UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Sino-Vietnamese Trade Relations
-with a focus on Cross-Border Trade

Quynh Cao Thi Ngoc and Xun Wang

Graduate School
Master of Science in International Business and Trade
Master Degree Project No. 2011:5
Supervisor: Curt Nestor

Acknowledgement

Abstract

The bilateral relations between China and Vietnam have to a large extent changed and improved since the political relations between the two countries normalized in 1991. Economic cooperation has been enhanced through various trade agreements under several economic initiatives (WTO, ASEAN+3, GMS). Consequently, Sino-Vietnamese cross-border trade has rapidly developed and accelerated the pace of regional integration. What are the impacts of different types of regional international cooperation on the relationship between China and Vietnam? How and in what way do national borders stimulate or hinder the economic cooperation between the two countries? These questions can be explained by applying *comparative advantage theory* and *new economic geography theory* as well as *border effect theory* to analyse the current situation of bilateral trade; particularly, trading activities across the China-Vietnam border. The proposed conceptual framework analyses supply and demand determinants as well as centrifugal and centripetal forces that affect the dynamics of cross-border trade. The framework can be applied to shed light on the sustainable development in regional cooperation and for further academic studies in regional economic integration.

Keywords: cross-border trade, regional economic cooperation, trade determinants, trade facilitation.

Table of Contents

List of Figures

List of Tables

List of Abbreviation

ACFTA   ASEAN-China Free Trade Area

ADB   Asian Development Bank

ASEAN + 3   ASEAN and China, Japan, South Korea

ASEAN   Association of Southeast Asian Nations

FDI   Foreign Direct Investment

FTA   Free Trade Area

GDP   Gross Domestic Product

GMS   Great Mekong Sub-region

IMF   International Monetary Fund

MNE   Multi-national Enterprise

NEG   New Economic Geography Theory

RCA   Revealed Comparative Advantage

RRCA   Relative Revealed Comparative Advantage

RTA   Regional Trade Agreement(s)

WTO   World Trade Organization

CHAPTER 1 - INTRODUCTION

1.1. Background

China and Vietnam are neighbouring countries in Asia, sharing a border of 1,450 km. Both countries have influential roles in the regional economy. Sino-Vietnamese bilateral relations have changed and improved in the last two decades since the normalization of their political relations in 1991, and through different economic initiatives (WTO, ASEAN+3, GMS). The two governments have signed various bilateral trade agreements and established trade zone areas along the border to strengthen and promote cross-border trading relationship.

However, according to the observations of many economists, there is a gap between the growth of economic relations and the development of political relations (Vu, 2009). Despite enjoying the advantages of close geographical proximity and sharing similarities in cultures and political systems, the potential for trade between China and Vietnam has not been fully exploited. In the last decade, the value of exports from China to Vietnam increased fifteen times while the value of Vietnamese exports to China have only increased five times (NBSC, 2010; GSO, 2009 & Vietnam Customs, 2010). Vietnam's trade deficit with China was recorded at USD 11 billion in 2010, accounting for 90 percent of the total trade deficit of Vietnam (VCCI, 2011a). Illegal trade practices, such as smuggling, are major concerns of policy makers of the two countries and have therefore attracted research attention.

Acknowledging the importance of border provinces in promoting bilateral economic cooperation and controlling social risks, the authors conducted research on the strategic roles of border provinces in China (Yunnan and Guangxi) and Vietnam (Cao Bang, Dien Bien, Ha Giang, Lao Cai, Lai Chau, Lang Son, Quang Ninh). Border provinces are actively participating in various multilateral economic cooperation programs and initiatives with other Association of Southeast Asia Nations (ASEAN) and Greater Mekong Sub-region (GMS) countries. These organizations greatly facilitate economic cooperation at regional level. How does regional economic cooperation stimulate border trade and how does border trade contribute to deepen economic integration? How and in what ways do border provinces stimulate the bilateral trade between China and Vietnam? Being inspired by these questions, this study aims to examine the bilateral trade between China and Vietnam with a focus on border trade. The authors attempt to analyse existing and potential restraints and related issues which facilitate or hinder bilateral trade, especially border trade. Further, the authors will analyse how regional economic cooperation and integration are likely to affect border trade.

