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ANALYSIS OF THE RELATIONSHIP BETWEEN EXPORTS AND ECONOMIC GROWTH IN VIETNAM

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PREAMBLE

1. Introduction

a. The overall structure of the thesis:

Besides the introduction and conclusion, the thesis is divided into 5 chapters with 16 figures and 12 tables. Total pages of the thesis is 106 pages excluding appendices. Where: chapter 1, presented in 17 pages, introduces the theoretical basis of the relationship between exports and economic growth; Chapter 2 with a capacity of 22 pages presents the literature review and builds the research theoretical framework; Chapter 3, with 36 pages, analyzes situation of exports and economic growth of Vietnam, and the relationship with the economic factors in the path of interaction between exports and economic growth; Chapter 4 analyzes the empirical estimated results, presented in 14 pages; Chapter 5, with 8 pages, proposes a number of recommendations to promote a positive relationship between exports and economic growth in Vietnam.

b. New contributions of the thesis:

Based on the theoretical review and literature review, the thesis constructs theoretical frame and proposes study models on the relationship between exports and economic growth in Vietnam. Thereby determining the paths of mutual interaction between exports and economic growth. In which:

- Exports growth will help improve resource factors such as job creation, additional capital for the economy, and increasing total factor productivity, thereby promoting economic growth.

- Economic growth helps increase productivity through economies of scale, leading to production costs and commodity prices are decreased. This will have an impact on increasing the real exchange rate, improving competitiveness in international trade and therefore having the effect on promoting exports.

- The thesis combines qualitative and quantitative analytical methods, thereby providing the results show that exports and economic growth in Vietnam has impacted supporting mutually in either direction in the short-term and long-term through the paths. The resource factors have played an important role to transmit the impact of exports to economic growth in Vietnam. Export growth has had a positive impact on forming and attracting the resources for economic growth in Vietnam in recent years. Simultaneously, economic growth has also contributed to export growth by increasing the real effective exchange rate and improving competitiveness in international trade.

- The thesis confirms that the export promotion strategy that Vietnam has pursued in recent years is entirely consistent. The strategies to promote exports and economic growth of Vietnam have supported each other very positively, contributing to improve the effectiveness of the macro economy.

- The thesis proposes a number of recommendations to promote a positive relationship between exports and economic growth in Vietnam. Including, continue

to promote exports in order to maintain motivation role for sustainable economic growth; improve the quality of resources of economic growth; and operate effectively the exchange rate policy to encourage exports and ensure macroeconomic stability.

2. Reasons for choosing topics

The relationship between exports and growth is an important topic to be discussed during the past half century. Export is proved to be one of the important motivation for the economic growth of the countries. Besides, economic growth can also have a positive impact on exports because faster output growth will increase productivity through economies of scale, this will help increase competitive advantage for nations and help increase exports.

In recent years, both of economic growth and export growth are objectives of macro adjustment in Vietnam. Are these two objectives complementary to each other or mutually exclusive? Clarifying the relationship between exports and economic growth will have a proper answer to the above question.

Through the research ***"Analysis of the relationship between exports and economic growth in Vietnam",*** the author wishes to clarify bilateral relationship between exports and economic growth in Vietnam, thereby recommending appropriate policies with Vietnam.

3. Purpose Research

- Systemizing theoretical basis and theoretical models to identify the paths in the relationship between exports and economic growth. And research also carry out a review of the empirical researches which have been done around the world to draw the lessons of international experience to the selection model empirical research on the relationship between exports and economic growth in Vietnam.

- Explaining the relationship between exports and economic growth in Vietnam. Thereby answering the central questions: Existing bilateral relationship between exports and economic growth in Vietnam or not? Has export growth helped raise capital, create more jobs and promote technology, thus promoting economic growth? Has economic growth increased competitive advantage (reducing production costs and commodity prices) of Vietnam on international markets, thereby boosting export?

- Recommending appropriate policies for Vietnam to boost exports and sustainable economic growth.

4. Subjects and scope of research

a. Research subjects:

- Situation of exports of goods, economic growth, the resource factors and the real effective exchange rate of Vietnam.

- Bilateral relationship between exports and economic growth in Vietnam.

b. Scope of the research:

The thesis researches on the relationship between exports and economic growth in Vietnam in the period from 1999 to 2014.

5. Research methods

The thesis uses methods as integrated approach, comparison, analysis, and systematic evaluation to review the researches of the relationship between exports and economic growth.

Besides, the thesis uses techniques of statistical analysis and modeling from the individual data on the real issues, so in order to evaluate the situation, trends over time and relationships between exports and economic growth and the factors that play a role of transmission. The qualitative and historical researches will provide a lively data of relationship between exports and economic growth, helping test the suitability of the original research model before taking quantitative analysis steps.

In quantitative analysis, the thesis uses time-series analysis techniques to estimate relationship between exports and economic growth in Vietnam. Specifically, the vector error correction model (VECM) will be evaluated along with the procedures as testing the defects of the model, estimating the impulse response function of the variables to endogenous shocks and decomposition of variance to test hypotheses about the relationship with the paths.

CHAPTER 1. THEORETICAL BASIS OF RELATIONSHIP BETWEEN EXPORTS AND ECONOMIC GROWTH

1.1. Some basic theoretical issues

1.1.1. Economic growth and the resources of economic growth

1.1.1.1. The concept and measurement of economic growth

Economic growth is defined as the increase in production levels by time, which is calculated according to real output total or real output per capita. To measure the growth we use growth rate calculated by the percentage change of production. [20]

1.1.1.2. The resources of economic growth

Based on the theories of economic growth, the economists acknowledge that economic growth depends on the factors as capital, labor, natural resources (land), knowledge, technology and skills of employees.

