ANALYSIS OF THE SOURCES OF ECONOMIC GROWTH OF VIETNAM

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1. Introduction

After unification in 1975, Vietnam implemented two five-year plans (1976-1980 and 1981-1985) to rebuild and develop the economy. This ten-year period was characterised by slow economic growth despite some efforts to solve problems arising from the old economic mechanism such as: (i) agricultural reform: shifting from a cooperative management system based on work-days to an output contract system which had significant success in rapidly increasing agricultural production without significant material investment; (ii) reform in prices, wages and money in 1985: raising prices in public sector to cope with the market price, increased wages and monetary reform. However, after this reform, the inflation rate in 1986 was 775% so that further changes to renovate the economy were clearly needed: *đổi mới* began. The *đổi mới* period, since 1986 to date, has had positive results: real GDP growth was on average 3.9% during 1986-1990, soared to 8.2% in 1991-1995, and remained at around 9% in both 1996 and 1997.

Starting in 1997 and continuing into 1998, the financial crisis strongly harmed some Asian economies such as Thailand, South Korea, and Indonesia, and may yet have negative effects on Vietnam's economic growth. However, despite an expected slow-down, the situation of the Vietnamese economy till the end of 1998 can be said relatively stable, having largely avoided the chaos and bad effects felt in other Asian countries. What are Vietnam's prospects, will growth continue at the high level witnessed throughout the 1990s or will it now falter and fall? Economic growth derives from various sources such as capital, labor, natural resources and technology-management, the first three of which are more-or-less readily quantifiable. The technology factor (productivity or, more broadly, efficiency) is determined by factors such as technology improvement, renovation in organization and management, and restructuring weak mechanisms through launching good, appropriate economic policies. The objective of this article is to analyse the economic growth of Vietnam in the period of renovation. What has been the contribution of the different factors - capital, labor and technology-productivity - in the economic growth of Vietnam? What are their trends? The analysis of this article points to some policies to maintain a sustainable high economic growth for Vietnam.

The remainder of this article first presents the main features of Vietnam's economic development for the recent period and then analyzes economic growth applying the growth accounting equation to the case of Vietnam. Finally is the interpretation of results and suggested policies for sustainable economic growth for Vietnam.

2. Some main features of Vietnam's economic development

Before the reform (đổi mới): 1976-1985

The economic development of Vietnam since unification can be divided into two periods: (i) before *đổi mới* (1976-1985) and (ii) after *đổi mới* (1986 to date), though in the former period there were some efforts to renovate policies. This periodisation allows us to examine development performance through the 5-year plans or each 10-year period.

The main features of the period from 1976 to 1985 were that national income increased 3.7% per annum (according to the material product system of national accounting), with agricultural production increasing by 3.8% each year and industrial production by 5.2% a year. However the country relied on imports for basic goods, including 1.5 million tonnes of rice and 60 million meters of cloth each year and there were signs of instability with a large budget deficit and growing foreign debt in both non-convertible and convertible currencies (reaching 8.5 billion roubles and US$ 1.5 billion). By the end of the period (1986) inflation had reached 774.7%.

The đổi mới period I: the five -year plan 1986-1990

During the 1986-90 plan the Government implemented three large programs on production of food, consumer goods and exports. The main motivation for these policies was the renovation of the economic mechanism.

The well-known resolution No. 10 (issued in April 5, 1988) on renovating agricultural management officially allowed the implementation of the output contract system to household farmers instead of only signing the output contract according to different stages of work in production as had been done since 1981. The decision 217/HĐBT gave autonomy in doing business to state-owned enterprises (SOEs) and indicated that the Government would no longer continuously subsidize SOEs. In December 1987, the Government issued the law of foreign investment in order to attract the foreign capital to the country. By the end of 1988, the SOEs stopped receiving capital from the state budget and were, from then on, required to obtain bank loans and pay interest. The same practice was applied for other activities such as the state construction companies. Taxes applied to the private sector were now also applied to SOEs (previously, instead of taxes, SOEs paid a percentage of their revenues to the national Treasury to recover the capital provided by the national budget) and the private sector was encouraged to participate in business activity. The banking

system was also restructured as well as reorganised to cope with the new situation.

Exports were encouraged by a reduced reliance on quotas and the issue of licenses for export activity passed to local government rather than being controlled by central authorities. In addition the exchange rate moved from VND 18 per USD (in October 1987) to VND4,200 to 4,575 per USD by December 1989, mainly by adjusting toward a market mechanism. Many price controls were abolished: the Government stopped providing subsidies through prices for SOEs, applied market prices to all material goods, and no more food coupons were provided by the state commercial stores.

