BEYOND INVESTMENT-LED GROWTH

First report of the research on
"Restructuring the Vietnam Economy through Right Investment Incentives and Improved Macro Management"

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ABBREVIATIONS

USD	US dollar
TFP	Total Factor Productivity
FDI	Foreign Direct Investment
IMF	International Monetary Fund
AFTA	ASEAN Free Trade Agreement
ASEAN	Association of South-east Asian Nations
GDP	Gross Domestic Products
ICOR	Incremental Capital Output Ratio
ODA	Official Development Assistant
OECD	Organization of Economic Cooperation and Development
WTO	World Trade Organization
NTB	Non-Tariff Barrier
GSO	General Statistics Office
FII	Foreign Indirect Investment

1. Introduction

The Renovation Policy introduced in 1986 and policy on market-oriented reform launched in 1989 marked a turning point of economic development process of Vietnam. In parallel with other widely and deeply affected policies to reform the domestic economy, Vietnam also implemented opening and international economic integration policies. The economic renovation was originated from the internal demand of Vietnam. The changes in the domestic policies, however, created the need to open the economy to the outside world and international integration, which in turn urged Vietnam to continuously adjusting its economic policies in order to meet the demand of the globalization. The globalization has been the external motivation of Vietnam's policy changes.

Since 1989, Vietnam has implemented 5 five-year-socio-economic development plans and 2 ten-year-socio-economic development strategies with the aim of becoming an industrialized and modernized economy by 2020.

The implementation of economic reforms and integration policies in accordance with five-year-socio-economic development plans created remarkable results, especially high economic growth and significant changes in the economic structure toward industrialization and modernization. As a result, the average income per capital increased from below US$100 in 1990 to US$726 US$835 and US$1,061 in 2006, 2007 and 2008, respectively. Poverty rate also plunged from about 34% in 1995 to 11% in 2009 (Republic Socialist of Vietnam, 2009).

However, Vietnam is still a low and middle income country with widened gap between the rich and the poor. The goal of becoming an industrialized and modernized economy by 2020 may be unreachable because of both internal and external factors such as the global financial crisis and economic downturn occurred in the late 2007.

There have been many researches on Vietnam economic growth and investment recently, notably by Perkins (2001); Le Dang Doanh and associates (2002), Tran Tho Dat (2004), Dinh Hien Minh and authors (2009) v.v. The available researches all applied growth accounting method, studied economic growth through examining the contribution of inputs like capital, labor and total factor productivity (TFP). Findings show that Vietnam economic growth is becoming more and more dependent on capital, while TFP only plays a modest

role, despite the differences among TFP figures due to differences among various information sources and assumptions.

Several reports focused on studying the contribution of foreign direct investment (FDI) as a component of investment to economic growth, notably that by Nguyen Thi Tue Anh and authors (2006). The report concludes that FDI creates positive impacts on economic growth, and its contribution on economic growth has been increasing as Vietnam has deeply integrated into the world economy. Moreover, FDI is an important supplement of domestic capital. However, spillover effect of FDI sector on domestic sectors, especially private sector, is still limited in terms of technologies transfer, and the development of management capacity and skills.

In order to assess the importance of public investment, the International Monetary Fund (IMF, 2007) examined its impacts on private investment, using SVAR approach and 1994-2006 data series. Research results reflect that public investment has helped crowd in FDI, while the available data do not provide any clear evidence of a crowding out effect on private domestic investment.

Pham Mai Anh (2008) implemented structural VAR model with 4 variables of gross domestic product (GDP), total investment[1], exports and labor productivity of industrial sector[2] to examine which one is the main driving force of Vietnam economic growth since the 1986 renovation. The research concludes that Vietnam economic growth is investment-led, while the effect of exports is insignificant. Besides, neither investment nor exports helps considerably improve labor productivity of industrial sector.

Briefly, most researches agreed that Vietnam economic growth mainly depends on investment/capital, and investment/capital has been the locomotive of Vietnam's growth over the years since the 1986 renovation. Another common

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[1] In Vietnam, the concept of investment is interpreted differently from that of capital formation. "Investment" is defined by the General Statistics Office as the source of money of the economy being used to increase capital formation through investment in a year. Investment is usually greater than capital formation, a component of GDP

[2] Labor productivity of industrial sector is calculated by dividing added-value produced by this sector by its employed labors.

view also was raised, concerning the fact that low efficient investment is one of the most important factors affecting the quality of Vietnam's growth, or Vietnam sustainable development in another words. It is because the country can not rely on the expansion of capital scale to increase growth for too long as capital mobilization can not be pushed up unlimitedly to support economic growth.

Although low investment efficiency is the most serious "bottleneck" of Vietnam's economy over the years, there are not any deep and comprehensive studies on this matter. All previous researches are limited in evaluating investment efficiency through Incremental Capital Output Ratio (ICOR) or focusing on the assessment of public investment and State-owned-enterprises (SOEs) investment instead of other aspects of investment like its impacts on economic structure transformation. Moreover, researches mainly studied investment as an input for production of supply side.

In theory as well as practice, examining the investment-economic growth relationship is not an easy task if not very complicated, especially in the case of an economy under economic transition like Vietnam, in which public investment still accounts for the majority of total investment, and SOEs are pillars of key sectors of the economy. This report, in stead of being too ambitious to comprehensively evaluate the relationship between investment and economic growth of the country in overall, author's of this report will focus on several aspects of investment efficiency since 1991. In this report, investment will be studied as an input of production process of the supply side as well as a component of the demand side. The outcomes of this report may help facilitate the preparation of the report titled "Continuing Vietnam's Economic Structural shift in the 2011-2020 period", which was assigned to the Ministry of Planning and Investment by the Government, and will be carried out by the Central Institute for Economic Management (CIEM).

The final objective of the report is to have an understanding about the impacts of investment on economic growth and structural shift, as well as address policy issues of the country such as sectoral policy (industrial policy), public investment policy, trade policy, policy on investment incentives,... in the relation with economic growth and structural shift in order to support the master report on "*Restructuring the Vietnam Economy through Right Investment Incentives and Improved Macro Management"*.

Aiming at achieving the above mentioned objective, the main research areas of the report are: (i) Policy overview related to the movement and allocation of investment for economic growth and structural shift; ii) Investment situation and investment structure – effects of policy on attracting investment and other investment-related policies; iii) The contribution of investment to economic growth from both supply and demand sides. In terms of supply side, the issue of whether Vietnam economic growth is investment-led will be examined, using growth accounting method; iv) Investment efficiency, using ICOR for 5-year-plans since 1991 as well as potential risks of the investment-led growth model from demand side.

Scope of the report

The report will study issues concerning economic growth and investment at macro level since 1991 to 2009. In details, the report will try to: (i) Assessing the contribution of investment to economic growth and investment efficiency at macro level; (ii) Analyzing policies that have significant influences on governing the movements of capital among sectors on 5-year-plan basis since 1991 to present (in comparison with the government's goals and policies for each 5-year-plan), as well as study the responses of SOEs sector, foreign-invested sector and domestic private sector to such policies (if capable); (iii) Evaluating the impacts of investment on economic structural shift (agriculture-forestry and fishery, industry-construction and service sectors) in order to find out the final impacts of capital movement among sectors, including the analysis of investment structure by Vietnam's specific sectors and areas (if capable).

Methodologies

This report will use both descriptive and quantitative analysis methods. The former is based on other researches and latest data. The later includes the measure of the total factor productivity using growth accounting method and calculating ICOR. Latest statistics of the 1990-2009 period issued by the GSO, MPI, MOF and other sources (in case the official data is inaccessible) will be used in quantitative analyses.

Structure of the report

The report has 5 sections, excluding the Introduction. Section 2 will briefly review policies that may affect the movement and allocation of investment to support economic growth and structural shift. Section 3 examines investment

situation and the changes of investment structure affected by investment attraction policy and other investment-related ones. Evaluations on the role of investment in economic growth from both supply and demand sides will be covered in Section 4. Section 5 includes assessments on investment efficiency and potential risks of the investment-led growth model. Finally, Section 6 presents main results and conclusions.

2. Policy overview related to the movement and allocation of investment for economic growth and structural shift

Economic growth and structural shift are mostly results/consequences of policies that affect the movement and allocation of resources among sectors, including investment capital.

Since the 1989 comprehensive and thorough reform, Vietnam has promulgated and continuously improved policies on attracting investment as well as other investment-related ones in order to mobilize development capital from all internal and external sources, especially official development assistance (ODA) and foreign direct investment (FDI). Besides, the two socio-economic development strategies of 1991-2000 and 2001-2010 periods as well as annual and 5-year socio-economic development plans also set targets of investment for economic growth.

Several important policies on attracting investment and other investment-related ones will be studied in this Section, namely macroeconomic stabilization policies, investment and investment promotion policies; trade policies for investment; and policies on developing financial sector.

2.1 Macroeconomic stabilization policies

Macroeconomic stabilization plays an important role in attracting investment, including both domestic and foreign investment.

According to Vo Tri Thanh and et al (2007), the macroeconomy will be considered to be stable if inflation is kept at low level and relatively unfluctuating; interest rates are competitive and predictable; and international balance of payment is healthy. Investment decisions of today are resulted from expectations of potential benefits in the future. Macroeconomic instability will increase investment risks. Moreover, unforeseeable "rules of the game" and policies also lead to negative impacts on investment decisions. But macroeconomic stability is only the necessary factor, not yet sufficient to ensure efficient investment and attract investment. South Asian countries like Pakistan and Nepal maintained their macroeconomic stability relatively well during the period of 1960-1990, but their investment growth, investment efficiency and economic growth were a way behind those of other East Asian economies.

From a certain aspect, inflation can be considered as tax on investment. Thus, high inflation will decrease investment profits, increase economic instability, and constrain investment in production and business activities. However, too low inflation rates (deflation) will reduce opportunity cost of keeping money, and then lead to less demand to invest. A rationally low and unfluctuating frequently inflation rate should limit the distortion of price signals, and help to establish a favorable environment for investment, business and production. (Vo Tri Thanh and et al, 2007).

Large budget deficit also not only negatively influences investment decisions and investment productivity because it will reduce investor's belief in policy stability, but also reduce domestic savings available for investment. Besides, private investment may be crowd out due to budget deficit. (Vo Tri Thanh and associates, 2007).

As a result, among the most important targets of socio-economic development strategies and 5-year-plans are macroeconomic stabilization; healthy international balance of payments and greater foreign reserves; reasonable levels of budget deficit, inflation and foreign debts, which in turn will have favorable impacts on economic growth. In annual plans since 1990, inflation targets is always set at appropriate levels (lower than 1-digit), while budget deficit is less than 5%GDP.

2.2 Investment and investment attraction policies

2.2.1 Policies on attracting investment and promoting private investment

At the 6th National Congress of the Communist Party (1986), the Party approved policy on comprehensive economic renovation in order to abolish bureaucratic and subsidized mechanism, and develop a socialist-oriented market economy with the participation of multi-sectors. Since then, legal framework for multi-sector economy as well as policies on investment and promoting both domestic and aboard private investment were established and have been gradually improved, based on the principles of transparency, accountability, protection of property rights, enforcement and non-discrimination.

Being aware of the importance of FDI in enhancing technology transfer and renovation, strengthening management capacity and expanding markets, the Vietnam government has managed to create a favorable investment environment

for FDI attraction in Vietnam since the beginning of the renovation process. Foreign Investment Law of Vietnam was promulgated in 1987 for the first time.