1.1.2. Exports and impact factors

1.1.2.1. The concept and the roles of exports

Exports is a part of international trade, including, goods and services of a country are selled, offered for other nations in order to get profit on the basic of using currency for payment. Monetary here is foreign currency for a country or for both countries.

1.1.2.2. The factors effect to export activity

a. International trade policy

Export activity is regulated by the international trade policy of the export country and import country. These policies regulate export activity to ensure compliance with the socio-economic development direction of the country and compliance with bilaterally and multilaterally international trade agreements that the country signed with international partners.

b. The income of import countries

National income has a direct impact on the demand and the solvency of the import country. Therefore, exports will increase as the import country's national income increased, and vice versa, exports will reduce as the import country's national income reduced.

c. Exchange rate

The exchange rate between two countries is the price at which the money of the two countries are exchanged each other. The real exchange rate is the index represents relative prices relations of domestic goods and foreign goods and thus reflect the competitiveness in international trade of domestic goods. When the real exchange rate increases reflecting the price of foreign goods is more relatively expensive than the price of domestic goods, or the international competitiveness of domestic goods is improved, thereby boosting exports increase and limit import growth.

1.2. Theoretical basis of the relationship between exports and economic growth

The relationship between exports and economic growth are often not reflected directly, but looked through the theories of international trade and economic growth.

1.2.1. Classical theory

The most typical representative of the classical theory of international trade is the Absolute advantage theory of Adam Smith and the theory of Comparative advantage of David Ricardo. The theory overcomes the limitations of the Mercantilism schools while emphasizing the role of productive specialization, comparative advantages and production efficiency in international trade.

1.2.2. Demand-side theory

Keynesian economic theory is considered the Demand-side theory because he appreciated the role of consumption and exchange, considering consumption and exchange as the number-one task that economists must to deal with. According to him, increasing exports is one of the factors that can boost aggregate demand and so will inevitably lead to increase production. In this model, aggregate demand shifting to the changes in exports will have the amplified impact on the output through the multiplier effect, similar to the effects of investment to output growth. [13]

This view continues to be developed into new theoretical model to analyze the relationship between exports and economic growth. Thirlwall built the Balance of Payments Constrained Growth Model based on the argument that: While the balance of payments improved will help expand aggregate demand, accordingly, will stimulating investment, increasing capital and promoting technological progress, creating more jobs and the factors of production will shift from less efficient regions to more efficient regions..., thereby promoting economic growth [123]. In addition, Awokuse (2003) confirmed that expanding exports may be a factor stimulating output growth directly as a component of aggregate demand, as well as indirectly through efficient resources allocation, economies of scale and stimulating technical improvements due to competition on foreign markets. Increasing exports can provide foreign exchange financing imports of intermediate goods and capital goods, which in turn, increasing the formation of capital, contributing positively to meet the needs of expanding domestic production and promoting growth [29].

1.2.3. Neoclassical Theory

Solow (1956) pointed out that the only factor maintaining sustainable growth is technological progress. Neoclassical ideology became the basic foundation for the researches and accounting of economic growth in many years later [19]. In particular, it has promoted the researches of the impact of international trade, including exports, to economic growth through extending the Neoclassical model by relaxing the assumptions of the model. In the empirical researches of expanded neoclassical models, exports have been put into production function through total factor productivity. They said that exports affect economic growth through increasing productivity.

1.2.4. Endogenous growth theory

The advent of the endogenous growth models has overcome the limitations of Neoclassical growth models while explaining the process of change in technology/productivity by parameters in the model. The relationship between exports and economic growth has also been identified in these theories.

Accordingly, exports impact on TFP through accumulating knowledge, the ideas, the innovation, human capital and other external effects – the endogenous elements maintain long-term growth. Export activity, according to a special way, has created positive technological externalities for the entire economy. Several researches demonstrated that, in the early periods of the growth process, the developing economies having high growth rates benefited from the transfer of technology from developed countries. Through the spillover effect, exports helped open economies to access wider to knowledge and technology, promoting research and development activities, increasing labor productivity and leading to economic growth [63], [111]. Along with the increasing balanced output level, exports also motivated to increase competitiveness, this can increase the amount of knowledge learned through the process of work [64]. That means work as much the workers will accumulate as much experience and knowledge, which can improve the efficiency of labor and production levels.

Simultaneously, economic growth could also affect exports through increasing productivity through economies of scale and promoting technological progress. The Verdoorn Law is the basis for most of the research explaining the hypothesis about the impact of economic growth to exports. Accordingly, the faster output growth will increase productivity by economies of scale. Therefore, a fast-growth economy will also undergo increase of productivity. If salary does not increase proportionally with productivity growth, the price will fall, increasing the competitiveness of exports and therefore affecting to encourage exports [112].

1.2.5. The virtuous circle model of the relationship between exports and economic growth

Theoretical basis analysis showed that exports and economic growth have interactive bilateral relationship. This process set up the virtuous circle of the relationship between exports and economic growth. The virtuous circle model of the relationship between exports and economic growth indicate the open circle relationship in a positive direction between exports and economic growth (Figure 1.1). In it, the faster output growth increases productivity by economies of scale and promote technological progress, leading to production costs and commodity prices are reduced. This will have an impact on increasing the real exchange rate[1], improving competitiveness in international trade and therefore have the effect of promoting exports. The increase in exports will boost output growth through

[1] The exchange rate used in this study is defined as the local currency exchange with a foreign currency. Therefore the real exchange rate increases meaning that the local currency depreciated, the foreign currency increased, and vice versa.