The results of these changes were as follows:

- GDP increased 21.2% (an annual average increase of 3.9%);

-Agriculture: paddy cultivation expanded from 18 million tonnes per year to 21.5 million tonnes, shifting from importing rice to exporting rice (1989: exported 1.4 million tonnes; 1990: exported 1.5 million tonnes). Vietnam became the third largest rice exporter in the world.

-Industry: production of electricity, steel, cement increased. Crude oil output rose from 40,000 tonnes (1986) to 2.7 milion tonnes (1990).

-Exports: the annual average increase in exports was 28 per cent, rising to pay the import bill: the ratio of exports to imports in the period of 1976-1984 was 1:4, in 1990 this ratio was 1:1.

-Hyperinflation was controlled: the annual rise in the consumer price index fell from a 3-digit rate per year to 34.7% in 1989 (though rose again to 67.4% in 1990).

-Gross capital formation steadily rose, from 10.6% to 12.9% of GDP in 1990.

The đổi mới period II: the five-year plan 1991-1995

The strategy for this period was "stabilisation and social-economic development to the year 2000" and significant improvements in the situation were as follows:

-GDP increased by 48.3%, with an annual average increase of 8.2 %;

-Agriculture: annual food production reached 25 million tonnes (1991-1995) with annual average growth of 5% (exceeding population growth so that food per capita increased to 372.8 kg per capita in 1995). Rice exports increased by nearly 2 million tonnes per year.

-Industry: average growth of 13.5% per year (compared with 1989 in which it was -3.3%). This industrial development partially comes from the results of large investments in the past in heavy industries such as petroleum, electricity, cement, paper, steel. The increase in crude oil exploitation and capacity by large factories (cement, paper, sugar, hydraulic power) have contributed significantly to the growth of industrial production. But more important was the renovation in management and policies: these factories have autonomy decision in their making business and production.

-Gross capital formation as percentage of GDP continuously increased from 14.3% in 1991 to 26.6% by 1997.

-Structural transformation: the share of sector I (agriculture) has decreased while that of sectors II and III (industry and services) increased (see Table 1).

Table 1 Share of output by sector (per cent)

	1991	1992	1993	1994	1995
Sector I	40.5	33.9	29.9	28.7	27.5
Sector II	23.5	27.3	28.9	29.6	30.1
Sector III	35.7	38.8	41.2	41.7	42.4

-Inflation: the inflation rate decreased year by year as follows: 1991: 67.5%, 1992: 17.5%, 1993: 5.2%, 1994: 14.4%, 1995: 12.7%, 1996: 6%, and 1997: 5%.

In addition to these improvements in economic performance there were important developments in international relations. On July 11, 1995 the United States declared the normalisation of diplomatic relations with Vietnam. Later that same month Vietnam signed a cooperation agreement on economic, commerce, science-technology with the European Union and also joined Asean. Annual conferences on ODA have brought forward pledges of around US$2 billion each year and there were 1,604 foreign investment projects registered from 1988 to 1995 (with total capital of US$19 billion and implemented capital of US$7,306 million).

3. Analysis of the sources of economic growth of Vietnam

Methodology

The growth accounting method (as suggested in Gillis *et al.*, 1996) is based on the production function:

$$Y = f(K, L, R, a) \quad (1)$$

which relates the level of output Y to the inputs of capital (K), labor (L), farming land and natural resources (R) and productivity or technology (a). Equation (1) can be rearranged to calculate the factor contribution to the output growth as follows:

$$g_Y = w_K.g_K + w_L.g_L + w_R.g_R + a \quad (2)$$

where g is the growth of each variable and w the share of an input in income. For simplicity, we can write:

$$g_Y = (w_K.g_K) + (w_L.g_L) + a \text{ where } a = g_Y - (w_K.g_K) - (w_L.g_L) \quad (3)$$

Usually, data on g_y, w_K, g_K, w_L and g_L can be found and calculated from the national statistics yearbooks. So, "a" is treated as a residual or:

$$a = g_Y - (w_K.g_K) - (w_L.g_L) \quad (4)$$

However, w_K, w_L, g_K are not available in most developing countries. Therefore, we can apply two simple methods: (1) The perpetual inventory method and (2) The rate of investment (or gross fixed capital formation) as a percentage of GDP, in order to calculate the results of the growth accounting equation and estimate the contribution of capital, labour and total factor productivity to growth.