Policies on attracting domestic investment were taken into consideration later than foreign investment ones. Aiming at promoting domestic investment, Companies Law and Private Enterprises Law were promulgated in 1990, creating legal framework for the establishment of private sector in Vietnam. However, objects of the two Laws only existed since private sector was officially accepted in the 1992 Constitution. In addition, 1987 Land Law and the 1993 amended version did encourage farmers to invest and expand production.

The 1987 Foreign Investment Law was amended and supplemented twice in 1990 and 1992 before a totally new Foreign Investment Law was approved by the National Assembly in 1996, which also was amended and supplemented in 2000. Such amendments and supplements were the reflection of the development and improvement of Vietnam Foreign Investment Law. Accordingly, through incentives on income tax, import tax and profit repatriation tax, the Foreign Investment Law has guided investment into key areas of modernization and industrialization program, fostered exports and the manufacturing of import substitutes. More rights have been granted to foreign investors, while requirements for them have been reduced, including administrative procedures to start a project. The government also cut down the list of FDI projects that were requested to export 80% of theirs production in 2002 and abolished requirements on export ratio in 2003 (Decree No. 27/2003/NĐ-CP dated 19/3/2003). The government also allowed foreign investors to use their land-use right for mortgage purposes, and recruit employees; extended different types of foreign investment and commercial rights v.v.. Decision No. 36/2003/QĐ-TTg issued on March 2003 stated regulations on the capital contribution and acquisition by foreign investors in Vietnamese companies. Accordingly, foreign investors have rights to buy 30% capital value of a Vietnamese company of all types, opening new investment channels for foreign investors in Vietnam. Their contribution has no longer limited in by money, but also by equipments, technologies, raw materials, technological copyrights, and stocks.

The most remarkable turning point in attracting investment of private sectors was the promulgation of the 1994 Law on the Promotion of Domestic Investment, its amended version in 1998 and the 1999 Enterprises Law (unifying Companies Law and the Law on Private Enterprises). Business registration mechanism

replaced “application–approval” mechanism, leading to much better investment environment for private sector.

In 2005, the government took another measure to harmonize investment regulations on investment activities by both domestic and foreign investors, aiming at establishing “an equal playing-field” for both domestic and foreign players and simplifying investment procedures in order to create favorable conditions to attract and efficiently utilize investment capital, especially to meet the demand of international economic integration. Consequently, there were the issuances of the 2005 Investment Law (unifying Foreign Investment Law and the Law on the Promotion of Domestic Investment) and the 2005 Enterprises Law (unifying Enterprises Law and State-owned Enterprises Law).

The 2005 Investment Law and 2005 Enterprises Law make it easier for private investors, including both domestic and foreign ones, to establish enterprises, as well as set up an equal playing-field for investment and business activities. Like previous investment laws, the 2005 Investment Law also classifies investment incentives by sector, area, region and territory. This helps attract more private investment on industrial sector, especially labor-intensive industries, while state-owned enterprises still play important roles in capital-intensive and import-substituting industries.

2.2.2 Public investment policies

In terms of capital source, public investment includes state budget, state credit (state preferential fund or official development assistance - ODA), SOEs and other sources (bond and government bond which were mobilized to financed specific objectives of the Government).

Since the beginning of the 1990s, public investment policies have been closely compatible with targets set in socio-economic development strategies, annual and 5-year plans. State budget is usually used for prior projects such as infrastructure development, education and health in order to achieve main objectives of such strategies, and plans. In the mean while, state credit is often allocated on construction projects or projects of important sectors that have been identified for a certain plan period.

In order to well manage public investment capital, Vietnam has gradually established and improved legal framework on governing and supervising public investment, reflected in the promulgation of the 2002 State Budget Law, 2003 Construction Law, Law of International Treaties, Investment Law, Enterprises

Law, 2005 Procurement Law. In addition, there are many other important regulations on budget decentralization, project appraisal, and project evaluation. (World Bank report, 2008). Based on the above mentioned laws, Investment projects will be approved by the Government, including those set in state plans and financed by state budget, state credit for development investment, SOEs' capital from the state budget.

Together with the decentralization of public investment, public projects are also classified into national public projects, projects group A, B, or C depending on scales and importance levels.

Concerning SOEs' capital, Vietnam executed SOEs reform since the 1990s with the aim of reducing total number of SOEs and enhancing the efficiency of SOEs' investment. Various measures were been used by the Government such as step by step abolishing investment subsidies, replacing capital allocation mechanism with investment loans in the case of projects with high potentials of recovering investment capital; providing interest rate subsidies for projects or enterprises that are able to pay off their own loans and can take full responsibility in using investment loans. However, the SOEs reform was only seriously implemented since 2001, and made remarkable advances in 2005 as the State Capital and Investment Corporation (SCIC) was established, and Investment Law and Enterprises Law were promulgated in the same year.

2.3 Trade policies for investment[3]

Investment opportunities heavily depend on trade policies. Opened trade policies may encourage investors, both domestic and foreign ones – as well as maximize the contribution of investment to economic growth (OECD, 2008).

Actual situation in Vietnam shows that investment opportunities much depends on trade policies. It should be also noted that trade policies are reflection of industrial policies, and the former can be considered as a mirror of the later. Vietnam has been implementing trade policies on quickly promoting exports growth but still protecting domestic industries. However, level of protection has been significantly reduced.

Trade reform was carried out since 1989. Important measures executed in the trade reform of Vietnam included: To remove trade monopoly of SOEs (since

[3] References for this section are mainly taken from Dinh Hien Minh (2008)

1989) and allow other types of enterprises to participate in business activities; gradually abolish tariff and non-tariff barriers in accordance with Vietnam commitments under the framework of bilateral, regional, and multilateral trade agreements. The implementation of trade reform attracted much attention from investors in terms of the capacity to participate and expand business. This process also help not only promote investment but also improve investment efficiency due to higher competitiveness, more chances for domestic investors to access with advanced technologies and open their market (no longer limited in domestic market). The exports of goods and services to other countries resulted in more favorable condition for domestic enterprises to invest in and innovate technology capacity in order to improve quality of their products.

Step by step, regulations to do international trade have been loosen and the role of private enterprises has been more and more strengthened. Up to1997, it was very difficult for domestic enterprises to take part in international business. In 2008, a significant progress related to international business was made with the issuance of the Decree No. 57/1998/NĐ-CP[4]. Based on that, all domestic enterprises were allowed to trade goods in accordance with their business registration certificate without asking for export or import permission, excluding 4 "special groups" [5]. More favorable terms were introduced in 2001. According to Decree No. 44/2001/NĐ-CP[6], all legal entities (both enterprises and individuals) were allowed to trade many kinds of goods without permission, excluding 4 "special groups ".

Regulations on business operations of foreign-invested enterprises and parties in business cooperation contracts were stated in the Foreign Investment Law. Prior to August 2001, foreign-invested enterprises had similar rights to trade commodities that were registered in their business registration certificate, but their import activity was still restricted by several measures. After Decree No. 44/2001/NĐ-CP was enacted, foreign-invested enterprises were allowed to export commodities that are not produced by them. However, foreign-invested enterprises in manufacturing sector were restricted to import only machineries and

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[4] Decree No. 57/1998/NĐ-CP issued on July 31, 1998

[5] Group of commodities allowed to trade with quotas restriction; group of prohibited commodities; group of commodities exposed to the control of the Government (such as rice and fertilizer) and group of commodities exposed to special control.

[6] Decree No. 44/2001/NĐ-CP issued on September 2, 2001

materials for manufacturing and export purposes, and prohibited to import all other kinds of goods (Decree No. 24/2000/NĐ-CP[7]).

Having attempted to improve investment and business environment prior to the accession into the WTO, Vietnam unified Law on the Promotion of Domestic Investment (1998) and Foreign Investment Law (1996) into a common investment law (referred to as the 2005 Investment Law) with the aim of ensuring the compliance of Vietnam's investment legislation with international regulations and norms as the country had been deeper and deeper integrating in the world economy and was going to access into the WTO. According to the 2005 Investment Law and Decree No. 108/2006/NĐ-CP to guide the implementation of the Law, foreign-invested enterprises are allowed to conduct import and export activities that comply with investment and trading regulations as well as international agreements that Vietnam has been involved.

After having officially become a member of the WTO in 2007, all enterprises, including both domestic and foreign-invested ones, can carry out all business activities that do not conflict with investment and trade policies of Vietnam as well as other international agreements that Vietnam has participated in. Regulations that violate trade-related investment measures like local content requirement, requirement on buying domestically produced commodities, regulations on foreign currency balance and export ratio of several commodities were removed (Enterprises Law and Investment Law Task Force, 2008).

Import duties

The establishment of the trade tariff system of Vietnam was considerably pushed up in the 1990s with frequently changes in order to protect domestic production and increase state budget revenues. Import duties were implemented in 1988 for the first time after the Law on Import and Export Duties was passed on January 29, 1987. In 1991, a new Law on Import and Export Duties was enacted to replace the old version. The first official list of import duties was issued in 1992, and adjusted 3 times in 1993, 1998 and 2005, respectively. Accordingly, tax rates were adjusted frequently to promote international integration and satisfy requirements of trade agreements between Vietnam and other countries, though the tax rates still have the effect of protecting domestic production.

Non-trade barriers (NTBs)

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[7] Decree No. 24/2000/NĐ-CP issued on July 31, 2000

Non-trade barrier was a protection measure that was selected and implemented by Vietnam's Government in the transition from a central planning economy to a market economy in the late 1980s and early 1990s, and played an important role in trade policy system of Vietnam. However, the trade liberalization process has been continuously fostered recently, leading to the reduction of non-trade barriers. Import quota was first used in 1993. Since the industrialization process started in 1994, NTBs were applied to several imported commodities in order to regulate domestic supply and demand and expenditure, as well as to protect some domestic industries in accordance with import substitution strategy (most enterprises operated in such industries were SOEs). By 2000, NTBs was adjusted annually depending on macroeconomic developments.

In 2001, a route map of implementing trade policy for the period of 2001-2005[8] was approved. It was considered as a breakthrough compared to previous annually introduced trade policies, and created a more transparent and predictable environment. In comply with the route map, a plan was passed in order to remove a number of NTBs that conflicted with Vietnam's international commitments. Besides, NTBs have been gradually lifted in accordance with Vietnam's commitments to joint WTO in 2007.

Until now, Vietnam has established trade relationship with more than 160 countries and territories, and signed over 90 bilateral trade agreements, of which the Vietnam – US bilateral trade agreement; ASEAN free trade agreement (AFTA-1996); ASEAN-China, ASEAN-Japan, ASEAN-Korea free trade agreements; and the accession into the WTO are the most important ones. As a result, more opportunities to attract investment into Vietnam have been opened up.

Foreign exchange policies

Before August 1998, foreign exchange was closely controlled in order to promote the development of some industries and reduce trade deficit. However, these strict measures were gradually loosen. Until 1998, every economic unit was requested to have a surrender rate up to 80% of the total foreign currency as stated in the balance sheet. This ratio was cut down to 50%, 40%, 30% and finally to 0% in September 1999, April 2001, May 2002 and April 2003, respectively[9]. Requirement on foreign currency balance of foreign-invested enterprises was also

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[8] Decision No. 46/2001/QD-TTg dated April 14, 2001
[9] Decision No. 46/2003/QD-TTg dated April 2, 2003

removed in May 2000. Since then, foreign-invested enterprises can buy foreign currency from domestic banks to pay off their foreign debts. Regulations on foreign currency management issued by the Standing Committee of the National Assembly in December 2005 lifted requirement that requested legal foreign residents to sell their sales in foreign currencies for commercial banks.