Keynesian multiplier effects, increasing consumer demand and stimulating investment. Cycling continues step forward when the economy achieve higher productivity. The cyclic process called virtuous circle of the relationship between exports and economic growth.

Figure 1.1. The virtuous circle model of the relationship between exports and economic growth

Source: *Blecker (2009)* [38]

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAME CONSTRUCTION

2.1. Literature review

According to the data and methodology used, can divide the empirical researches into two groups:

- The first group is the researches using multinational data (Cross data and Panel data).

- The second group is the researches using time series data in the individual countries.

2.1.1. Empirical researches in the world

2.1.1.1. The viewpoints said that exports affect economic growth (Exports Led Growth - ELG)

2.1.1.2. The viewpoints said that economic growth impacts on exports (Growth Led Exports - GLE)

2.1.2. Empirical researches in Vietnam

2.1.3. The general conclusion from literature review and identify "research gaps"

The overview analyses show that there are different results between the researches in the world on the relationship between exports and economic growth. The results depend not only on the theoretical approach, but also depend on using the econometric methods.

In Vietnam, the researches, which analyze the impact of exports to economic growth, used modern and scientific methods, giving the high reliability findings. However, these researches have only analyzed the impact of exports to economic growth, no research has clarified the bilateral relationship between exports economic growth in Vietnam. This is an important topic to help evaluate the correlation between the two objectives of macro adjustment in Vietnam in recent years that are exports growth and economic growth. Moreover, previous researches have only looked at the impact of exports to economic growth through TFP without evaluation of the role of exports to the formation and increase of the physical elements (capital and labor) for economic growth in Vietnam in recent years. Therefore, these are the "research gaps" that the thesis expect to "fill".

2.2. Theoretical frame

2.2.1. Study model of the thesis

From the results of the theoretical and empirical reviews, the thesis propose study model on the relationship between exports and economic growth in Vietnam basing on developing the virtuous circle model with the paths described as Figure 2.1.

In which:

**** From the supply side, exports affect economic growth through forming and attracting the resources for economic growth***

- Exports growth help create jobs for employees, especially for the countries with abundant labor force and high proportion of exporting labor-intensive products

such as Vietnam. Exports boost economy using more and more efficient the existing factors of production, including labor [8]. Besides, export expansion will also promote the increased labor and skilled manpower for the economy, thereby creating important resources for growth in the long-term.

Figure 2.1. Study model on the relationship between exports and economic growth in Vietnam

- Export is one of the great sources of additional capital for the economy, creating a significant foreign exchange earnings for the country, providing foreign exchange to allow increasing imports of technology, capital goods and intermediate goods necessary for the development of industries, increasing productive potential of the country. For a developing country like Vietnam, continuous exports growth has

become an important source of capital accumulation for industrialization, promoting economic growth.

- Exports affect economic growth through affecting total factor productivity (TFP) by allocating resources optimally through promoting comparative advantage and exploiting economies of scale. Besides, exports help promote technological progress through the effect of positive technology externality, and motivate increasing competitiveness to help accumulate experience and knowledge, thereby increasing labor productivity and leading to economic growth [63],[111].

**** Economic growth affects exports through improved competitiveness***

Economic growth leads to increased productivity through economies of scale and technological progress. The increased productivity will help reduce labor costs in product price if salary does not increase proportionally with productivity growth, thereby contributing to decrease domestic commodity prices. In theory, the REER is related inversely to the domestic prices (Formula 1.6), so when productivity growth makes prices fall will have an impact on increasing REER, improving competitiveness in international trade and therefore has the effect on promoting exports. This point is also shown in the researches of Blecker (2009), Sahni and Atri (2012), and Tanjung (2012).

2.2.2. Variables and measure

* *Total production (GDP):* measured by real gross domestic production of Vietnam, units of billion Dong and calculated at constant prices of 1994.

* *Export (X):* is the exports value of goods of Vietnam, units of billion Dong and standardized in 1994 prices.

* *Capital (K):* is the real capital stock, units of billion Dong and standardized in 1994 prices.

* *Labor (L):* Labor used in research is the labor force in the working age and is working in Vietnam's economy.

* *The real effective exchange rate (REER)* is an indication of the multilateral real exchange rate of Vietnam Dong against the currencies of major trading partners. Based on the total exports and imports value of goods of Vietnam to trade partners in the world, 10 major trading partners with the biggest proportion of exports and imports with Vietnam are selected include Taiwan, Germany, South Korea, United States of America, Japan, France, Singapore, Thailand, China and Australia.

* *The nominal effective exchange rate (NEER)* is an indication of the nominal exchange rate of Vietnam Dong against the currencies of major trading partners. NEER calculation is determined similar to the REER

2.2.3. Data sources

Data of GDP, investment, employment and exports are collected from the Vietnam General Statistics Office (GSO). Data sources used to calculate REER and NEER are collected from the database of the International Monetary Fund (IMF), including International Financial Statistics (IFS) and Direction of Trade

Statistics (DOT). Taiwan's data are collected from the web site of Taiwan Statistical Agencies (http://eng.stat.gov.tw).

2.2.4. Procedures for empirical estimation

Based on study model have been suggested, the quantitative analysis of the relationship between exports and economic growth will be performed by Eview 8 software, with variables of total output, exports of goods, capital, labor and real effective exchange rate. Performed sequence as follows:

**** Step 1:*** Log of the data series

Convert the data series on the logarithmic form is useful to troubleshoot heteroskedasticity problems. Logarithmic conversion help narrow the scope of the variables to be measured, thereby reducing the difference between the value many times over. In other hand, the logarithm of the data series will make the data series more stable, while avoiding conceal other characteristics of data. Moreover, we can linearize nonlinear relationships through logarithm of data series, e.g. as Cobb-Douglas production function, which can be estimated by common econometric methods.

