high expense for stimulus.

These above arguments also point out Keynes's theory of aggregate demand management, which is the view that in the short run, economic output is strongly influenced by final aggregate demand (GDP) and GDP increase will stimulate production in following period. However, in the context of Vietnam today, due to the weakness in supply side, any intervention on the demand side does not increase yields and income from production (Gross value added-GVA) but potentially increase the price and trade deficits. Therefore, it indicates that GDP growth target has very little meaning in the current time, much less taken as the sole criterion to evaluate or measure the health of the economy.

In recent time, some agencies which propose stimulus package have sent research groups to Japan to learn from their experience in the application of Abenomics. This theory was launched by Prime Minister Shinzo Abe based on "three crucial points", which are the fiscal stimulus, monetary easing and structural reforms. The basic characteristic of this program is a "mixture creates inflation, government spending and growth strategy to bring the economy out of suspended for more than two decades."

This program is based on a strong production (supply side), with more quality goods at low prices. The strong production foundation, the demand stimulation is possibly appropriate. It is totally different from Vietnam with a weak supply side and processed primary production, where intervention in the demand does not increase output but only create many risks for the macroeconomy.

In the recent years, a lot of noted achievements has been brought for the country by supply-side policies, especially major reforms in the period 2000-2006 such as allowing enterprises to import and export directly, enacting Business Law in 2000, removing barriers to the establishment of enterprises, accelerating the process of equitization⁹, etc. Hence, in the current time, the Government and National Assembly should have a consistent view that it is crucial to sacrifice short-term goals (such as growth ...) and bravely give up the aggregate demand management policies and perseverely promote measures to restructure the economy - essentially supply-side policy. In particular, the "key" is the reform of economic and political institution (such as the adjustment in separating the economic boundaries and administrative boundaries, eliminating the provincial economy, etc.). It will be the incentive for millions of active people to invest to production instead of investing to land speculation or solely consulting for construction firms. It will also help more than 60% family labor or self-employment (vulnerable labor) in which only 1.84% is used effectively and work in the mills and factories. Moreover, the high economy saving will no longer be the currency in the banking system or run around in the system through the purchase of bonds but will come to the manufacturing sector. It is the "long-term strategy" to push the economy potential output to a higher level and achieve sustainable growth, instead of just a short-term growth rate "stimulus" for a proper yearly report.

Currently, almost all researchers and policy makers often equate the notion of economic growth with GDP growth¹⁰, whereas GDP target only counts for the total market value of all final goods and services produced with in Vietnam. However, in actual, the real measurements for a national economy are Gross National Income (GNI) and National Disposable Income (NDI). While during the period of 2000-2006, the gap between GDP growth and GNI growth was just about 1% (GNI growth was about 7.4%), in 2007-2012, this gap increased to 6% (GNI was 5.3% estimately). One of the important causes of this decline is the turning of Vietnam from supply-side¹¹ to aggregate demand management. This turning, along with the potential risks posed by structural economic distortions from previous investments and inefficient

⁹ Phạm The Anh and Dinh Tuan Minh (2013).

¹⁰ Currently, GSO adjusted GDP since 2000 to a huge number without adjust this indicator in previous years. In this research, the authors used data series since 2000 so we deducted the adjustment for compatibility with the previous year.

¹¹ Supply-side theory by Friedrich Hayek and Milton Friedman. These economists believe in the efficacy of free markets and almost did not accept any interference of the state in market economy. This theory was applied by Margaret Thatcher, former British Prime Minister, who died recently, along with Ronald Reagan, who are considered as the 2-leaning leaders that changed the face of Western economic and social system (more precisely, Anglo Saxon) in 1980s.

increasingly tend to increase. Especially, after Vietnam's joining the World Trade Organization (WTO), the deviance has been increasingly more revealing.

References

Journal paper:

1. Bui Trinh, Kiyoshi Kobayashi, Trung – Dien Vu, Pham Le Hoa, Nguyen Viet Phong. 2012. New Economic Structure for Vietnam Toward Sustainable Economic Growth in 2020. *Global Journal of HUMAN SOCIAL SCIENCE Sociology Economics & Political Science*, Vol.12, Issue 10, Version 1.0 2012.
2. Bui Trinh, Kiyoshi Kobayashi, Trung-Dien Vu. 2011. Economic integration and trade deficit: A Case of Vietnam. *Journal of Economic and International Finance*, Vol 3(13), pp 669-675.
3. Bui Trinh. Nguyen Viet Phong. 2013. Economic Resilience: Opportunities and challenges. *Institute for Water Resource Economics and Management*.

Website: http://www.iwem.gov.vn/image/BuiTrinh_KhaNangPhucHoi%282013%29.pdf.

4. Jiang Jianming & Masaru Ichihashi. 2011. How does FDI affect the regional economic growth in China ? Evidence from sub – regions and industries of the Jiangxi Province P.R. China. *IDEA Hiroshima University*.

Website: http://home.hiroshima-u.ac.jp/ichi/Regional%20Approach_v2.pdf

5. Nguyen Phuong Thao, Ngo Van Phong, Bui Trinh. 2014. Final aggregate demand, production and income of Vietnam: Some comparisons with China. *Economy and Forecast Review*, unit 12/2014.

Books:

1. GSO. 2000. *Statistical Yearbook of Vietnam 2000*. Statistical Publishing House.
2. GSO. 2005. *Statistical Yearbook of Vietnam 2005*. Statistical Publishing House
3. GSO. 2013. *Statistical Yearbook of Vietnam 2013*. Statistical Publishing House
4. Pham The Anh, Dinh Tuan Minh, Nguyen Thi Minh. 2013. *Vietnam Economy: From demand stabilization policies to supply policies for promoted long-term growth..* Knowledge Publisher.

Conference Proceedings:

1. Robert Kopman, Zhi Wang, Shang – Jin Wei. 2008. Asesing Domestic value aded when procesing trade is pervasive. *How much of Chinese exports is really made in China?*. NBER Working Paper 14109, June 2008.
2. Working paper National Bureau of economic research, Cambridge MA. 208; 02138.

Website: <http://www.nber.org/>

3. National financial supervision commission of The Socialist Republic of Vietnam, “Economy report in 8 months and August 2014”. August 26, 2014.

Website: http://nfsc.gov.vn/sites/default/files/bccp2014_08_final_1_0.pdf

4. Shri Prakash, Shalini Sharma and F. Kasidi. 2008. Proposed to be presented at 17th international conference IIAO. *Input output modeling of impact of FDI on Indian economic growth*. Sao Paulo (Brazil) Junly 13 - 17. Birla Institute of Management Technology.
5. OECD. 2012. *Trade in value – Aded: Concepts, Methodologies and Chalenges*. Joint OECD – WTO note. Available: <http://www.oecd.org/sti/nd/49894138.pdf>.

A Thesis:

1. Bruno de Souza Lopes, Estefania Ribiero da Silva & Fernando Salgueiro Perobelli. (2009). *Foreign Direct Investment versus Domestic Investment: An Input – output Approach for Brazil in the years 2000 – 2005*. TD. Mestrado em Economia Aplicada FEA/UFJF 017/2009.