Equation (3) now can be rewritten as:

$$g_Y = i * I/Y + w_L.g_L + a \quad (5)$$

where i is the capital interest rate and I/Y is the share of investment in GDP.

The results of the first method, the perpetual inventory method, depend very much on g_K and the initial capital stock of the base year (K_0). In theory, we can say:

$$w_K.g_K = i * I/Y$$

The share of income from labour is not available. Therefore for Vietnam, we will use the value of w_L which Alwyn Young calculated for South Korea and Taiwan in the period 1960-1973.

Results for Vietnam

Table 2 shows the growth rates of output and labour and the investment rate for the periods used for our analysis. Table 3 is derived from these data using equation (5)

and assuming i = 0.1 and w_L = 0.7. Finally, Table 4 is then derived by standardizing by output growth for that period.

Table 2 Growth in output and labour and investment rate by period (% per annum)

Period	g_Y	I/Y	g_L
1987-1989	4.77	11.30	3.60
1990-1992	6.56	14.73	3.31
1993-1995	8.82	23.73	2.73

Table 3 Growth decomposition

Period	g_Y	(i. I/Y)	$w_L.g_L$	a
1987-1989	4.77	0.1*11.30	0.7*3.60	1.12
1990-1992	6.56	0.1*14.73	0.7*3.31	2.77
1993-1995	8.82	0.1*23.73	0.7*2.73	4.54

Table 4 Contribution to growth from different factors (%)

Period	Y	K	L	a
1987-1989	100	23.7	52.8	23.5
1990-1992	100	22.5	35.3	42.2
1993-1995	100	26.9	21.7	51.4

Interpretation

Capital is always a necessary factor for the development. Usually, developing countries cry out for capital and the Harrod-Domar model is often used to calculate the capital needed for development. According to the Solow-Denison model used above, the contribution of capital to Vietnam's economic development was around 25% in each period, increasing slightly in the latest period. This finding can be explained by the *đổi mới* which had a great effect at this period so that technology/productivity (a) has increased significantly, thus drowning out the effect of capital in the growth equation.

The increasingly important role of technology in the last period can also be attributed to the effects of the big investments on heavy industries in the past which then started to operate, together with the foreign capital investment flow and capital loan, foreign aid brought to Vietnam. While the share of labor contribution to growth decreased from 52.8% to 35.32% then to 21.7%, the factor a increased significantly from 23.5% to 42.23% then 51.4% (more than half) through the three periods. This again can be due to the effects of the *đổi mới* policies of Vietnam, which have succeeded in transforming the economy from central planning to a market economy. Thus in the next years, in order to maintain high economic growth, though capital is necessary, continuous improvement in development policies, renovation of organization and management etc. are the most important issues because these can contribute to the growth more than other factors. Financial assistance from international agencies will be more effective if the capital is used in association with good and open economic management, a clear legal framework for economic activity and efficient government policies.

4. Comments and conclusions

Four main points should be made:

(1).Vietnam should concentrate more on the progress of the economic reform, and economic management in order to maintain a sustainable economic growth. The high achievements in the previous decade have proved that these activitives have significantly contributed to the economic growth of the country.

(2).The economic position of Vietnam is still weak. Although the annual average economic growth is 8.2% per year (period 1991-1995), the starting point of Vietnam is low (GDP per capita is only around US$220 so that it needs about ten years to increase it to US$400). Thus, Vietnam must maintain high economic growth rate in order to raise faster its standard of living. The infrastructure of Vietnam is very weak and not appropriate for the efficient performance of invested capital, there needs to be significant investment upgrading.

(3). The need for human resources in the new economic situation is huge but they are not provided appropriately both in terms of quantity and quality. Therefore, the education system in Vietnam must be reorganized and significant investment must be made in order to provide high-quality labor for the economy.

(4).The economic management mechanism is still new, and requires upgrading of the capability of government macroeconomic management. For example, 'Dutch disease' must be avoided in keeping too long the appreciation of the VND which will have negative effects on output. Before the Asian financial crisis, the Vietnam currency was kept stable at approximately VND11,000 per dollar. In 1998 after the effect of financial crisis, the exchange rate was VND14,000 per dollar. The adjustment of the exchange rate must aim at enhancing exports but at the same time it must keep the economy stabilised. Finally, policies to support companies that play an important role in the economy are strongly recommended; but for others, they must accept the discipline of the market■

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