The data series after converted to logarithm will have more logarithmic symbol "LN" front the name of each variable, then the variable symbol will be: LNGDP, LNK, LNL, and LNX LNREER.

**** Step 2***: Seasonal adjustment

Seasonal factors imply repeated changes in a data series. Due to cultural traditions of each country are different, weather factors are also different so that economic activities will be hard impact in some time of the year. The analysis of a data series including the seasonal factors will help us to have better insight about trends in data series. However, seasonal factors affect the stability of the series and distort the real nature of the economic factors.

Therefore, eliminating seasonal factors will give us better data series in analysis and forecasting. To eliminate seasonal factors in the series, the thesis uses the Moving Average Methods. The series after adjusted season will have more seasonal symbol "SA" behind the name of each variable, then the variable symbol will be: LNGDPSA, LNKSA, LNLSA, LNREERSA and LNXSA.

**** Step 3***: Unit root test

All data series that have been converted to logarithm and adjusted season will be tested stationary through a unit root tests (ADF). Stationary is an important assumption in the techniques of time series analysis. Data series can only be modeled if it is independent of time, or its statistical properties do not change over time.

**** Step 4***:

- If the data series are stationary, the VAR model will be estimated with the procedures as defects test of the model, estimating impulse response function of the variables to endogenous shocks, and decomposing variance to test hypotheses about the relationship between exports and economic growth under the paths. Optimal lags of variables were selected according to the criteria as LR (sequential modified LR test statistic), FPE (Final prediction error), AIC (Akaike Information Criterion), SC (Schwarz Information Criterion) and HQ (Hannan -Quinn Information Criterion).

- If the data series are not stationary, cointegration test will be performed through Johansen procedures. If variables is I (1) and have cointegration, the VECM model will be estimated with the procedures as defects test of the model, estimating impulse response function of the variables to endogenous shocks, and decomposing variance to test hypotheses about the relationship between exports and economic growth under the paths. Optimal lags of variables were selected according to the criteria as LR (sequential modified LR test statistic), FPE (Final prediction error), AIC (Akaike Information Criterion), SC (Schwarz Information Criterion) and HQ (Hannan -Quinn Information Criterion).

VAR and VECM model are the dynamic equation systems including all the mutual relationships between variables over time economic models (endogenous variables), but does not require too detailed indications about the structure of the economy. This will allow us to evaluate the dependent relationship between exports and economic growth and mediate elements of the paths.

CHAPTER 3. THE SITUATION OF EXPORTS AND ECONOMIC GROWTH IN VIETNAM

3.1. Commodity export situation of Vietnam

Import-export activities of Vietnam before renovation (1986) performed under the centralized planning mechanism, the State monopolized foreign trade, with main markets were the socialist countries and based on the agreements signed. The 6th meeting of Party (12/1986) had set out a comprehensive renewal policy of the country, which first must mention to reform economy, trade and services. Pursuing innovation in the field of export and import, the State focused to encourage exports, facilitating necessary supply of equipment, supplies, materials, technologies for national economy, helping boost the industrialization and modernization of the country. In 1988, the State began to loosen restrictions on the establishment of business organizations for export and import. Many localities, social organizations, private enterprises and foreign investment enterprises are engaged in foreign trade, some businesses which are allowed to import and export from 30 units before 1986 were started increases, exports increase, narrowing the gap between exports and imports, the rate of 1 export 3 imports in 1986 down to 1 export 1,3 imports in 1989.

In the following years, by opening the trading rights of imports and exports, removing business permit of imports and exports, removing barriers, strengthening the incentives, especially financial measures, turnover exports rose 23,3% in 1999 compared with 1998, the structure of exports and export-import market continued to shift in a positive direction. FDI enterprises were allowed to export goods that not in the investment license. Imports ensured to supply enough goods to domestic production and consumption. Trade deficits were reasonable restraint. Economic relation with foreign countries was expanded, forming unified market in the country linked to the world market; the state budget had significant revenue from trade taxes.

Decision 46/QĐ-TTg and Decree 44/2001/NĐ-CP have brought substantial changes to the export-import management, consistent with the market economy and export-import management regimes of other countries, contributing to the victory of the import-export activities and international economic integration in recent years. Commercial Law 2005 also played a big role in the improvement of the export-import policy in this period. In addition, the financial policies, namely the exchange rate policy always build a stable exchange rate policy, facilitating for the export-import firms.

The result is that in more than a decade, except in 2009 with a negative growth rate, Vietnam's exports have continuous grown at the average rate of 19,2% per year over the period of 2000-2014, especially, trade balance had a surplus of 2012-2014 period after 20 years continuous deficit. The structure of exports has been a positive shift in the direction of decreasing the proportion of raw products and increasing the proportion of processed products.

**** General evaluation***

Since 1986 to the present, along with deep integration in regional and world economies, export has always been regarded as one of the "pillars" of economic reform and development. With that role, exports of Vietnam have made impressive achievements in terms of size and growth rate. Income from exports is reinvested for importing machinery and equipment, development of infrastructure, generating important material premise for economic development. Simultaneously, exports have been also considered a positive factor in forming and attracting the resources for the economy and raising the living standards of the people and has brought Vietnam to join the ranks of middle-income countries since 2008.

However, despite being considered the motivation of economic growth, in fact that exports are only growing in width than depth. Exports of raw and semi-processed commodities, resource-intensive goods and minerals-intensive goods are also high proportion in the export basket. Processing goods are mainly labor-intensive goods and focus on stages of processing bringing low added value. In addition, exporting many commodities potentialize high risk of environmental pollution, reducing biodiversity and depleting natural resources.