2.4 Policies on developing financial system and financial sector

A well-operated financial system (including financial market, financial institutions and administrative regulations and laws) will be the key factor of an attractive investment environment (OECD, 2008). It will help mobilize and allocate resources of the economy, as well as stabilize macroeconomy[10], and minimize financial and monetary risks. A healthy financial system is the necessary element to ensure the competitiveness of Vietnam and improve economic growth. It is critical to develop a sound and appropriate financial system, which also does not depend much on banking system, especially in the case of developing countries (UNESCAP, 2005). A financial system that has banking sector and stock market but lacks a well-operated bond market may cause serious consequences. Without market interest rates and standard measures of capital's opportunity cost, investment will be inefficient, and the capacity to prevent risks will be limited (Vo Tri Thanh and et al, 2007).

The financial system reform of Vietnam started with the enforcement of the two ordinances on banking (Ordinance on the State Bank or Vietnam and Ordinance on banking, credit cooperative, and financial company) in May 1990. Accordingly, state-owned mono banking system was transferred to two-tier banking system: the State Bank of Vietnam was in charge of state management on monetary and the implementation of monetary policies; while commercial banks and 4 state-owned banks was responsible to carry out monetary business operations. At that time, state-owned banks only concentrated on providing capital for SOEs' loans. Since then, Vietnam's financial system, especially state bank of Vietnam and state-owned banking sector, have been continuously renovated and gradually improved to meet the demands of the development process (Vo Tri Thanh and et al, 2004).

After more than 20 years of renovation, fundamental elements of Vietnam financial system have been developed relatively well, though at different levels. Concerning short-term market (monetary market), the interbank market for

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[10] Through the financial system, the Government implements the financial-monetary policies to stabilizer the economy and control inflation

domestic currency was established and operated in 1993. Then, the interbank market for foreign currency, tender market for treasury bill and open market operations were introduced in 1994, 1995 and 2000, respectively. In terms of capital market, bond market was put into operation in 1995, followed by stock market in 2000. In the mean while, the market for medium and long term credit as a component of the financial market was set up very early Though the development of Vietnam's financial market has obtained undeniable achievements, Vietnam financial market still seriously depends on banking sector as capital market is under development process.

Currently, Vietnam enterprises can get credit from the following official sources: i) credit institutions (state-owned commercial banks, joint stock commercial banks, joint venture banks and branches of foreign banks in Vietnam, 100% foreign invested banks and people's credit funds; ii) loans from financial leasing companies, a part of direct lending operations of investment funds of insurance companies and iii) preferential loans by Vietnam Development Bank (established in 2006 through restructuring Development Assistant Fund) and Vietnam Bank for Social Policy (set up in 2002 to provide micro credit for poverty reduction purposes).

3. Investment development and investment structure – policy affected outcomes

The implementation of economic reform to a multi-sector economy, the establishment and improvement of legal institution framework, and the enforcement of policies on attracting and allocating investment have created significant achievements: investment has increased robustly and investment structure has changed, which in turn also have affected economic growth and structural shift by both sector and ownership.

3.1 Investment growth

Table 3.1 shows that average annual growth rate of investment and capital formation tended to increase over time since 1996; and average annual growth rates of investment capital (Monetary flows[11]) and capital formation (SNA) were mostly higher than that of GDP in the same period, about 1.5-2 times (Table 3.1).

[11] Monetary flows for investment

In terms of capital formation, the growth rates of gross capital formation of the 1996-2000, 2001-2005 and 2006-2009 periods were 1.4, 1.5 and 2.1 times higher than those of the GDP in the same periods. In the mean while, the average annual growth rate was 31.77% in the period of 1991-1995, 1996-2000 – 1.47%, 2001-2005 – 14.13% and 2006-2009 – 15%.

In terms of investment ownership, there has been the contribution of non-state budget sources, as well as a remarkable change in investment structure, shifting from state sector to non-state and foreign invested sectors (FDI). Investment by state sector including SOEs usually grows at 2 digit-rates[12], though it has been decreased from the average rate of 33.38% in the 1991-1995 periods to 18.33% in the 1996-2000 period, 12.68% in the 2001-2005 period and 11.54% in the 2006-2009 period. Only investment from state budget experienced high and stable growth rate of about 16-18% during 1996-2009.

In the mean while, investment by non-state sector reached the average growth rate of 17.83% in the period of 1991-1995, which was equivalent to half of state sector. This situation can be partly explained by the introduction of policies on attracting domestic private investment in the late of the 1991-1995 period, and partly by the fact that domestic private investors did not believe in the multisector policy of the Government. During 1996-2000, Vietnam economy was hit by the regional financial crisis, resulted in lower average annual growth rate of investment by state sector, which was only 8.11%. In the period of 2001-2005, there was significant change in investment attraction policy. The enforcement of Enterprises Law in 2000 positively affected private sector and led to the remarkably increased investment by this sector, which was 19.09% in average. In the 2006-2009 period, the growth rate of investment by non-state sector was lower than previous periods, only 10.84% per year due to the effect of the global financial crisis and economic recession with negative investment growth rate in 2008 (-3.45%) and very low growth rate of 3.89% experienced in 2009.

[12] The Government implemented two public investment programs in the periods 1996-2000 and 2001-2005

Table 3.1: Investment and capital formation growth rates, 1991-2009, 1994 price

	1991-95	1996-00	2001-05	2006-09
GDP (%)	8.19	6.96	7.51	7.05
Gross capital formation (%)	21.14	9.51	11.41	14.970
Investment (%)	31.77	11.47	14.13	15.00
Growth rate of investment by ownership (%)				
- State sector	33.83	18.83	12.68	11.54
State budget		17.22	18.10	16.05
Loans		32.68	6.56	3.60
Assets of SOEs and other sources		11.51	10.42	9.91
- Non-state sector	17.06	8.11	19.09	10.84
- Foreign invested sector	72.37	2.82	11.71	35.74
Growth rate of investment by sector (%)				
- Agriculture-Forestry-Fishery		13.43	0.86	12.59
- Industry and construction		13.14	17.49	14.86
- Services		9.96	14.76	15.55

Note: Capital formation: a component of GDP; investment: monetary flow for investment.

Source: Authors' calculation from GSO data.

Growth rate of investment by FDI sector is correlated with actual development of Vietnam's and international investment environment. During the 1991-1995 period, the Foreign Investment Law first introduced in the 1987 and amended twice in 1990 and 1992 resulted in very high average annual investment growth rate of 72.37% by this sector. However, this growth rate dropped in the 1996-2000 period to only 2.82% partly because of the effects of the regional financial and monetary crisis, and partly of the implementation of reform policies to cope with that crisis, which in turn led to unfavorable consequences on attracting foreign investment (one of those policies included the requirement on surrender rate, which was up to 80% of the total foreign currency of any enterprises as mentioned in Section 2 – foreign exchange policies). As already discussed, there was considerable improvement in investment attraction policies in the period of 2001-2005. The enforcement of the 2000 Enterprises Law helped promote the attraction of investment by not only non-state sector but also by FDI sector. Consequently, investment by FDI sector increased significantly to the average annual growth rate of 11.71%. In the period of 2006-2009, the growth

rate of investment by FDI was unprecedented high with the average of 35.74%. Though FDI sector also suffered from negative effects from the global financial crisis and economic recession like non-state sector, the country's accession into the WTO in 2007 played an important role in fostering FDI wave into Vietnam during 2006-2009.

3.2 Investment structure by ownership

Higher investment by non-state sector and FDI sector significantly shifted investment structure by ownership (Table 3.2). In terms of current price, the share of investment by state sector in the total investment tends to decrease while that of non-state sector and FDI sector has been increasing. In details, the contribution of state sector was down from 54.37% in the 1996-2000 period to 39.35% in the 2006-2009 period due to the SOEs reform. In the mean while, the share of investment by non-state sector went up considerably, from 23.64% in the 1996-2000 period to 36.40% in the 2006-2009 period. However, investment by FDI sector fluctuated over times, which accounted for 25% of total social investment during the period of 1991-1995, dropped to 21.99% and 16.02% in the 1996-2000 and 2001-2005 periods, and then reached about 32.43% in the 2006-2009 period.

The dramatic reduction of investment by state sector in the total investment over the years in accordance with the economic transformation process from a central planning economy into a multisector and market-oriented economy. This fact is reflected in the withdrawal of direct investment on production activities by state sector. Instead, state sector has focused more on investing in infrastructure development and unattractive areas and regions that is difficult for private sector to make profit. Besides, the lower share of investment by state sector was partly due to the decreased portion of investment by SOEs in the total investment.

The significantly improved contribution of investment by non-state sector in the total investment was evidence of positive effect of policies on attracting investment and investment-related policies.

Table 3.2: Investment structure by ownership, current price

	1991-95	1996-00	2001-05	2006-09
Total investment (%)	100.00	100.00	100.00	100.00
State sector	37.16	54.37	53.04	39.35
State budget		*23.32*	*25.01*	*22.99*
State credit		*14.82*	*14.67*	*6.28*

Assets of SOEs and other sources		*16.23*	*13.36*	*10.07*
Non-state sector	37.74	23.64	30.94	36.40
Foreign invested sector	25.10	21.99	16.02	24.25

Source: Authors' calculations from GSO data.

3.3 Investment structure by sector

In terms of investment structure by sector, Table 3.3 presents continuously declining share of investment into agriculture, forestry and fishery sector since 1996. While the average of 13.38% of total investment was allocated in agriculture, forestry and fishery sector in the period of 1996-2000, it decreased to 8.42% and 6.63% in the next two periods of 2001-2005 and 2006-2009. This sector even accounted for smaller percentage in total state investment, which dropped from 12% in 1995 to 7% in the 2006-2009 period. Besides, registered FDI investment for agriculture, forestry and fishery sector was very limited, equivalent to around 2.25% of the total registered FDI capital during 1988-2009.

Industry and construction sector has accounted for relatively large percentage of total investment and tends to increase. In 1995, it was equivalent to 34.07% of the total investment, up to 36.33% and 42.27% in the period of 1996-2000 and 2001-2005, before decreased to 41.26% in the period of 2006-2009. The share of state investment in the total investment in industry and construction sector also dramatically went up, from 32.50% in 1995 to 43.5% and 39.77% in the 2001-2005 and 2006-2009 periods, respectively. The increasing state investment in industry and construction sector reflects positive effect of policies on attracting investment and other investment-related policies in order to become industrialized economy by 2020, as mentioned in part 2. Vietnam has focused on mobilizing all capital sources to develop competitive industries (such as manufacturing of agriculture, forestry and fishery products; assembling electric and electronic products; garments and textiles and footwear; ship building); several fundamental industries (such as energy, oil and gas, basic chemicals, fertilizer, mining and quarrying and mechanical industry) and potential industries (such as manufacturing of electronic components, software, mechanical manufacturing, cosmetic chemistry, chemicals, pharmaceutical products, detergents, and new-technological products).