1.2. Research Question

How does cross-border trade affect the trade relations between China and Vietnam in the context of regional economic cooperation?

This research question is disaggregated into three subsidiary questions:

- What factors determine trade relations between China and Vietnam?
- What are the contributions of cross-border trade to national economic growth and bilateral trade relations between China and Vietnam?
- How do regional economic cooperation initiatives enhance cross-border trade between the two countries?

1.3. Research Guideline

In order to solve the main research question, the authors narrow the focus from national level to border level (see Figure 1). At national level, the authors present the pattern of Sino-Vietnamese trade, in order to know the comparative advantage in their bilateral trade relation. Following this, the authors study the economic development of border provinces. At provincial level, trade performance is analysed. Finally, the authors examine the cross-border trade between Yunnan, Guangxi and Vietnam's seven border provinces in the context of ASEAN and GMS, and then discuss the interaction of trade determinants and trade relations.

Figure 1: Research Guideline
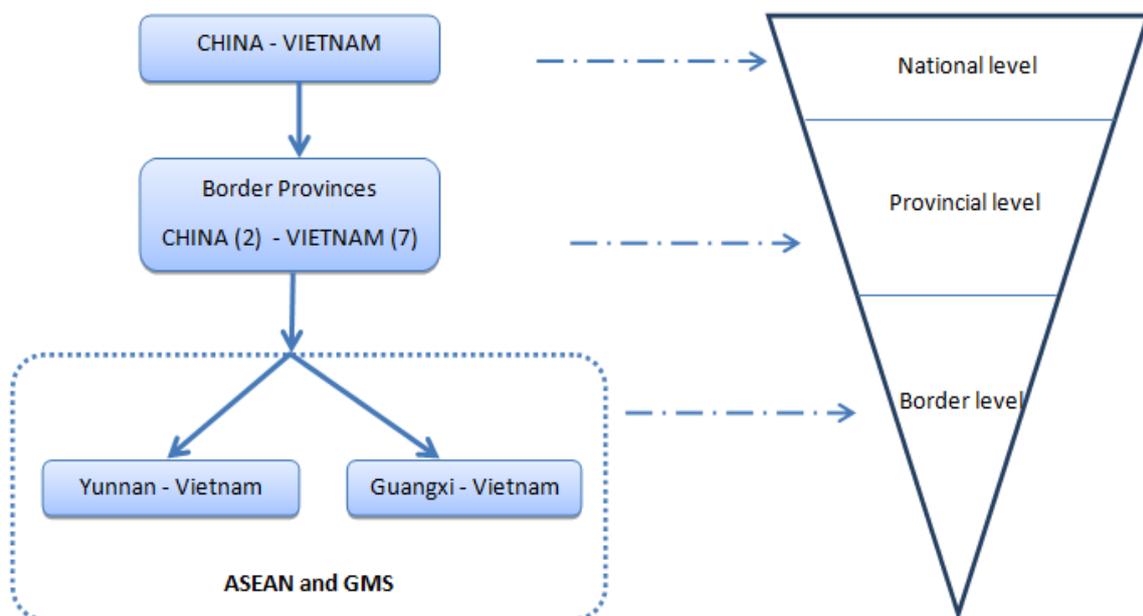
Source: Authors' own elaboration

1.4. Thesis Disposition

Chapter 1 introduces the background of the study, defines research questions and describes the scope of the study. Chapter 2 presents the results of a literature review on classic trade theory and new trade theory, focusing on related topics as well as evaluating key concepts and theoretical models. Relevant theories are combined to form a conceptual framework of cross-border trade cooperation between neighbouring countries in the context of multilateral trade initiatives, which is elaborated as "The Dynamics of Border Economy". After that, chapter 3 focuses on the methodology of the research. It explains the research design and research approach, the data collection methods as well as the data analysis methods by answering two questions: from which sources the data is collected and how it is examined afterward. Chapter 4 provides a reflection of empirical findings on detailed analysis about the trade cooperation between China and Vietnam which is narrowed down from national level to border level. Moreover, the impact of regional economic initiatives on cross-border trade is also taken into consideration. The collected data is analysed in chapter 5 by confronting it with the conceptual framework proposed in chapter 2. Chapter 6 draws final conclusions and implications from the study, as well as discussing the study's limitations and proposing suggestions for further research.