3.2. Economic growth in Vietnam

3.2.1. Policy of economic innovation and reform in Vietnam

3.2.1.1. Developing composite economy

3.2.1.2. Industrialization and structural adjustment of economic sectors

3.2.1.3. Renewing economic management mechanism

3.2.1.4. Opening and proactive integrating international economics

3.2.2. The situations of economic growth of Vietnam

3.2.2.1. Achievements

- GDP Growth

Overall, Vietnam's GDP growth rate over the past two decades was high compared to other countries in the region and the world. Compared with some representative countries in the region, the economic growth rate of Vietnam always belonged to the first group along with China and Myanmar. By the end of 2014, economic growth of Vietnam had achieved 34 consecutive years (1981-2014), only lost the 38-years record (1977-2014)[2] held by China.

- Shifting the economic sectors structure

Along with the high GDP growth, economic sectors structure of Vietnam also had an important shift. From 1999 to 2014, the proportion of agriculture declined sharply from 25,4% to 18,1% in GDP, while industry and construction played an increasingly important role in the economy, increasing from 34,5% to 38,5%. The service sector accounted for the largest proportion, rising from 40,7% to 43,4% during the same period.

[2] According to data from the World Bank

Analysis of value added of each economic sector shows that the average growth of the construction and industry is the highest in three sectors but tend to decrease in 2008-2014 (10% in 1999-2007 and 6% in 2008-2014). Service sector grew highly, averaging 6,7% in 1999-2014. Along with industry and construction sectors, the service sector reflected quite clearly the vicissitudes of economic growth in Vietnam. Meanwhile, the growth of agriculture, forestry and fisheries was stable, frequently exceeding targets set by the government, but still much lower than the rest area, the average value was only 3,6% in 1999-2014.

- *Shifting the economic ownership structure*

The structure of the economic ownership changes in the direction of developing a composite commodity economy, operating under market mechanisms with the management of the State, where private firms are free to develop the scope and field of activity in the efforts approved by law.

- *FDI, exports and economic growth*

Economic reform with open policies has brought positive impacts on Vietnam's economy. Overall, Vietnam has achieved impressive growth in economy, maintaining low inflation, expanding exports and attracting FDI. Vietnam's economy has become quite open compared to other countries in the region according to criteria of ratio of commercial to GDP.

3.2.2.2. Limitations

Besides the achievements, Vietnam's economy still reveal the basic limitations:

- Economic growth is not sustainable, high growth in several years, such as 2000-2007, but several years of low growth 2008-2013. The general trend of growth is decreasing on the maximum speed and average speed of the periods.

- Economic structure imbalance: the state sector still accounts for a high proportion; not out of the traditional industry structure characterized by a high proportion of material production sector, labor and capital contribute primarily on growth, domestic production is increasingly dependent on the world market. This shows that the economic growth of Vietnam is based on factors including poor quality and unstable operation.

- The growth model bases mainly on capital; the quality of growth and competitiveness of the economy are low.

- The life of a part of the population still very difficult. Incomes of people are increasing in the last years, but the gap between the rich and the poor tend to increase rapidly in recent years. Shortcomings, weaknesses in the health and education sectors remain deadlocking, slowly improved. Natural resources are exploited exhausted and environmental pollution is still serious because of weaknesses in managing and handling violations.

3.3. Qualitative analysis of the relationship between exports and economic growth in Vietnam

3.3.1. The resource factors – the transmitting factors the impact of exports to economic growth in Vietnam

Exports growth will help improve resource factors such as job creation, additional capital for the economy, and increasing total factor productivity, thereby promoting economic growth. The following analysis will clarify the role of each resource factor in the impacted transmission of exports to economic growth in Vietnam.

3.3.1.1. Accounting the resources of Vietnam economic growth

Table 3.2 shows the result of calculating the contribution of resource factors in the economic growth of Vietnam. The results show that, the resource factors have a certain role for the economic growth of Vietnam. This obviously will be the transmission channel for the impact of economic factors, including export, to the economic growth of Vietnam.

3.3.1.2. Capital factor

One of the biggest additional capital sources for the economy is the foreign trade activities. To enhance capital accumulation for the economy, many countries have chosen policies to develop foreign trade, that means promoting exports, improving the balance of payments. The fact that exports generate significant foreign currency earnings for the country, providing foreign exchange to allow increasing imports of technology, capital goods and intermediate goods necessary for the development of the industry, increasing the production potential of countries. The average contribution level of capital was approximately 46.8% of GDP in the period 1996-2005 and increased to 51.6% in the period 2006-2014.

3.3.1.3. Labor factor

Exports growth also helps create jobs for workers, especially for countries with abundant labor force such as Vietnam. From the supply side, increasing employment will create important resources in long-term growth. Labor contributed to the economic growth of Vietnam on average of 25,6% in the period 1996-2014.

3.3.1.4. Total factor productivity

Exports affect economic growth through affecting total factor productivity (TFP) by allocating resources optimally through promoting comparative advantage and exploiting economies of scale. Contribution of TFP growth in Vietnam in the period 2001-2007 was 35,5%, then fell 10,3% in the period 2008-2012 before rising sharply in 2013-2014, about 55,4%. The growth of TFP in recent years also resulted from the increase in the social productivity of Vietnam, with the average growth rate was about 4,5% per year.