Services sector has accounted for the increasing share of total investment over 5-year periods since 1996. In the period of 1996-2000, the percentage of this sector in total investment was 50.29%, declined to 49.32% in the period of 2001-

2005 and climbed to 52.11% in the period of 2006-2009. The reduction of 1 percentage point in the 2001-2005 period originated from the decreased investment in hotels and restaurants by FDI sector. In the mean while, investment in services sector also climbed by nearly same percentage point partly because of significant increase of investment by FDI sector in asset management and consulting services as well as hotels and restaurants (also related to land). In 2005, investment by FDI sector in the two areas was equivalent to 6.7% and 0.9% of total committed FDI capital, but jumped dramatically to 37.39% and 39.63% in 2009, respectively. Briefly, a large share of total investment was poured in services sector, but the portion of business activities was still low (Table 3.3).

Table 3.3: Investment structure by sector (current price)

	1995	1996-00	2001-05	2006-09
Total investment (%)	**100.00**	**100.00**	**100.00**	**100.00**
Agriculture, Forestry and Fishery	**13.27**	**13.38**	**8.42**	**6.63**
Agriculture and Forestry	12.54	11.81	6.90	4.97
Fishery	0.73	1.57	1.51	1.67
Industry and construction	**34.07**	**36.33**	**42.27**	**41.26**
Mining and quarrying	5.03	4.14	5.81	7.85
Manufacturing	17.08	17.85	21.29	18.90
Electricity, gas and water supply	9.18	11.60	10.56	10.53
Construction	2.78	2.74	4.61	3.99
Services	**52.66**	**50.29**	**49.32**	**52.11**
Wholesale and retail trade; repair of vehicles, motor cycles and personal and household goods	1.25	1.59	5.51	4.59
Hotels and restaurants	5.25	4.47	1.85	2.07
Transport, storage and communications	15.71	14.69	15.12	14.77
Financial intermediation	0.13	0.44	0.76	1.15
Scientific activities and technology	0.31	0.68	0.57	0.65
Real estate, renting business activities	2.96	3.03	1.44	4.29
Public administration and defense, compulsory social security	3.12	2.64	2.27	2.72
Education and training	2.49	3.34	3.09	2.83
Health and social work	0.99	1.33	1.74	1.46
Recreational, cultural and sporting activities	1.64	1.53	1.52	1.51
Activities of Party and organizations	0.38	0.42	0.34	0.31
Social, personal service and other activities	18.43	16.12	15.10	15.75

Source: Authors' calculations from GSO data.

4. Role of investment to economic growth

4.1 Growth and economic restructuring achievements

4.1.1 Economic growth

The five-year plan 1991-1995: This period is widely considered as a critical turning point in Vietnam's economic activities. Achievements of this period were due to Vietnam's comprehensive and radical economic reform efforts, which were initiated in 1989 focusing on such sectors as agriculture, foreign trade, foreign investment, finance, SMEs and private sector development, gearing toward a market-driven industrialized and modernized economy. The success of economic reforms has translated into magnificent economic growth. Many economic experts home and abroad claimed that Vietnam got out of the economic crisis by the end of 1992[13]. The economic growth rate averaged at 8.10% per annum during the period 1991-1995. (Table 4.1). With respect to the agriculture-forestry-fishery sector, the new mechanism on agricultural management (Resolution No.10/NQ-TW) had brought about substantial positive impacts. Agricultural production, particularly food production, witnessed continuous development. Food output increased significantly year-on-year, ensuring food security for domestic consumption for the period 1991-1995. Nevertheless, it was the service sector that contributed the most to GDP growth rate, accounting for approximately 50%. Achievements of the service sector are mainly resulted from relatively rapid development of the trade, hotel – restaurant, and banking services, which are benefited from Vietnam's open-door and FDI attraction policies.

It was also noted that after exiting the economic crisis in 1992, Vietnam's industry -construction sector exhibited continual double-digit growth rate. This served as the key premise for important contribution of the industry-construction sector, including the manufacturing sector, to economic growth in subsequent years. By ownership, the value-added of the state economic sector attained a high growth rate, reaching an increase of 9.31% per annum

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[13] The Vietnam's economy is widely believed to fall in the economic crisis since 1986 with a low growth rate of 2.84% and a hyperinflation rate of 774.5%.

compared to an increase of 5.05% per annum of the non-state economic sector. This can be partly explained by the fact that during the period 1991-1995, the non-state sector was still very modest and mainly engaged in the agriculture-forestry-fishery sector. The FDI sector started to emerge with a high growth rate of its value-added of 11.99% in 1995, seeing that this sector before that time contributed almost nothing to GDP.

The five-year plan 1996-2000: This period Vietnam's economy was severely affected by the Asian financial – monetary crisis in 1997-1998 with a noticeable deceleration of FDI and export growth. Furthermore, the sluggish economic reforms led to the slowdown of production of almost all economic sectors, large current account deficit, giving rise to the concern of possible deflation due to low inflation.

GDP growth rates dropped continually, from 9.34% in 1996 to 8.15% in 1997, 5.76% in 1998 and 4.77% in 1999. In 2000, nonetheless, GDP growth rate went up by 6.79% compared to 1999. For the period of 1996-2000 as a whole, GDP went up on average by 6.96% per annum. From the supply side, the agriculture – forestry – fishery sector still sustained an average growth rate of 4.42% per annum, whereas the values added of the industry - construction and service sectors witnessed a considerable drop of growth rates, just averaging 63% and 5.72% per annum respectively. By ownership, the non-State sector attained a slow increase of growth rate of 4.97% per annum, much smaller than that of the national level. On the contrary, the FDI sector experienced a double-digit growth rate of 17.65% per annum on average. Compared to the non-state sector or the whole economy, the state-sector exhibited a higher value-added growth rate, averaging 7.36% per annum; this figure, however, was just equal to a half of the growth rate of the foreign-invested sector.

The five-year plan 2001-2005: This was a period of drastic economic reforms with many policies to promote SOE reform, private sector development, investment and trade liberalization as well as deeper integration into the world economy[14]. As above-mentioned, the most important turning point of reforms

[14] In international economic integration, Vietnam signed the bilateral trade agreement with the United States of America in 2000, which took effect in 2001. The country also engaged in various regional integration agreements such as ASEAN - China Free Trade Area (ACFTA) in 2002

in this period was the promulgation and implementation of the Enterprise Law in 2000, enforcing the right of freedom to do business as provided for in the Constitution in 1992. Accordingly, all individuals have the right to conduct all business activities not prohibited by law. The subsequent policy adjustment involved the promulgation and implementation of the Enterprise Law in 2005. The most salient feature of the Enterprise Law in 2005 was that Vietnam for the first time promulgated a common legal document regulating enterprises of all ownership forms in Vietnam. Therefore, Vietnam's enterprises became more equal in the market economy.

In a similar fashion, the Investment Law was approved by the National Assembly in 2005[15] and marked a major step toward improving the investment environment and creating a level playing field for domestic and foreign investors. In general, the promulgation of these laws reflects Vietnam's commitment to establish a favorable and equal environment in line with the socialist-oriented market economy and requirements of the international economic integration process.

The Vietnam's economy attained a higher growth rate in this period compared to the period 1996-2000, averaging 7.51% per annum. By sector, the average value-added growth rate of the agriculture – forestry – fishery sector reached 3.83% per annum, while the respective figures of the industry – construction and service sectors were 10.25% and 6.97% per annum. By ownership form, the values added of the State and FDI sectors grew by 7.46% and 9.93% per annum, respectively. It is noted that the non-State sector experienced a much higher growth rate compared to the previous period with an average growth of 6.98% per annum.

The five-year plan 2006-2009: Being a full member of WTO in January 2007 recognized Vietnam's efforts on economic reforms, reflecting that the Vietnam's economy has integrated wider and deeper into the world economy. GDP grew relatively fast in both 2006 and 2007 by 8.23% and 8.46% per annum, respectively. In 2008 and 2009, however, the economy was affected by the global economic crisis, so GDP growth rates were lower than those in

[15] The Law on Investment came into effect on 01/07/2006 to replace the Foreign Investment Law and the Law on Promotion of Domestic Investment

preceding years, dropping to 6.18% and 5.32% per annum, respectively. Also during these two years, Vietnam had to address the macroeconomic instability due to inflationary pressure and/or economic slowdown. Consequently, the average GDP growth rate for the period of 2006 –2009 was 7.05%, i.e. smaller than that in the period of 2000-2005. By economic sectors, after many years of double-digit growth rates, the industry – construction sector only grew by 8.06% per annum in the period of 2006-2009 on average. The agriculture – forestry – fishery also grew on average by 3.33% per annum in the same period, i.e. slower than that in the period 2001-2005. The service was the only sector that performed better compared to the period 2001-2005 with an average growth rate of 7.74% per annum. By ownership, the average growth rate in value added of the State-sector only reached 4.14% per annum on average, showing a reduction from the preceding period; this figure was just equal to one half and one-third of those in the non-State and FDI sectors, which grew by an average of 8.15% and 11.75% per annum, respectively, i.e. faster than the period 2001-2005.

Table 4.1: GDP growth rates by economic sectors and ownership forms, 1994 price

	1991-1995	**1996-2000**	**2001-2005**	**2006-2009**
GDP (% per annum. fixed price 1994)	**8.19**	**6.96**	**7.51**	**7.05**
By economic sectors				
Agriculture – Forestry – Fishery	4.10	4.42	3.83	3.33
Industry – Construction	12.02	10.63	10.25	8.06
Manufacturing	*10.35*	*11.26*	*11.65*	*9.61*
Services	8.60	5.72	6.97	7.74
By ownerships				
State ownership	9.31	7.36	7.46	4.14
Non-state sector	5.05	8.05	6.98	8.15
FDI sector	14.99*	17.65	9.93	11.75

*Note: *The growth rate in 1995*
Source: Authors' calculations from GSO data.

4.1.2 Economic structure shift by sectors and ownership

Structure shift by sectors

For the past many years, by the share of value-added, the economic structure has mainly shifted between the two groups of Agriculture – Forestry –

Fishery and Industry – Construction sectors. Specifically, the share of the value-added of the Agriculture – Forestry – Fishery sector decreased from 31.78% in the period 1991 – 1995 to 25.86% in 1996-2000, 22.32% in 2001-2005 and 20.84% in 2006-2009, whereas the share of the value-added of the Industry - Construction sector went up from 27.52% in the period 1991-1995 to 33.10% in 1995-2000, 39.46% in 2001-2005 and 40.84% in 2006-2009. It is also noted that the value-added of the manufacturing sector as a share of GDP also increased from 14.71% in the period 1991-1995 to 17.04% in 1995-2000, 20.36% in 2001-2005 and 20.77% in 2006-2009. Nevertheless, it is obvious that the recent 10 years (2001-2009) witnessed no significant increase in the value added of the Industry-Construction sector, including manufacturing, in GDP (Table 4.2).

In term of the share of the value added of the service sector in GDP, this share decreased from 40.70% in 1991-1995 to 41,04% in 1995-2000 and 38.22% in 2001-2005. The share of the value added of the service sector for the past 10 years from 2001 to 2009 changed very little around 38% – 39% of GDP (Table 4.2).

Generally speaking, the share of value-added of the Agriculture – Forestry – Fishery sector in GDP dropped dramatically by 11 percentage points while the share of value added of the Industry - Construction sector increased by 13 percentage points for the past 20 years, reflecting a positive transformation from the former sector of low productivity to the later sector of higher productivity. However, the economic restructuring by sectors since 2000 occurred at a slower pace compared to the preceding ten years (1990 – 2000).