1.5. Delimitation

In this thesis, the authors study Sino-Vietnamese trade relations in the context of regional economic cooperation. The data for border trade are limited to provinces on the border between China and Vietnam. Furthermore, FDI and other forms of economic cooperation are beyond the scope of this research. Besides, the major subject of empirical findings is about merchandise trade rather than service trade. Finally, the backbone database used in this research is derived from secondary sources since fieldwork was not employed.

CHAPTER 2 – LITERATURE REVIEW

In order to gain a comprehensive insight into the current stage of research and understanding about bilateral trade, cross-border trade and regional economic integration, the purpose of this chapter is to present a literature review of these topics. First of all, the main study concept "cross-border trade" is defined by different perspectives. Within this research scope, the terms "border trade" and "cross-border trade" convey the same meanings; yet the latter is used more often due to its descriptive accuracy. After that, related studies are discussed and evaluated (see Figure 2).

Figure 2: Mapping related literatures

Source: Authors' own elaboration

2.1. Definition of cross-border trade

Along with the rapid development of global economy, economic cooperation at both international and national level have expanded, deepened and thus strengthened. Border trade as a special form of international trade has greatly contributed to political and technological cooperation at national level, as well as economic integration at the regional level. Therefore, border trade, which can greatly affect neighbouring countries' bilateral political and economic relations, has increasingly attracted attention. The definition of "cross-border trade" has been

developed intensively over time by various international institutions and national governments. In this section, the authors first review a representative definition from an international organization, and then present the understanding of "cross-border trade" from Vietnam's and China's perspectives, respectively. An applied understanding about border trade derives from the previous perceptions is presented at last.

2.1.1. Definitions from international perspective

There is no standard definition of cross-border trade in international trade studies. The definition from the World Bank is believed to be the nearest to an international standard description of border trade phenomenon. The World Bank (2007) defines ***"cross-border trade"*** as the flow of goods and services across international frontiers within an area of up to thirty kilometres. Border trade is counted as a portion of legal trade of national import and export activities. Yet it is a special section due to its specific characteristics: market proximity, variation of goods and services and vulnerability to governmental intervention. By facilitating commercial conditions, enhancing cultural exchange and extending mutual relationships, cross-border trade can promote and foster economic relations between neighbouring countries.

The geographical proximity, including market proximity, is the most important characteristic of border trade which generates many consequent advantages, such as reducing transaction costs, relieving administration processes and shortening lead-time to market. A wider variety of products is also a common motivation for cross-border trade that attracts merchants and traders.

2.1.2. Definition from Vietnam's perspective

From Vietnam's perspective, trade activities are carried out in three forms: official trade ("*chính ngạch*"), small-scale trade and border trade (both are called "*tiểu ngạch*"). Official trade refers to the import and export activities across borders under the control of international regulations and the observation of the Ministry of Industry and Trade; small-scale trade means the imports and exports implemented under the control of provincial People's Committees while the border trade refers to the trade of goods and services in the areas around borders (Do & Ha, 2008). The major actors in border trade are inhabitants of the border provinces; and the major purpose of border trade derives from economic motivations (lower prices, product variety, and low transportation costs). Trading activities at the border

include: (i) trading activities of border residents; (ii) trading activities at border markets, crossing-point markets and markets inside border economic zones; and (iii) imports and exports recorded in bilateral trade agreements between Vietnam and China but not following international regulations[1]. Vietnam has a very strict customs regulation regime for checking quality and sanitation at the cross-border products[2].

2.1.3. Definitions from China's perspective

China shares its border with 12 neighbouring countries and its definitions of border trade have been developed over time due to the different understandings at different economic development stages (Lu, 1988).