3.3.2. The real effective exchange rate, representing competitiveness in international trade, transmit effects of economic growth to exports

Calculation results show that the real effective exchange rate, exports and economic growth of Vietnam tend to fluctuate in the same direction, especially

during the periods of 1995-1999 and 2002-2012. This show that having a certain relationship between the real effective exchange rate, exports and economic growth of Vietnam in recent years. In the years of 1996-1998, 2005-2009 and 2012-2014, the real effective exchange rate tended to decrease, this is consistent with the decline of exports in the same year. Especially in the economic crisis periods of 1997-1998 and 2008-2009, the economic growth, the real exchange rate and exports both fell sharply. However, as the economy added growth rate in 2002-2004 and 2010-2011, the real exchange rate also tended to increase, so theoretically, will increasing the competitiveness of international trade of Vietnam. And the fact that, the exports growth in those years proved to this relationship.

CHAPTER 4. RESULTS OF EXPERIMENTAL MODELS ESTIMATION

4.1. Estimating the relationship between exports and economic growth through the paths

Before taking specific analysis steps to research the relationship between exports and economic growth in Vietnam, the author perform the descriptive statistical analysis and check the stability of the data series. To test the stationary, we perform unit root tests by Augmented Dickey Fuller (ADF) test with the assumption of coefficient and trend in data series, the lag selected by AIC standards. Test results indicate that all the data series are stationary in first differences with significance of 1%.

The next step is determining the optimal lags of model variables. The results show that, by the standards LR, FPE and AIC, optimal lag selected for the variables in the model is 3.

Granger causality tests are done to give an initial picture of the interaction between macroeconomic variables. Accordingly, capital and labor have a causal impact on economic growth, affecting the opposite way of economic growth to capital and labor is set up with low reliability. Similarly, between the exports and REER also exists a causal one way from REER to exports. Moreover, while economic growth and REER is found to have a causal relationship, the causal relationships between pairs of variables export-economic growth, export-capital and export-labor is not clear through statistical tests. The long-term causal relationship between the variables in the model will be analyzed in the next step through cointegration test and VECM model estimate.

Results of Johansen cointegration test point out that there are at least 3 cointegration relationships at 5% significance level. This also means that there are causal relationships between the variables in the long-term. With this information, the next step we perform estimating VECM model to determine the relationship between exports and economic growth in Vietnam.

VECM model is estimated with 3 lags in each variable, and general model takes the following form:

$$D(LNGDPSA) = \sigma_1 + \sum_{i=1}^{3}(\alpha_{1i}D(LNGDPSA(-i)) + \beta_{1i}D(LNKSA(-i)) + \gamma_{1i}D(LNLSA(-i)) + \rho_{1i}D(LNREERSA(-i)) + \theta_{1i}D(LNXSA(-i))) + \sum_{i=1}^{3}\lambda_{1i}EC_i(-1) + e_1 \quad (4.1)$$

$$D(LNKSA) = \sigma_2 + \sum_{i=1}^{3}(\alpha_{2i}D(LNGDPSA(-i)) + \beta_{2i}D(LNKSA(-i)) + \gamma_{2i}D(LNLSA(-i)) + \rho_{2i}D(LNREERSA(-i)) + \theta_{2i}D(LNXSA(-i))) + \sum_{i=1}^{3}\lambda_{2i}EC_i(-1) + e_2 \quad (4.2)$$

$$D(LNLSA) = \sigma_3 + \sum_{i=1}^{3}(\alpha_{3i}D(LNGDPSA(-i)) + \beta_{3i}D(LNKSA(-i)) + \gamma_{3i}D(LNLSA(-i)) + \rho_{3i}D(LNREERSA(-i)) + \theta_{3i}D(LNXSA(-i))) + \sum_{i=1}^{3}\lambda_{3i}EC_i(-1) + e_3 \quad (4.3)$$

$$D(LNREERSA) = \sigma_4 + \sum_{i=1}^{3}(\alpha_{4i}D(LNGDPSA(-i)) + \beta_{4i}D(LNKSA(-i)) + \gamma_{4i}D(LNLSA(-i)) + \rho_4 D(LNREERSA(-i)) + \theta_{4i}D(LNXSA(-i)))$$
$$+ \sum_{i=1}^{3}\lambda_{4i}EC_i(-1) + e_4 \quad (4.4)$$

$$D(LNXSA) = \sigma_5 + \sum_{i=1}^{3}(\alpha_{5i}D(LNGDPSA(-i)) + \beta_{5i}D(LNKSA(-i)) + \gamma_{5i}D(LNLSA(-i)) + \rho_{5i}D(LNREERSA(-i)) + \theta_{5i}D(LNXSA(-i)))$$
$$+ \sum_{i=1}^{3}\lambda_{5i}EC_i(-1) + e_5 \quad (4.5)$$

The estimation results show that: In 2nd cointegration relationship, the coefficient of error correction variables are statistically significant and correspond to the mark expected except for the coefficients of LNLSA. However, in 3rd cointegration relationship, this coefficient was found to be statistically significant. Therefore, error correction mechanisms exist for all variables in the model. This implies that these variables react to eliminate the imbalance in the long-term relationship between them after each period. Also, according to Granger (1988), when the coefficient of error correction is statistically significant exists Granger causality relationship between these variables in long-term. The estimation results also show that, in the short-term, exports have causal impact on labor; capital and labor have causal impact on economic growth; economic growth has causal impact on REER and exports. Results of defects test point out that the estimated model does not suffer from the defects of autocorrelation and heteroskedasticity.

We continue to consider the impact of various shocks to the dependent variables of the paths by estimating the impulse response function. The first is the impact of the shocks by the path of exports to economic growth. Cholesky ordering of endogenous variables in the model is implemented in the order of variables in the path, respectively LNX, LNK, LNL, LNGDP, LNREER. Accordingly, labor has instant response to export shock in 1st quarter, then decline. Capital and GDP response instantly and positively to export shocks, the response level of capital is increasing in long-term, while GDP responses strongest and fullest in 2nd quarter. For shocks of capital, GDP has the strongest response in 6th quarter. Meanwhile, with the labor shocks, GDP responses positively in the 2nd, 4th and 8th quarter.