Structure shift by ownerships

By ownerships, the share of value-added of the state sector in GDP accounted for about 36% in the period 1991-1995, increasing to 39,54% in 1996 - 2000, then decreasing to 38,67% in 2001- 2006 and 36,05% in 2006-2009.

The share of value-added of the FDI sector in GDP increased continually all over the five-year plan periods for the past 20 years, increasing from 6% of GDP in the period 1991-1995 to 10.40% in 1996-2000, 14.62% in 2001- 2005 and 17.95% in 2006 – 2009.

In summary, the share of value added of the state sector in GDP did not alter substantially despite increases in the value added of this sector in absolute term. The structural shift of GDP by ownerships mainly occurred in the non-state

sector and the FDI sector. Specifically, the FDI sector always experienced higher growth rates of value added compared to the non-state sector, thus the share of value added of the FDI sector in GDP exhibited continuous increases all over the five-year plan period, while the non-state sector witnessed continuous decreases in the share of value added in GD, down from 60.68% in the period 1991-1995 to 50.06% in 1996-2000, 46.71% in 2001-2005 and 46.00% in 2006-2009.

Table 4.2: GDP structure by sectors and ownership forms

	1991-95	**1996-00**	**2001-05**	**2006-09**
GDP by sectors				
GDP (%)	100.00	100.00	100.00	100.00
Agriculture-Forestry-Fishery	31.78	25.86	22.32	20.84
Industry-Construction	27.52	33.10	39.46	40.84
Manufacturing	*14.71*	*17.01*	*20.36*	*20.77* [2]
Service	40.70	41.04	38.22	38.32
GDP by ownerships				
GDP (%)	100.00	100.00	100.00	100.00
State ownership	36.78	39.54	38.67	36.05
Non-state sector	60.68	50.06	46.71	46.00
FDI sector	6.36*	10.40	14.62	17.95

*Note: * Average share of 1994 and 1995*

Source: Author's calculation from GSO data

Overall, the key economic reforms over the past 20 years have aimed at promoting SOE reform, private sector development, financial and banking reform, trade and investment liberalization, thereby accelerating industrialization and modernization. These reforms also brought about both economic opportunities and risks as well, thereby producing drastic impacts on economic growth and economic restructuring. Regardless of the negative impacts of internal and external factors, Vietnam's GDP growth rates for the past 20 years have been widely regarded to be high at both regional and international levels. Thanks to high economic growth rates, the magnitude of Vietnam's GDP increased noticeably by 3.9 times in 2009 compared to 1990. Income per capita went up from 118 USD in 1990 (GSO, 2006) to 642 USD in 2005, 730 USD in 2006, 843 USD in 2007, 1052 USD in 2008 and 1064 USD in 2009 (GSO, 2010). Given an income of over 1000 USD per capita in 2008, Vietnam was rank in the group of low medium income countries. Economic growth has impacted the socio-economic life on multiple aspects. The rate of poor households decreased

dramatically from about 58% in 1992 to 11% in 2009 (The Socialist Republic of Vietnam, 2009). Furthermore, other social issues such as education, health and environmental protection also gained many achievements that were difficult to accomplish by countries with the same level of Vietnam's economic development.

4.2 GDP growth is largely investment-based

The role of investment to the economy is reflected through two aspects : on the one hand, investment has long-run important impacts on the supply side of the economy; on the other hand, investment, however, was also an important factor of the aggregate demand – an outlet of the growth process.

4.2.1 Investment/capital – input for production process[16]

In consideration of inputs for production, economic growth or GDP growth rates depend on three major factors : capital (K), labor (L), and increases in labor quality, machinery quality, role of management and production organization. On the one hand, the economy may exhibit horizontal growth by simply increasing the magnitude of physical capital and labors. On the other hand, the economy may experience vertical growth if basing on human capital accumulation, technological progress, production organization improvement and policy outcome. In the long run, the economy needs to attain vertical growth so as to be able to ensure sustainable and quality growth.

This sub-section 4.2.1 employs quantitative analyses to investigate which of the three factors – magnitude of capital stock/investment, labor quantity, or increases in labor quality, machinery quality, role of management and production organization – played key roles to Vietnam's high growth and whether such high growth was of quality and sustainable over different planning periods.

It is noted that quality and sustainable economic growth is mainly based on the accumulation of human capital, technological progress, and production organization improvement, i.e. based on the growth of total factor productivity (TFP). This is because TFP is often regarded as the additional output from

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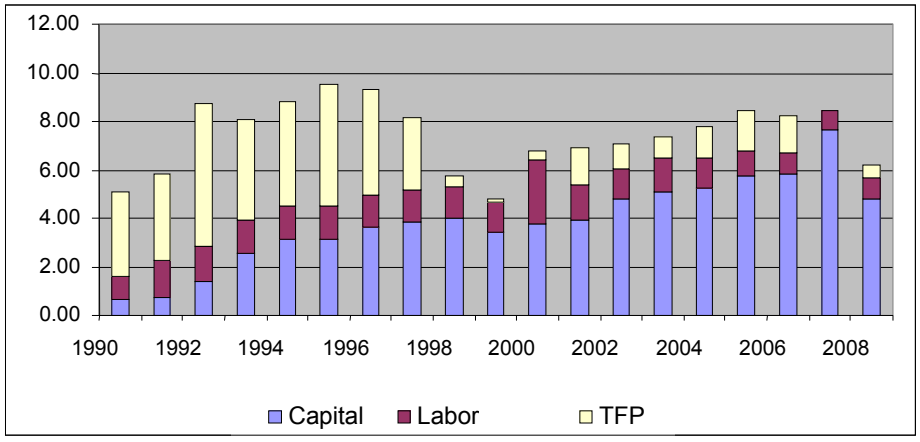
[16] This section is mainly extracted from the study by Dinh Hien Minh et al (2009), with updated computation of TFP for 2009.

improving efficiency of capital and labor utilization, owing to such factors as technological innovation, production rationalization, and improvement of managerial and labor skills. The economy with higher efficiency has higher TFP. Only relying on TFP growth, economic growth can be considered to be stable and sustainable (see Appendix A for computation method).

Computation results of contribution of such factors as capital, labor and TFP of the whole economy were presented in Figure 4.1, Table 4.2 and Appendix B. In the period 1986-2008, TFP growth rate was the highest in 1992 (5.85%), followed by those in 1994 and 1995 (of 4.3% and 5.0%, respectively). Notably, TFP growth was negative in 1986 and in 1987, whereas attaining small positive values in 1989, 1998 and 1999.

The variations of TFP growth rates over different planning periods were presented in Figure 2. In the period 1986-1990, TFP growth varied strikingly, partly reflecting the failure of efforts to stabilize Vietnam's macro-economy throughout the period. The policy reforms in this period were aimed at improving the efficiency of the economy, yet the persistent macroeconomic imbalances, production stagnation, famine spread in rural areas and prospective decline in aid from Eastern European and former Soviet Union countries pushed Vietnam into crisis.

Figure 4.1: Roles of capital, labor and TFP in TFP growth



Source: Author's calculation from data of Department of National Account, GSO

During the period 1991-1995, TFP grew dramatically with the rate of 4.56% per annum, contributing to 56.06% of GDP growth rate on average. This

period witnessed comprehensive and thorough reforms in Vietnam's economy. Many new policies were promulgated and implemented to enhance SOE efficiency and to promote private sector development, while at the same time placing greater emphasis on trade expansion and FDI attraction. Furthermore, in this period, Vietnam's reforms were accompanied by the favorable international context with the recovery and relatively high growth of the world economy and Vietnam's key trade partners. Accordingly, it can be claimed that Vietnam's resources were allocated more efficiently in this period.

In the period 1996-2000, Vietnam was severely affected by the regional financial – monetary crisis, coupled with sluggish economic reforms, resulting in a low growth rate of TFP. For these years, average TFP growth only reached 0.52% per annum, and only contributed 3.34% per annum to GDP growth.

Table 4.3: Contribution of capital, labor and TFP to GDP growth

	1986-1990	1991-1995	1996-2000	2001-2005	2006-2008
Contribution to GDP growth in percentage point (%)					
GDP	4.45	8.19	6.96	7.51	7.62
Capital	2.21	2.17	3.75	4.95	6.08
Labor	1.59	1.46	1.53	1.28	0.86
TFP	0.65	4.56	1.68	1.28	0.68
Contribution as a share of GDP (%)					
GDP	100.00	100.00	100.00	100.00	100.00
Capital	55.14	25.39	56.83	65.76	79.47
Labor	38.20	18.54	23.03	17.23	11.60
TFP	6.66	56.06	20.14	17.01	8.94

Source: Author's calculation from GSO data

Periods 2001-2005 and 2006-2009 witnessed drastic economic reforms with many policies related to SOE reform, private sector development promotion, trade and investment liberalization. However, during periods 2001-2005 and 2006-2008, TFP growth tended to reduce gradually. Specifically, TFP growth rate just averaged at 1.28% and 0.68% per annum, thus contributing 17.1% and 8.94% to GDP growth rate in the two periods 2001-2005 and 2006-2008. In this regard, it is noted that GDP growth rates in these two periods were quite high, averaging at 7.51% and 7.62% per annum respectively, but mainly based on the expansion of capital stock, which contributed more than 65.76% and 79.47% to GDP growth rates for respective periods 2001-2005 and 2006-2009 (Table 2). Table 2 also indicated that Vietnam's economic growth relied heavily on capital intensity,

while the contribution of TFP and labor to GDP growth decreased substantially since 2000. As claimed by Dinh Hien Minh (2008), the capital-intensive sectors tended to increase investment at a faster rate than production, implying inefficiency of production activities.

Vietnam's capital-intensive growth model is partly justified on the following grounds: i) the current technological level in Vietnam was relatively lower than that in other regional countries[17]; ii) the labor force was plentiful in quantity but mainly consisted of unskilled laborers[18].

In general, the economy since 1996 up to now has witnessed slower TFP growth, with declining contribution to economic growth. Meanwhile, expansion in capital stock contributed more and more to economic growth. Vietnam's economic growth over the past years was mainly driven by production scale expansion – fixed capital expansion. Meanwhile, the impacts of other factors such as technological innovation and improvement of labor skills remain limited. That is, the small contribution of TFP growth to economic growth reflects the unsustainability of the latter to some extent. Vietnam can hardly maintain the economic model of high growth rate basing on high investment, as the resources for investment are reaching its limits.