In the 1980s, China was undergoing the economic reform which liberalized its economy from a planned economy system towards a market economy system. During this period, border trade was defined for the first time as "frontier trade" – petty trade no more than a certain amount of money within certain commodity categories in certain markets between people living in bordering regions (within 15km of each side of the border), the trading commodities were required to be daily life necessities or production materials (Tianjin University of Commerce, 1980). This implies that the tradable amount, commodities and locations were strictly specified and controlled by the Chinese government. It is worth noting that there was no official border trade between China and Vietnam during this period due to political reasons (Gu & Womack, 2000).

This was followed by another prevalent definition that referred to border trade as "petty trade in border cities and towns" in which the local inhabitants and companies have to take the whole responsibility of their trading activities, of their profits and losses on their own" (China State Council, 1984). Based on these official definitions, Lu (1988) put forward an academic definition, which defined border trade as international trade activities between citizens, folk organizations, companies, governments and other institutions of two neighbouring countries.

In order to further facilitate and encourage international trade which greatly contributed to economic growth in the past decade, the Chinese government gradually relaxed the previous strict restrictions. The most recent definition was presented by the China Foreign Exchange

---

[1]Decree No. 252/2003/QD-TTG (24 November 2003) on Management of Cross-border Trade of Goods with Bordering Countries
[2]Decree No. 41/1998/ND-CP (11 June 1998) on Vietnam's Border Medical Quarantine Regulation; and Decree No. 46/2001/QD-TTG on Management of Goods Export and Import in the 2001-2005 period.

Department (2009), which defined border trade as "petty trade and border trade between citizens living in bordering regions (within 20km of each side of the border)"; it's an exchange activity under a certain amount of money within certain commodity categories of legal markets, as well as international economic and technological cooperation in border regions.

2.1.4. Authors' understanding about cross-border trade

There are both similarities and differences between definitions from international and national sources. To begin with, all these definitions illustrate clearly the meaning of **border area**, which refers to a certain distance from each side of neighbouring country's borderline. However, China's government appears to apply a more narrow understanding about the distance ("within 20km from each side of the border line"), while the World Bank refers to a wider area ("within 30km from each side of the border line"). Secondly, both definitions point out certain restrictions need to be followed, which means that border trade is under strict regulation and thus is vulnerable to governmental intervention. Again, the authors found that although China's government gradually reduced restrictions in the past decades, there are still strict guidance principles in terms of tradable value, volume and types of commodities, as well as trading locations. Lastly, both international and national definitions identify border trade as a special form of international trade − it is the flow of goods and services across a country's frontier.

Based on the above analysis and discussion, border trade is understood by the authors as the flow of goods and services across a country's frontier, it is the formal trade of citizens, communities, legal enterprises and companies, governments and other institutions of two neighbouring countries, under governmental regulation and supervision.

2.2. Classic and New Trade Theories

Classic trade theory is the solid foundation of economic integration theories. Based on the early works of Adam Smith (1776) and David Ricardo (1817), a solid foundation of free trade theories had been laid.

David Ricardo came up with "*Comparative Advantage*" theory in 1817. He argued that specialization and trade will increase the total output of two trading partners and lower the production costs compared with what happens if each country produces by itself without trading. Ricardo also points out that any changes in the production determinants (such as

7

industry policies, market demand, specialization, technology and resource endowments) will result in changes to a country's comparative advantage. Building on comparative advantage theory, Heckscher (1919) and Ohlin (1933) proposed "*Factor Endowments*" theory (H-O model), which suggests that a country will import products that use its scarce production factors while exporting products that use its cheap and abundant production factors.

Based on traditional trade theories, *integration theory* as a separate branch within trade theory started. Modern studies of regional integration can be dated back to Viner's "*Customs* Union" theory (1950), which is built on the neo-classical trade model. Viner's model is based on some strict assumptions such as perfect competition in commodity and factor markets, perfect factor mobility as well as full employment. He examined the economic impact on trade if trade barriers such as tariffs and quotas are removed.