As for the impact of the shocks by the path of economic growth to exports, Cholesky ordering of endogenous variables in the model is respectively LNGDP, LNREER, LNX, LNK, LNL. When shocks of GDP occur, REER increases in two first quarters, then decline. Again, exports response strongly and positively to the shocks of REER, the strongest and fullest response is in 4th quarter. Similarly, exports also response strongly and positively to GDP shocks.

Results of variance decomposition show that, in the first three quarters, the values in the past explain mainly to the changes of capital, labor and GDP with average explanation rate is about 85%. Then, the changes of capital and labor is explained highly by the shock of GDP with explanation rates are 42,5% and 35,8% respectively in the quarter 10. Meanwhile, the changes of GDP are influenced mainly by the shocks generated by itself, with average explanation rate is about 75%. The factors that have major explanation rate to the changes of GDP are the real effective

exchange rate and capital. The changes of the real effective exchange rate are also influenced by the shocks generated by itself, with average explanation rate is about 80%, followed by the impact of GDP and capital. Meanwhile, the value in the past only plays a big role for the changes of exports in the first three quarters. Then, the changes of this indicator are explained mainly by the real effective exchange rate and GDP, in which, the real effective exchange rate has the highest explanation rate, about 40%, while GDP explains about 17%.

4.2. General evaluation of the relationship between exports and economic growth in Vietnam

Through qualitative and quantitative analyses about relationship between exports and economic growth in Vietnam, research results show that:

- Exist the bilateral relationship between exports and economic growth in Vietnam through the paths in both short-term and long-term.

- Exports growth has been the motivation for economic growth, and the resource factors have played an important role to transmit the impact of exports to economic growth in Vietnam. Exports growth has had the positive impact on forming and attracting the resources for economic growth in Vietnam in recent years. Exports growth will not only helps increase productivity by promoting economies of scale, but also contribute to create more jobs and stimulate investment, increasing to accumulate capital, thereby promoting economic growth.

- Economic growth has also contributed to promote exports growth through increasing productivity and competitiveness in international trade (Represented by the real effective exchange rate). Accordingly, economic growth will lead to increasing productivity through economies of scale and technological progress. Productivity increases will help reduce production costs, thereby contributing to the decrease in commodity prices in the country. This will have an impact on increasing the real effective exchange rate, improving competitiveness in international trade and therefore having the effect to promote exports.

CHAPTER 5. RECOMMENDATIONS TO PROMOTE A POSITIVE RELATIONSHIP BETWEEN EXPORTS AND ECONOMIC GROWTH

5.1. Continue to boost exports in order to maintain motivation role for sustainable economic growth

In the coming years, exports need to achieve the fundamental transformation of the quality and scale, focusing on improving the added value of goods, creating appropriate place in the global value chain. In the long-term, needs to escape from processing, assembly, penetrating deeper and reaches higher up the ladder in the value chain with deep integration into the world economy. To achieve these changes, Vietnam should implement some basic content:

- Restructure exports toward reducing export of raw products (especially mineral resources), invest technology to increase exports of processed products, reduce dependence on import materials.

- Develop export markets, exploit opportunities to open markets from commitments of international economic integration. Penetrate and exploit better the key and large-scale markets as the US, EU, Japan, China, South Korea, ASEAN... Continue expanding markets of Oceania, Middle East, Africa and the US Latin... This will also contribute significantly to the process of restructuring of exports of Vietnam.

- Beside of developing and expanding export markets, Vietnam needs to ensure meeting the requirements of the technical barriers to trade partners, proactively deal with threats coming from the commercial litigation.

- Restructure import markets, prioritize and shift to FTA partners to take the preference of the FTAs and access markets of the developed industrialized countries having source technology, ensure economy of stable development.

- Develop synchronously supporting industry to promote the development of the industry, improve the efficiency of production and export.

5.2. Improve quality of resource factors of growth

- Improve the quality of human resources, boost productivity, take the total factor productivity of resources to become the biggest role for economic growth in Vietnam. Economic growth in the long-term should be based on the basis of high quality workers with creative ability and applying new technologies. Therefore, Vietnam needs to convert more powerful model of education, especially vocational education and higher education. Improve the training programs towards enhancing the practical skills, associating with practices, encourage creative thinking abilities of learners. Implement fully and effectively autonomy of universities, research institutes, attract teachers and talented scientists as the core for the development of science and technology and promote economic growth in the future.

- Free flow of capital through the restructuring of the financial system, restructure the banking system, healthy credit market and enhance the role of the

stock market in the long-term capital mobilization, promote the development of bond markets sharply, especially corporate bonds, mobilize the accumulated resources in the population, enhance attracting FDI, adjust policy and reform administrative procedures to attract more remittances.

- Besides, should continue to implement measures to improve the efficiency of investment, especially investment by the State. Eliminate discrimination between state enterprises and enterprises in other economic sectors with loans from state-owned commercial banks. Motivate quickly processing speed of bad debt, complete legal framework for bad debt trading market, encourage foreign and domestic investment trading bad debt. Utilize remittance flows, support private businesses using remittances to increase the competitiveness and growth quality of business.