4.2.2 Gross capital formation – a component of the aggregate demand

By aggregate demand, gross capital formation as a share of GDP increased continually year-on-year (Figure 4.2 and Table 4.3), and this share was relatively higher compared to international standard. Specifically, the share of gross capital formation in GDP increased from 21.90% GDP in 1991-1995 to 28.54% GDP in 1996-2000, 34.18% GDP in 2000-2005 and 39.57%GDP in 2006-2009. It is noted that the two periods 1996-2000 and 2006 -2009 witnessed the implementation of

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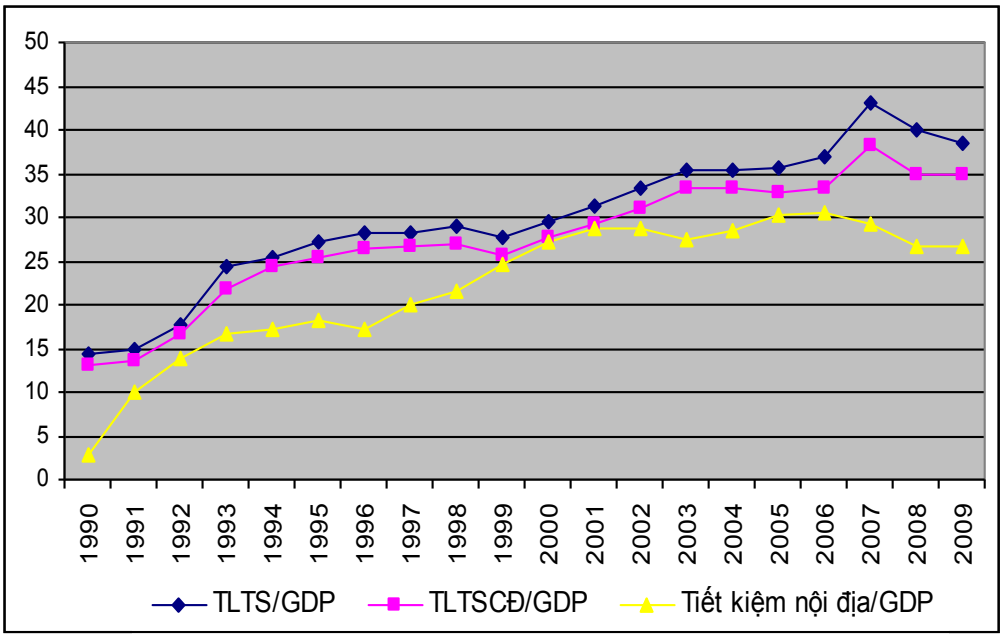
[17] World Economic Forum (WEF) in the Global Competitiveness Report 2008-2009 rank Vietnam's competitiveness 70th among a total of 134 economies with 4.1 points. Particularly, with regard to technological competitiveness index, Vietnam rank 79th with 3.12 points, while this figure was 4.41 points for Malaysia, 3.37 points for Thailand, 3.26 points for Philippines. The low level of technology is associated with low labor productivity.

[18] In 2009 the share of trained labors just accounted for 25%.

investment stimulus policies of the Government. In the period 1996-2000, investment stimulus policies were implemented in 1999-2000 to cope with the impacts of the East Asian financial crisis 1997-1998, whereas in the 2006-2009, investment stimulus policies were introduced in 2009 to prevent economic slowdown and promote economic growth in the context of the global financial crisis occurred in late 2008.

Figure 4.2: Gross capital formation, gross fixed capital formation and domestic saving (% GDP, current price)



Note: GCF: Gross capital formation; GFCF: Gross fixed capital formation
Source: Author's calculation from GSO data

Table 4.4: Capital formation as share of GDP (%, current price)

	1991-1995	**1996-2000**	**2001-2005**	**2006-2009**	**% change between 2006-09 and 1991-05**
Gross capital formation/GDP	21.90	28.54	34.18	39.57	+17,67
Fixed capital formation/GDP	20.37	26.68	31.95	35.30	+14,93
Domestic saving/GDP	15.19	22.10	28.75	28.26	+13,08
Foreign saving/GDP	6.71	6.44	5.42	11.31	+4,60

Source: Author's calculation from GSO data

Table 4.5 : Contribution of capital formation to economic growth

	1991-1995	1996-2000	2001-2005	2006-2009
Contribution to GDP growth in percentage point (%)				
GDP	8.19	6.96	7.51	7.05
Final consumption	4.52	3.84	4.99	5.81
Gross capital formation	4.11	2.71	3.78	4.77
Exports	5.20	6.29	7.54	7.09
Imports	-5.71	-5.69	-8.57	-11.17
Net exports	*-0.52*	*0.59*	*-1.03*	*-4.08*
Errors	0.07	-0.17	-0.23	0.55
Contribution to GDP growth in percentage (%)				
GDP	100.00	100.00	100.00	100.00
Final consumption	55.16	51.94	66.38	81.78
Gross capital formation	48.93	37.80	50.43	63.08
Exports	65.48	91.06	104.25	101.98
Imports	-68.86	-78.81	-119.25	-150.95
Net exports	*-3.38*	*12.26*	*-14.99*	*-48.97*
Errors	-0.70	-2.00	-1.81	4.12

Source: Author's calculation from GSO data

In general, in term of aggregate demand, the contribution of capital formation to GDP growth tended to increase, except for the period 1996-2000. Affected by the regional financial crisis, gross capital formation contributed to GDP growth at the rate of 2.71 percentage points or approximately 38% of GDP growth. Gross capital formation that contributed approximately 49% of GDP growth in the period 1991-1995 increased to more than 50% and 63.08% in the periods 2001-2005 and 2006-2009 respectively. (Table 4.5). So, it is noticeable that Vietnam's GDP growth in recent years have relied more and more on capital formation increases in term of aggregate demand. This conclusion is also in accordance with the conclusion in section 4.2.1 in consideration of contribution of capital as input for production: Vietnam's growth was investment-led growth.

Investment-led growth is not necessarily bad, particularly in case of Vietnam as Vietnam has been in a period that needs a great deal of investment for infrastructure improvement to support production and business activities. Furthermore, if investment decisions are good and investment financing is sustainable, then higher investment today means higher income tomorrow. But if investment is not efficient or is financed through excessive loans, then investment-led growth may give rise to concern of possible inflation as well as

macroeconomic instability. It is widely agreed that "growth cannot be sustained without an adequate level of investment…. Determining the target thresholds will naturally be influenced by country-specific factors (UNCTAD/TDR/2003). Investment/capital formation is considered as the way to get out of the so-called "the vicious circle of poverty" – low productivity, low saving per capita, low capital formation per capita, low productivity. Low productivity is considered to be the root cause of poverty and a focal point of the vicious circle that needs to be addressed with capital formation (Thirlwall A. P., 1994).

As above mentioned, investment/capital formation has played an increasing important role to Vietnam's growth. In this regard, saving is the decisive factor to build up the financial resource for investment/capital formation. In the long run, the economic growth rate relies heavily on the rate of saving. Experiences of successful countries in East Asia show that saving plays the most important role to ensure a high and sustainable growth rate (Klaus S. H., Luis S. and Andres S., 1994).

In Vietnam, the rate of domestic saving in GDP increased dramatically from 15.19% in 1991-1995 to 22.10% in 1996-2000 and 28.75% in 2000-2005. But since 2000, the tendency of increasing saving rate seemed to slow down and the average saving rate reached 28.26% GDP in 2006-2008 (Figure 1 and Table 3). While investment/capital formation tended to follow an upward trend, saving tended to slow down, resulting in a broadening gap between saving and domestic investment, which went upward to 11.77% GDP. This means that investment/capital formation has become more and more relied on foreign capital and the broadening gap between saving and domestic investment is an important cause of current account deficit increases and macroeconomic instability.

5. Investment efficiency and possible risks of investment-led growth in Vietnam

5.1 Investment efficiency – ICOR

Among inputs of production (capital formation/investment, labour, human capital, technology,…), capital formation/investment is considered to be the most important factor influencing Vietnam's growth in the current period as analyzed in Section 4.1. Accordingly, Section 5.1 will study the efficiency of capital/investment and its impacts on economic growth through Incremental Capital Output Ratio (ICOR), which shows the amount of capital investment

incurred per extra unit of output. In principle, the higher ICOR , the lower capital efficiency. Furthermore, with the use of ICOR, capital efficiency can be calculated not only to the whole economy but also to separate industries and ownership forms, which is not easily done through TFP computation employing the growth accounting framework or getting difficult access to firm-level microdata. In computation and use of ICOR for investment efficiency analysis, it is noted that "the concept of ICOR is intuitively appealing, but its mechanical application may lead to unwarranted conclusions" (World Bank 2008). In theory as well as in practice, ICOR should be calculated for long periods, about 5-10 years or a development cycle, so that evaluations will be drawn in the normal condition. ICOR should not be compared based on annual basis, or in unusual conditions such as the 2009 financial crisis. Table 5.1 represents computation results of ICOR for the whole economy using data on capital formation and investment

Table 5.1: ICOR of Vietnam's economy

	1991-95	**1996-00**	**2001-05**	**2006-09**
GDP growth rate	8.19	6.96	7.51	7.05
Gross capital formation growth rate (%)	21.14	9.51	11.41	12.31
Investment growth rate	31.77	11.47	14.13	15.72
ICOR (Gross capital formation)	2.73	4.51	4.62	6.02
ICOR (Investment)	3.30	6.18	7.04	10.22

Source: Author's calculation from GSO data

ICOR for Vietnam's gross capital formation increased twice from 2.73 in the period 1990-1995 to 5.4 in the period 2006-2009 (Table 5.1). According to Vu Quang Viet (2009), China's ICOR in the period 2001-2006 was 3.9 with the annual GDP growth rate of 9.7%. Korea's ICOR was 3.0 but its GDP growth rate was 7.9% per annum in the period 1961-1980, i.e., the transition period on the eve of reaching the high-income country status. Thailand witnessed a GDP growth rate of 8.1% per annum with ICOR of 4.1 in the period 1981-1995. Malaysia's ICOR was 4.6 and GDP growth rate of 7.1% per annum in the period 1981-1995. No country experienced such a high ICOR like Vietnam, implying that Vietnam's economy was of low productivity and inefficient.

Table 5.1 shows that ICOR calculated for gross capital formation (incremental fixed capital formation) and investment (monetary flows for

investment) was very different, showing a big gap between ICOR indices among categories of consideration. This indicated that investment was inefficient, so, there was a high possibility that investment capital was loss/wasted and/or Vietnam had focused too much on development of more capital-intensive industries.

In term of investment efficiency of the state economic sector, Table 5.2 shows that investment efficiency of the state sector was of most concern, which was reflected in a highest level of ICOR of the state sector compared to the non-state sector and FDI sector. This was partly because the state sector was responsible for investing in infrastructure, social areas, remote, mountainous and disadvantaged areas where other economic sectors were reluctant to invest given a concern of low capital recovery. However, a high ICOR index of the state sector was also due to investment fragmentation, corruption, loss or waste of investment in the context of cumbersome administrative procedures.[19]

Table 5.2: ICOR (investment) by ownership

	1991-95	**1996-00**	**2001-05**	**2006-09**
ICOR	3.30	6.18	7.04	10.52
- State sector	2.83	9.90	9.78	25.31
- Non-state sector	2.14	2.85	4.15	5.10
- Foreign-invested sector		5.04	8.75	13.54
	1991-2000		**2001-2009**	
ICOR	4.74		8.78	
- State sector	6.37		17.55	
- Non-state sector	2.50		4.62	
- Foreign-invested sector	5.04*		11.14	

Note: 5.04* for the five-year period 1996-2000

Source: Author's calculation from GSO data

In term of ICOR of the FDI sector, this sector recorded the second largest ICOR after the state sector. ICOR of the FDI sector in the period 2002-2009 was much higher than that in the preceding 10 year period. There is a wide recognition that the Vietnam's current investment climate is relatively attractive to investors compared to neighboring countries, particularly since Vietnam implemented more drastic economic reforms in 2000 Vietnam became a full

[19] More details are presented in Section 3.3 "Corruption and Anti-corruption in Vietnam" in CIEM (2004) and Section 3.2 "Corruption and Anti-corruption in Vietnam" in CIEM (2006)

member of WTO in 2007. More attractive investment environment plus with stronger decentralization in investment management have contributed to a wave of FDI flowing into Vietnam in this period (Table 5.3). FDI flows in Vietnam in the period 2005-2009 mainly focused on the real estate sector or sectors related to real estate such as construction of golf course combined with villa, hotel or restaurant (table 5.3). These were sectors with high rates of profit given priorities in land allocation and tax deductions. In another aspect, the increasing volume of FDI also gave rise to the concern of absorptive capability amid principal bottlenecks on infrastructure, administration reform progress, and human skills and competence. Accordingly, there problems also contributed to the relatively high ICOR of the foreign invested sector.