From 1980s, the *new trade theory* started to emerge and it greatly affected the traditional theory. The new trade theory takes into consideration both monopolistic competition and economies of scale, as well as tariff and non-tariff trade barriers. According to the new trade models, integration, by reducing trade impeding factors, could stimulate trade between countries thus affecting the international pattern of specialization of production. Many scholars have conducted studies regarding regional integration effects by applying international trade models: Ohlin (1967) suggests that the major results from international trade could also be applied to inter-regional trade relations; Rauch (1991) concluded that transportation costs determine the trade volume between different countries.

2.3. New Economic Geography Theory

The new economic geography theory (NEG) deals with the uneven distribution of economic activities across space and locations where different degrees of accessibility and varying endowments of production resources. The early NEG models are regarded as similar to traditional science and new trade theories. Myrdal's theory (1957) of "circular and cumulative causation" laid the foundation of NEG models. He claims that there is *cumulative causation* between the scale of a market and the scale of an industry at a certain location. The locations where most companies agglomerate are usually the places that have bigger market potential. The agglomeration of companies causes the labour force to move and to concentrate, which in turn increases market demand at these certain locations, and makes these places more

attractive than others. Consequently, the concentration of production at these locations is strengthened.

The three seminal scholars of NEG theory are Fujita (1988), Krugman (1991) and Venables (1996); all of them applied general equilibrium models under monopolistic competition in the line of Dixit and Stiglitz (1977). Krugman (1991) developed the first NEG model which is called the *core-periphery model*. He discussed the two determinants (forces) which cause the economic activities in a certain location to be aggregated or dispersed. Krugman's pioneering work initiated the emergence of NEG literatures (Ottaviano & Puga, 1988; Fujita & Thisse, 1996; Fujita et al. 1999; Baldwin et al. 2003).

Deriving from those NEG models, the distribution of economic activities depends on two forces - "centripetal forces" and "centrifugal forces". **Centripetal forces** refer to various locational advantages that contribute to the concentration of production, they are the forces that attract companies and consumers to certain regions, and thus determining the spatial concentration of economic activities. **Centrifugal forces** refer to various factors that neutralize or constrain the concentration of production, such as relatively higher transportation costs, land rent, and labour costs (Ohlin, 1933; Henderson, 1974). They are the forces that cause the spatial dispersion of economic activities. If centripetal forces dominate, companies, workers and consumers will be geographically unevenly distributed. That is to say, some locations may have many economic activities concentrated while some other locations may only have a few or none at all (Niebuhr & Stiller, 2002).

The extent of the scarcity of immobile production factors and the availability of non-tradable goods induce the emerging of these two opposite forces, by affecting various forward and backward linkages that relate to production and consumption (Niebuhr & Stiller, 2002). Consumers are also workers who produce and consume commodities on the domestic market. They tend to locate at places where they can get access to more locally original commodities, which in turn raise the real income of local workers. Meanwhile, companies tend to agglomerate geographically at the locations where can help them save transportation and production costs - these are the forward linkages. Similarly, companies tend to locate where they can offer better access to more buyers and consumers of commodities in order to gain more profits - that is the backward linkage (Venables, 1996; Puga, 1999). The equilibrium between these two forces is determined by inter-regional trade costs and the mobility of

companies and workers, the spatial equilibrium may be altered due to the changes of trade cost and cross-border factor movement brought by integration (Ottaviano&Thisse, 2004).

Besides, Venables (1996) studied how integration would affect the spatial agglomeration of production. He suggests that the attractiveness of border regions is determined by the vertical linkages between domestic companies and MNEs there. If the linkages between domestic companies and MNEs get stronger, the attractiveness of border regions will also increase. Therefore, new economic centres may emerge at some border regions which enjoy favourable geographical locations and could help to create both backward and forward linkages. The two relevant spatial effects of integration summarized from NEG models are outlined below.

Firstly, due to the counterbalance between centrifugal and centripetal forces at an international level, integration may alter the spatial allocation of companies, workers, consumers and production factors among countries, by reducing the cost of cross-border trade and labour movement. In other words, the decreasing costs of international trade and the movement of production factors may trigger labour migration, thus altering the distribution of industrial activities (Niebuhr & Stiller, 2002).