5.3. Operate effectively the exchange rate policy to encourage exports and ensure macroeconomic stability

The results showed that the exchange rate transmit impact of economic growth to exports. Therefore, besides the role to control inflation and stabilize the purchasing power of the currency, the exchange rate needs to become positive aids in improving the balance of trade, increasing competitiveness of exports. To achieve this, Vietnam should implement the following tasks:

- Implement the mechanism of managed floating exchange rate instead of the anchoring exchange rate to increase the flexibility and ability to adapt to fluctuate in market. Simultaneously, the exchange rate will reflect more realistic with demand and supply signals of foreign exchange market. In the context of the economy is regaining momentum of growth and the foreign exchange market is existing two kinds of exchange rate (exchange rate on free market is always higher than the official exchange rate) as at present in Vietnam, the exchange rate established according to demand and supply of market will help push the real exchange rate rising, thereby boosting exports growth.

- In addition, needing better coordination between the Central Bank and the relevant authorities as market management, police... in the control of foreign currency transactions on the free market to curb speculative activities, hoard foreign currency and economic dollarization.

CONCLUSIONS

1. Conclusions

Vietnam has been implementing the export promotion strategies following sustainable and reasonable growth model between width and depth. Export area developing under the comparative advantages gained many achievements along with economic growth in Vietnam. By analyzing the relationship between exports and economic growth in Vietnam, the thesis has gained some following results:

- The thesis performs the theoretical review of the relationship between exports and economic growth. Thereby indicates the development of international trade theory and economic growth theory in explaining the relationship between exports and economic growth as well as analyzing the paths in the relationship between two indicators.

- The thesis performs the literature review, thereby determining the "research gap". That is, the domestic researches have only analyzed the impact of exports to economic growth, no research has clarified the bilateral relationship between exports economic growth in Vietnam. This is an important topic to help evaluate the correlation between the two objectives of macro adjustment in Vietnam in recent years that are exports growth and economic growth. Moreover, previous researches have only looked at the impact of exports to economic growth through TFP without evaluation of the role of exports to the formation and increase of the physical elements (capital and labor) for economic growth in Vietnam in recent years.

- From the results of the theoretical review and literature review, the thesis constructs theoretical frame and proposes study models on the relationship between exports and economic growth in Vietnam basing on developing the virtuous circle model. In which: Exports affect economic growth through forming and attracting the resources for economic growth; Economic growth also contributes to promote exports growth through increasing productivity and competitiveness in international trade.

- The thesis combines qualitative and quantitative analytical methods, thereby providing the results show that exports and economic growth in Vietnam has impacted supporting mutually in either direction in the short-term and long-term through the paths. The resource factors have played an important role to transmit the impact of exports to economic growth in Vietnam. Exports growth has had a positive impact on forming and attracting the resources for economic growth in Vietnam in recent years. Simultaneously, economic growth has also contributed to exports growth by improving competitiveness in international trade (Represented by the real effective exchange rate).

- The thesis proposes a number of recommendations to promote a positive relationship between exports and economic growth in Vietnam. Including, continue to promote exports in order to maintain motivation role for sustainable economic

growth; improve the quality of resources of economic growth; and operate effectively the exchange rate policy to encourage exports and ensure macroeconomic stability.

The research results are proof that the export promotion strategy that Vietnam has pursued in recent years is entirely consistent. The strategies to promote exports and economic growth of Vietnam have supported each other very positively, contributing to improve the effectiveness of the macro economy.

2. Some suggestions for further researches

The relationship between exports and economic growth is the major topic has been researched much. However, surely there are still "gaps" for further researches could "fill" in the future. The thesis pleases give some hints about the next research direction as follows:

- Test the impact of exports to economic growth through the paths: exports growth → increasing foreign currency supply → increasing import of input materials for production →economic growth.

- Economic growth creates the resources to enable increasing supply of goods for export. Therefore, could analyze the impact of economic growth to exports through the paths: economic growth → increasing supply of exports → promoting exports growth.

- Analyze the relationship between exports and economic growth in Vietnam by panel data or cross data (by province, by group of countries, or by export sectors).

THE LIST OF AUTHOR'S RESEARCH PROJECTS RELATED TO THE THESIS

I. The articles published in the scientific journal

1. Nguyen Quang Hiep (2012), "Achievements and the role of exports for economic growth in Vietnam and Laos", *Journal of Development and Integration*, 7 (17), pp. 47-53.

2. Nguyen Quang Hiep (2012), "Economic cooperation between Vietnam - Laos: Situation and orientation until 2020", *Journal of World Economic and Political Issues* , 200, pp. 47-54.

3. Nguyen Quang Hiep (2013), "Vietnam economic overview 2012 & Forecast 2013", *Journal of Development and Integration*, 8 (18), pp. 11-16.

4. Nguyen Quang Hiep (2013), "Estimate the impact of exports to economic growth in Vietnam", *Journal of Economic Development*, 268, pp. 58-64.

5. Nguyen Quang Hiep (2014), "The relationship between exports and economic growth in Vietnam: The virtuous circle model", *Journal of Economics and Development*, 210, pp. 21-32.

6. Nguyen Quang Hiep & Nguyen Thi Nha (2015), "The real effective exchange rate – the transmission channel for the impact of economic growth to exports in vietnam", *Journal of Economic Development*, 26(5), pp. 26-43.

II. The articles published in the scientific conference

1. Nguyen Quang Hiep (2013), "The role of the resource factors for the economic growth of Vietnam", *Proceedings of the International Scientific Conference: "Looking back halfway socio-economic development for 5 years from 2011 to 2015 and the strategic adjustment"*, Published by National Economic University, pp. 209-220.

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4. Nguyen Quang Hiep (2015), "The role of exports in increasing the resources for Vietnam economic growth", *Proceedings of the National Scientific Conference: "Vietnam economy 2015: Creating growth motivation in the new context of integration"*, Published by National Economic University, pp. 357-370.