Table 5.3: Pledged FDI in Vietnam by sectors, 2003-2009

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Total FDI (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture and Forestry	1.2	2.4	0.6	1.2	0.2	0.3	0.6
Fishery	1.3	0.2	0.2	0.2	0.0	0.0	0.0
Mining and Quarrying	2.0	3.6	0.8	1.2	1.2	10.7	1.7
Manufacturing	73.8	73.7	70.4	68.9	51.0	45.2	17.1
Production and distribution of electricity, water and gas	1.3	0.4	0.3	0.0	0.0	0.0	0.8
Construction	0.4	5.0	2.5	5.3	4.7	0.8	2.8
Trade and repair of motor vehicles	7.4	0.9	1.5	1.2	0.6	0.1	1.1
Hotels and restaurants	**0.8**	**3.3**	**0.9**	**4.2**	**9.2**	**2.1**	**39.6**
Transport, storage and communications	0.0	1.3	10.0	0.4	1.7	2.9	1.3
Finance, credit	9.7	0.7	2.1	0.3	0.2	0.1	0.4
Real estate business and consultancy	**0.4**	**4.8**	**6.7**	**15.2**	**28.6**	**37.0**	**33.8**
Education and training	0.1	0.3	0.4	0.2	0.1	0.1	0.1
Health and social work	1.3	0.4	3.0	0.1	0.5	0.6	0.1
Culture and sport activities	0.4	2.9	0.3	1.6	1.9	0.0	0.5
Personal and public service activities	0.0	0.0	0.3	0.1	0.0	0.0	0.1
Total FDI (million USD)	**1.900**	**4.222**	**6.840**	**12.004**	**21.348**	**71.726**	**23.107**

Source: Author's calculation from GSO data

ICOR of the non-state sector was presented in Table 5.2, showing that this sector, to some extent, used capital more efficient than the other two sectors. Nevertheless, a lower ICOR of the non-state sector may find difficult to get access to investment capital for investing in advanced technologies to improve labor productivity.

5.2 Possible Risks of investment-led growth in Vietnam

5.2.1 *Theoretical considerations*

In order to analyze possible risks associated with investment-led growth, a series of identity related to the computation of GDP expenditure category was used as follows:

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

$$I = Ip + Ig \quad (2)$$

$$DS = GDP - C \quad (3)$$

In which: GDP denotes Gross Domestic Product; C denotes final consumption; I denotes capital formation; Ip denotes capital formation of households and enterprises; Ig denotes capital formation of the Government (from state budget); X denotes exports of goods and services; and M denotes imports of goods and services; DS denotes domestic saving.

If I > DS, i.e., capital formation is greater than domestic saving, then the shortage must be compensated by external saving, i.e., through (M-X). Domestic saving consists of domestic saving of households and enterprises (DSp) and domestic saving of the government (from state budget) (DSg). Therefore, from identity (1) and identity (2) we have the following identities:

$$I = Ip + Ig = DSp + DSg + (M - X) \quad (4)$$

$$Ig - DSg = DSp - Ip + (M - X) \quad (5)$$

$$GBD = DSp - Ip + (M - X) \quad (6)$$

Identity (6) shows that government budget deficit (GBD) are interactive with private investment and current account deficit. The relationship between government budget deficit and current account deficit relied heavily on monetary policies and the export-import elasticity. In case of government state budget deficit occurs, the state budget deficit can be financed by the following four ways: money printing (with possible inflation); use of foreign currency reserve (foreign exchange may be problematic); foreign loans (debt crisis may happen if capital sources are not used efficiently, domestic loans (possible increase of interest rate and increasing pressure on private investment, thereby leading to domestic debt crisis.

5.2.2 Possible risks of investment-led growth in Vietnam

Risks associated with current account deficit

As mentioned in Section 5.1, in an economy when investment is greater than domestic saving then the economy must use external saving or mobilize foreign capital, however, this mobilization is limited both in time and scale because the economy cannot increase foreign loans continuously. In order to mobilize external capital sources, since the starting time of economic reforms, Vietnam has pro-actively implemented open-door policies toward trade and investment liberalization, promulgation and gradual perfection of policies to attract FDI, and introduction of policies to attract foreign indirect investment (FII) recently (see Section 2 for more details)

The capital inflow structure in Vietnam since 1990 to 2009 shows that the current account deficit has mainly been financed by FDI flow as shown in Table 5.4. However, there is a noticeable change in structure of capital inflows. Although FDI flow represented the major role to finance current account deficit in all planning periods (1991-1995, 1996-2000, 2001-2005, and 2006-2009); the two recent periods 2001-2005 and 2006-2009, however, the share of FDI flow to finance current account deficit tended to decrease while the share of medium and long-term loans and FII tended to increase. Take the period 2006-2009 for example, medium and long-term loans accounted for nearly 40% and FII increased to 36.44% of the current account. Given these changes in capital inflow structure, the share of foreign debt without preferential interest rates increased and foreign loans with floating interest rates accounted for more than 50%. That is why foreign debt has become more vulnerable with changes in interest rates in the international financial market and changes in exchange rate between VND and other currencies. In addition, for 2009 alone, due to overall BOP deficit, Vietnam's foreign reserves dropped by more than 8 billion USD to finance the overall BOP deficit. If foreign loans tend to increase and foreign reserves tend to decrease to finance investments, while those investments are not efficient, there is a high possibility of occurrence of a debt crisis.

Table 5.4: Structure of foreign inflows in Vietnam

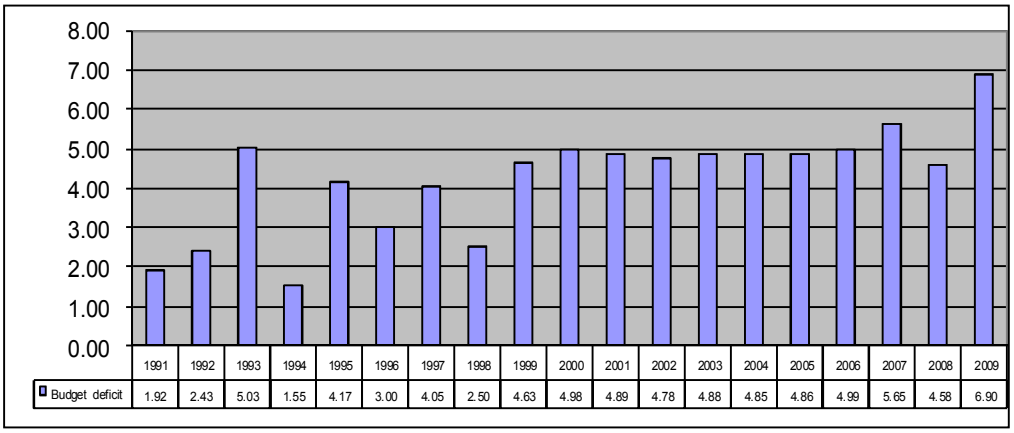
	Yearly average 1991-1995		Yearly average 1996-2000		Yearly average 2001-2005		Yearly average 2006-2009	
	Million USD	%CA	Million USD	%CA	Million USD	%CA	Million USD	%CA
Current Account (CA)	-841.2	100.00	-467.4	100.00	-788	100.00	-5685.52	100.00
Net FDI	756.8	89.97	1799.2	384.94	1500.6	190.43	5878.75	103.40
Medium and long-term loans	-183.6	-21.83	137.6	29.44	525.6	66.70	2127.25	37.42
Net short-term loans	84.6	10.06	-135.2	-28.93	0.6	0.08	548.25	9.64
Securities investment	0.0	0.00	0.0	0.00	173	21.95	2073.5	36.47
Money and deposits	0.0	0.00	-711.2	-152.16	40	5.08	362.5	6.38

Source: Author's calculation from IMF data

Risks associated with state budget deficit

As the GDP growth target in the annual socio-economic development plan is always set higher in the next year than the preceding year so when the economy was affected by the regional financial crisis with growth slowdown and potential risk of deflation in the period 1997-1998, the Government implemented the investment stimulus package through budget instruments and credit relaxation (lowering interest rates, use of monetary instruments and strong devaluation of domestic currency) in 1999. Therefore, since the year 2000 one of determinants of economic growth was investment as analyzed in Section 4.2. in the period 2006-2009, in order to cope with negative impacts of the financial crisis and economic slowdown, the government implemented the investment stimulus package in early 2009 to sustain and promote economic growth. As a result, budget deficit since 1999 was relatively high, approximately 5% GDP; the year 2009 in particular had a high level of interest rate of 6.9% GDP (Figure.1). Accordingly, budget deficit of the period 2000-2009 has been vastly different compared to the previous 10-year period (1991-1999) to which budget deficit in the period 1991-1999 was about 2-3% GDP.

Figure 5.1 Budget deficit in 1991-2009 (% GDP)



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Budget deficit	1.92	2.43	5.03	1.55	4.17	3.00	4.05	2.50	4.63	4.98	4.89	4.78	4.88	4.85	4.86	4.99	5.65	4.58	6.90

Source : Ministry of Finance

To finance budget deficit, the Government had to borrow both at home and abroad. Generally speaking, indicators of foreign debts such as total foreign debt and public debt as shares of GDP, debt payment service to export of goods and services are considered to be manageable. The year 2009 witnessed the highest levels of total foreign debt and public debt of 39% and 29.3% respectively (MOF,

2010). However, there still exists implicit debts that were not accounted but these debts were substantially high (Box 1).

Box 1

"With regard to Vinashin's debts, the Government did not publicly guarantee, which was not reflected in the government's public debt; however, Vinashin's bonds and debts acquired through banks are giving rise to the concern of the Government to handle if Vinashin goes bankrupt. So I would like to emphasize that implicit debts are potentially at risk »

Source : Mr Benedict Bingham, IMF Resident Representative for Vietnam stated in the workshop "*Public debts: International experiences and lessons for Vietnam* " organized by the Finance – Budget Committee of the National Assembly

(http://sgtt.vn/Goc-nhin/129675/Vinashin-va-ganh-nang-ngan-sach.html, accessed on 22/9/2010)

By international accounting approach, i.e., exclusion of base debt payment but inclusion of expenditures incurred beyond estimated budget, budget deficit of the period 2000-2009 is probably higher. So, in case of increasing investment spending, high and chronic budget deficit not only puts increasing pressure on trade account deficit and current account but also results in increasing inflation expectation, thereby creating negative impacts on macroeconomic instability in general. This implies that economic growth based on excessive investment will be unsustainable.

6. Concluding remarks and recommendations

6.1 Concluding remarks

The study examined major policies impacting the mobility and allocation of investment capital for economic growth and economic structure shift since 1990 up to now. The study results show that the annual growth rate of investment and capital formation tended to increase over the plan periods; investment sources were diversified, thereby impacting economic growth and structure shift.