Secondly, due to the decreasing international trade cost which results in the increasing importance for buyers and suppliers of some foreign markets, the equilibrium between centrifugal and centripetal forces at a national level may be broken. Therefore, integration may alter the spatial allocation of companies, workers, consumers and production factors within a country. In other words, integration makes some previous economic centres in the domestic market less attractive and induces the redistribution of economic resources to new locations within a country (Niebuhr & Stiller, 2002). This result of locational effects within a country was built on Krugman's first NEG model and then extended by Elizondo and Krugman (1996), and Fujita et al. (1999).

2.4. Border Effect Theory

The price discrepancy of the same products between domestic and foreign markets is derived from physical borders (Gorodnichenko & Tesar, 2005). The price variation between countries leads to "*border effect*" (Obstfeld & Rogoff, 2000). A sub-field of research on border effects focuses on evaluating the intra-national and international trade in the light of *the gravity model*. As a widely accepted conclusion, border effects represent the limitation of economic integration between regions no matter what cooperative initiatives they participate in.

McCallum (1995) was the pioneer to establish and develop the concept of the border effect. His empirical study provided the definition of the border effect as a phenomenon where a physical border between geographical regions diminishes the amount of trading of products and thus raising a *price discrepancy* between those regions. In his research, he found that Canadian inter-provincial trade flow was twenty-one times larger than international trade flow between Canada and the U.S. The result implied that despite the similarity in size and distance, trading activities are more favourable in intra-national cases, than for international cases; this is known as *home country bias* (Pareja, 2006). Following McCallum, other studies in the same vein based on the empirical context of North America showed an intensive exploration of the border effect across space and time (Helliwell & Verdier, 2001; Wolf, 2000). The border effect is also found in inter-member trade flow within the EU (Head & Mayer, 2002) and OECD countries (Wei, 1996; Evans, 2003). However, there are obvious limitations to these more recent papers relative to McCallum's research because the authors carried out the analysis on a country-level rather than a regional-level and hence did not distinghish inter-regional trade and intra-regional trade (Okubo, 2004).

In term of regional economic cooperation, the border effect measures the degree of integration or fragmentation of the economy either in the domestic market or the foreign market. Some innovative approaches contributed to the mainstream including studies of Engel & Rogers (1996), Pasley & Wei (2001), Ceglowski (2000), Gorodnichenko & Tesar (2005), Anderson & van Wincoop (2003) and so on. Anderson and Brown's model (2002) analysed the influence of national border on various sectors of the economy in relation to the presence of tariff and non-tariff barriers.

Another noteworthy piece of research comes from Chandra (2010) who mentioned the relationship between market segmentation and the presence of borders. Chandra and other collaborators (2010) measured the effect of *exchange rate* and *geographical distance* (which they called "*distance effect*") on cross-border buying behaviour. The researchers confirmed that cross-border movements are fostered by economic motivations. They include, but are not limited to, different tax schemes, cheaper prices for the same products, diversified goods portfolio, favourable customs regulations, special products with special tax rates such as alcohol and cigarettes. The shortcoming of this study is that the research area was limited to cross-border shopping behaviour which only accounts for a small share of the overall volume of border trade. However, we cannot ignore the main contribution of this work which is the inclusion of physical locations of customers into the international border crossing.

The movement of people across borders will affect the effectiveness and operation of businesses on both sides of the borders (Niebuhr & Stiller, 2002). Hence, it has an influence on national revenues and government policies toward border trade. This fact also explains the trade facilitation and infrastructure development programs of nations to attract new investments into their domestic markets, especially at border areas.