The paper also analyzed the role of investment to economic growth both from the supply side and demand side. In the supply side, with the use of growth accounting approach, the results show that Vietnam's growth model so far has been investment-led. Vietnam's economic growth over the past years was mainly

driven by production scale expansion – fixed capital expansion. Meanwhile, the impacts of other factors such as technological innovation and improvement of labor skills remain limited. That is, the small contribution of TFP growth to economic growth reflects the unsustainability of the latter to some extent. Vietnam can hardly maintain the economic model of high growth rate basing on high investment, as the resources for investment are reaching its limits.

With regard to aggregate demand, Vietnam's GDP growth in recent years have relied more and more on capital formation increases. This conclusion is also in accordance with the conclusion in section 4.2.1 in consideration of contribution of capital as input for production: Vietnam's growth was investment-led growth. Investment-led growth is not necessarily bad, and an adequate level of investment is needed to help the economy to get out of the so-called "the vicious circle of poverty" – low productivity, low saving per capita, low capital formation per capita, low productivity.

Saving is the decisive factor to build up the financial resource for investment/capital formation. In Vietnam the domestic saving as share of GDP increased dramatically but there still existed a big gap between investment and domestic saving.

Amid many debates on ICOR's computation and interpretation, in this paper, ICOR was computed and used to evaluate investment efficiency in the supply side. The computation results of ICOR indicate that investment efficiency of the whole economy tended to decrease gradually. Furthermore, the use of data on gross capital formation and investment to compute ICOR revealed a big gap in figures of ICOR among categories of consideration, implying investment inefficiency, possibly because investment capital was loss or wasted and thus failing to improve production capacity.

Investment efficiency is worst for the state economic sector. This was partly because the state sector was responsible for investing in infrastructure, social areas, remote, mountainous and disadvantaged areas where other economic sectors were reluctant to invest given a concern of low capital recovery. However, a high ICOR index of the state sector was also due to investment fragmentation, corruption, loss or waste in the context of cumbersome administrative procedures.

In term of ICOR of the FDI sector, this sector recorded the second largest ICOR after the state sector. High ICOR in the FDI sector gave rise to the concern

of absorptive capability amid principal bottlenecks on infrastructure, administration reform progress, and human skills and competence.

The non-state sector was considered to use investment more efficient than the state sector and the FDI sector. To some extent, given lower ICOR, the non-state sector may find difficult to get access to investment capital for investing in advanced technologies to improve labor productivity.

In the demand side, *risks of investment-led growth may lead to debt crisis*. Gap between saving and investment is addressed by foreign saving / capital inflows, mainly FDI. However, the share of FDI flow to finance current account deficit tended to decrease while the share of medium and long-term loans and FII tended to increase. Given these changes in capital inflow structure, the share of foreign debt without preferential interest rates increased and foreign loans with floating interest rates accounted for more than 50%. That is why foreign debt has become more vulnerable with changes in interest rates in the international financial market and changes in exchange rate between VND and other currencies. In addition, for 2009 alone, due to overall BOP deficit, Vietnam's foreign reserves dropped by more than 8 billion USD to finance the overall BOP deficit. If foreign loans tend to increase and foreign reserves tend to decrease to finance investments, while those investments are not efficient, there is a high possibility of occurrence of a debt crisis.

Another risks may possibly occur is risks related to the issue of state budget deficit. In the recent time, budget deficit was relatively high compared to GDP (5-10%). Also budget deficit in the recent time was long not only puts increasing pressure on deficits of trade account and current account but also results in increasing inflation expectation, thereby creating negative *impacts on macroeconomic instability in general.* This implies that economic growth based on excessive investment will be unsustainable.

6.2 Policy recommendations

From research findings as above-analyzed, the followings policies are recommended to be incorporated in the 10-year socio-economic development strategy (2011-2020) and the 5-year socio-economic development plan (2011-2015)

- To overcome the investment-led growth model, it is necessary to continue restructuring the economy toward multi-sectors and market orientation.

- To build and implement policies on efficient mobilization and use of resources to drive the allocation of resources, thereby producing positive impacts on economic growth and structure shift.

With regard to policies on efficient mobilization of resources

- To accelerate SOE reforms, focusing on strictly implementing market principles and mechanism; elimination of credit allocation and directed loans; capital access must be based on financial health and good projects; debt suspension/reduction or debt payment by the Government should not be allowed.
- To work out policies to promote private sector development, thereby gradually reducing expectation and dependence on state budget; to consider reduction of the share of public investment in new development and investment plans; to prepare mechanisms to efficiently mobilize and use other social capital sources through such forms as BOT (Build – Operation – Transfer), BT (Build – Transfer), PPP (Public Private Partnership).
- To design and implement FDI attraction policies toward attracting FDI sources that are in line with socio-economic development goals, with clear roadmaps and commitments for implementation.

With regard to policies on efficient use of resources

- To work out policies to encourage intensive investment in R&D to accelerate structure shift of the economy toward increasing value added and forming sustainable and quality growth models such as the growth model based on higher industrial ladder and the TFP-based growth model.
- To continue improving policies on infrastructure and infrastructure service development, human resource training, and institutional reforms, seeing that these areas have powerful spillover effects on the whole economy.

- To pay due attention to consider for elimination/adjustment of rigid principles in preparation of socio-economic development plans such as growth targets are set higher for the next year compared to the current year or the fulfillment of growth targets is relied on increasing investment.

- To work out and implement policies on efficient use of capital, particularly with regard to external capital sources, avoiding possible traps of inefficient investment so as to prevent economic slowdown and macroeconomic instability.

- To work out policies for healthy development of the financial market.

- To emphasize the crucial importance of macroeconomic stability, strengthening the fiscal policy toward reducing budget deficit and keeping budget deficit at around less than 3% of GDP, thus preventing risks of foreign debt crisis while lessening inflation expectation./.

7. APPENDICES

Appendix A

In theory, we can calculate overall TFP for the whole economy as well as for each economic sector. However, Vietnamese data can only be used for calculating overall TFP for the whole economy, because it is not easy to establish data and fixed assets by economic sector. In this study, TFP is measured based on growth accounting framework.

Formula for measuring TFP growth rate basing on growth accounting framework

Based on Solow's production function, the Asia Productivity Organization (2001) has introduced growth accounting method for calculating TFP:

$$Y_t = A_t f(K_t, L_t)$$

Of which, at time t, Y_t is gross output, K_t is gross capital stocks, L_t is working labour and A_t measures the efficiency of combining two factors of production – labour and capital/assets. The above production function shows that A_t is totally independent from growth rate of capital and labour. Therefore, gross output can be changed in accordance with A_t if capital and number of labour is constant. With such meaning, A_t is considered as TFP, entirely different from productivity of each factor of production such as capital and labour.

From the growth accounting framework, growth rate of TFP is measured by:

$$GR\ TFP = GR\ GDP - (\alpha.\ GR\ K + \beta\ GR\ L)$$

Of which:

GR TFP is TFP growth rate;

GR GDP is GDP growth rate;

GR K is the growth rate of capital or fixed assets;

GR L is the growth rate of labour;

α and β is the contribution ratio of capital and labour ($\alpha + \beta = 1$). These

ratios can be measured by accounting method.[20]

Data for measuring TFP growth rate

The calculation of TFP growth rate in the whole economy using growth accounting framework requires the following data: (1) GDP growth rate or GDP in constant price (Y) using for calculating GDP growth rate; (2) capital/fixed asset growth rate or capital/fixed asset in constant price using for calculating growth rate of capital or fixed asset; (3) labour growth rate or number of labour using for calculating labour growth rate; and (4) income of laborer and value added of the economy or GDP in basic price.

In this Section, TFP growth rate is calculated for the period from 1986 – the start of economic reforms to 2008.

GDP and labour and employment data has just been officially published by GSO in annual statistic yearbooks.

Capital/Fixed asset data is not available because GSO has not officially published yet. Therefore, the authors have calculated these data in an indirect way and by using some certain assumptions:

- Capital/Fixed asset includes visible and invisible fixed asset (based on the definition set out by GSO)[21];
- Capital/Fixed asset is homogeneous. In other words, all components fixed asset have the same marginal productivity and depreciation.

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[20] In reality, these ratios can be measured by accounting method or Cobb-Douglas production function.

[21] In GSO definition, *visible fixed asset* includes labour materials in an independent manner, or in a system of combined separate components to carry out one or some certain functions and if lacking of any component, the system can not be operated, satisfying both of the conditions of usage time more than 1 year and value above 5 million VND; *invisible fixed asset* includes total expenditure or real expenditure for the establishment of enterprises, preparation of production, research and development, expenditure for buying invent license, property rights of film, photos, authors; computer software, technology procedures, mining.

- Depreciation of fixed asset in 1986, 1987 is 5% and that of 1995 is 5.5%, meanwhile those of other years is real depreciation ratios provided by the National Account Department (GSO);
- Fixed asset increased in year *t* is equal to basic investment or accumulated fixed asset in that year (GFCF).

Therefore, capital/fixed asset is measured by: $K_t = K_{t-1} + I_t – D_t$

Of which:

- K_t is fixed asset to year t;
- $K_{t-1}$is fixed asset to year t-1;
- I_t is fixed asset increased in year t;
- D_t is depreciation (decrease) of fixed asset in year t;

The year 1995 is chosen as the start for measuring fixed asset. Fixed asset in 1995 is at 5.5% depreciation and the value of fixed asset depreciation is in 1994 constant price (the value of fixed asset in current price divided by investment deflator). Value of fixed asset (in 1994 price) of 1995 onward is calculated by $K_t = K_{t-1} + I_t – D_t$ and 1995 backward by: $K_{t-1}= K_t –I_t + \delta. K_{t-1}$;

The radio of income contribution of working labour (β) and capital (α) is calculated based on accounts generating income. These ratios reflect the proportion to income of each factor of production over GDP in basic price. Basing on account generating income, GDP in basic price comprises of income of laborers (wage, salary and social insurance and mixed income), depreciation of fixed asset and net surplus. β is calculated as follows: β = wage, salary and social insurance/(value added in basic price – mixed income) with the assumption of the contribution ratio of labour in value added is the same with in mixed income.

Appendix B

Contribution of capital, labour and TFP to economic growth

Year	GDP growth rate (%)	Contribution to GDP growth rate		
		%K	%L	%TFP
1986	2.84	88.83	53.39	(42.22)
1987	3.63	79.58	43.90	(23.48)
1988	6.01	42.44	27.78	29.78
1989	4.68	52.00	47.68	0.32
1990	5.09	12.84	18.25	68.91
1991	5.81	12.07	27.07	60.86
1992	8.70	15.52	17.25	67.23
1993	8.08	31.12	17.75	51.13
1994	8.83	35.33	16.03	48.64
1995	9.54	32.92	14.61	52.47
1996	9.34	38.85	14.46	46.70
1997	8.15	47.38	15.86	36.76
1998	5.76	69.42	22.13	8.45
1999	4.77	72.33	25.07	2.60
2000	6.79	56.18	37.62	6.21
2001	6.89	56.51	21.05	22.44
2002	7.08	67.94	17.59	14.47
2003	7.34	69.72	18.77	11.51
2004	7.79	66.85	16.38	16.77
2005	8.44	67.77	12.38	19.85
2006	8.23	70.83	10.54	18.63
2007	8.46	90.24	9.23	0.53
2008	6.18	77.33	15.01	7.65

Source: Authors' calculation from GSO data.

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