The Gravity Model

The gravity model has been widely used as a tool to measure the effects of institutions (customs unions, economic cooperation initiatives) and exchange rate mechanisms on international trade flows (Anderson & van Wincoop, 2003). The model assumes that in international trade, imports and exports are gravity forces that attract two countries' masses, which encourage them to trade with each other (Subhani & Khokhar, 2010). It is defined as an equation to predict that the bilateral trade volume of two countries is directly proportional to their economic sizes and inversely proportional to trade barriers (geographic distance, tariffs, home-country bias, etc.) between them (Pareja et al., 2006; Evenett & Keller, 2002). Most of the literature mentioned above used the gravity model as a useful framework for assessing the border effects on trade flows with the involvement of other variables. The gravity equation, in the context of international trade, takes the following form (Pareja et al., 2006; Tumbarello et al., 2006):

$$LnTrade_{ij} = \alpha + \beta_1 Ln[GDP_i GDP_j] + \beta_2 Ln\left[\frac{GDP}{Pop}_{ij}\right] + \beta_3 Ln[Dist_{ij}] + \beta_4 RTA_{ij} + \varepsilon$$

This equation regresses the total trade volume between countries i and j on their economic sizes (GDP), their development level (GDP per capita), the distance between the economic centres of the two countries and the common membership in a regional agreement. RTA is a dummy variable in this case. The coefficient β presents the effect of each variable on export volume and trade pattern. For example, GDP_j increases of 1 percent will lead to a β_2 percent increase of export volume from country i to country j (Tu & Dao, 2008).

From this equation, we can see that all the variables represent four types of determinants of international trade: supply capability (GDP and population), demand capability (GDP per capita), attraction factors and constraint factors (trade policy, distance and membership of international institutions) (Tu & Dao, 2008; Fugazza, 2004). Observing from other studies, other variables may include common languages, special trade policies, barriers (dummy

variables) and inflation, FDI, remittances, transportation cost, exchange rate (independent variables) (Subhani & Khokahr, 2010). An analysis employing the gravity model results in a predicted trade volume based on the impact of other variables. A comparison between the actual and predicted values of the estimated trading framework indicates that either there remains unexploited trade potential or there is an over-exploited trade situation between the subjects of the research (Tumbarello et al., 2006).

2.5. Conceptual Framework

After a careful review of literature related to international trade and border economics, the authors find that most scholars focus their studies on international trade on the border regions in which phenomena of cross-border trade are analysed in a macroeconomic context. The NEG model illustrates the reason why some border regions emerge as new economic centres as an effect of centripetal and centrifugal forces. The border effect theories measure the trade concentration and trade flow direction in relation to macroeconomic factors, such as GDP, GDP per capita, distance, population, and so on. However, a lack of thorough and specific insights into driving factors and determinants of border trade can be clearly seen. That is the focal interest of this project.

In order to study the strategic roles of border provinces in the economic cooperation between China and Vietnam, the authors see the need to identify the most important elements and motivations of cross-border trade. As few studies have been made in the specific case of China-Vietnam border trade, a conceptual framework is needed. Making the export and import countries the targets of this research, the authors define concepts as well as the interaction of these concepts in the context of border trade.

Taking root in international trade theories, the influence of trade determinants can occur in either a positive or a negative way; hence, the determinants of international trade are the starting point of the research. Based on the theoretical review, the authors classify four determinants that may facilitate or hinder border trade between China and Vietnam: (i) supply determinants, (ii) demand determinants, (iii) attraction factors, and (iv) constraint factors (see Figure 3). The authors keep supply and demand determinants separate from attraction and constraint factors even though they may have some similarities. The main reason is that supply and demand not only affect the trade direction and trade concentration but also constitute the production capacity and purchasing power of import and export countries, which in turn determine the trade creation and extent of economic integration. Trade

facilitation and trade impediments are analysed in terms of factors classified as follows: (i) production-related factors, (ii) government-related factors and (iii) logistics-related factors. They impose a *push force* on the exporting country and a *pull force* on the importing country, and direct the allocation of resources of those countries. In the context of border trade, trading activities across borders are observed under the integration effect. Since all the concepts are closely related to each other and one movement of a concept affects the whole model, the authors therefore name it as *The Dynamics of Border Economics* (see Figure 3).

Figure 3: Proposed Conceptual Framework – The Dynamics of Border Economics
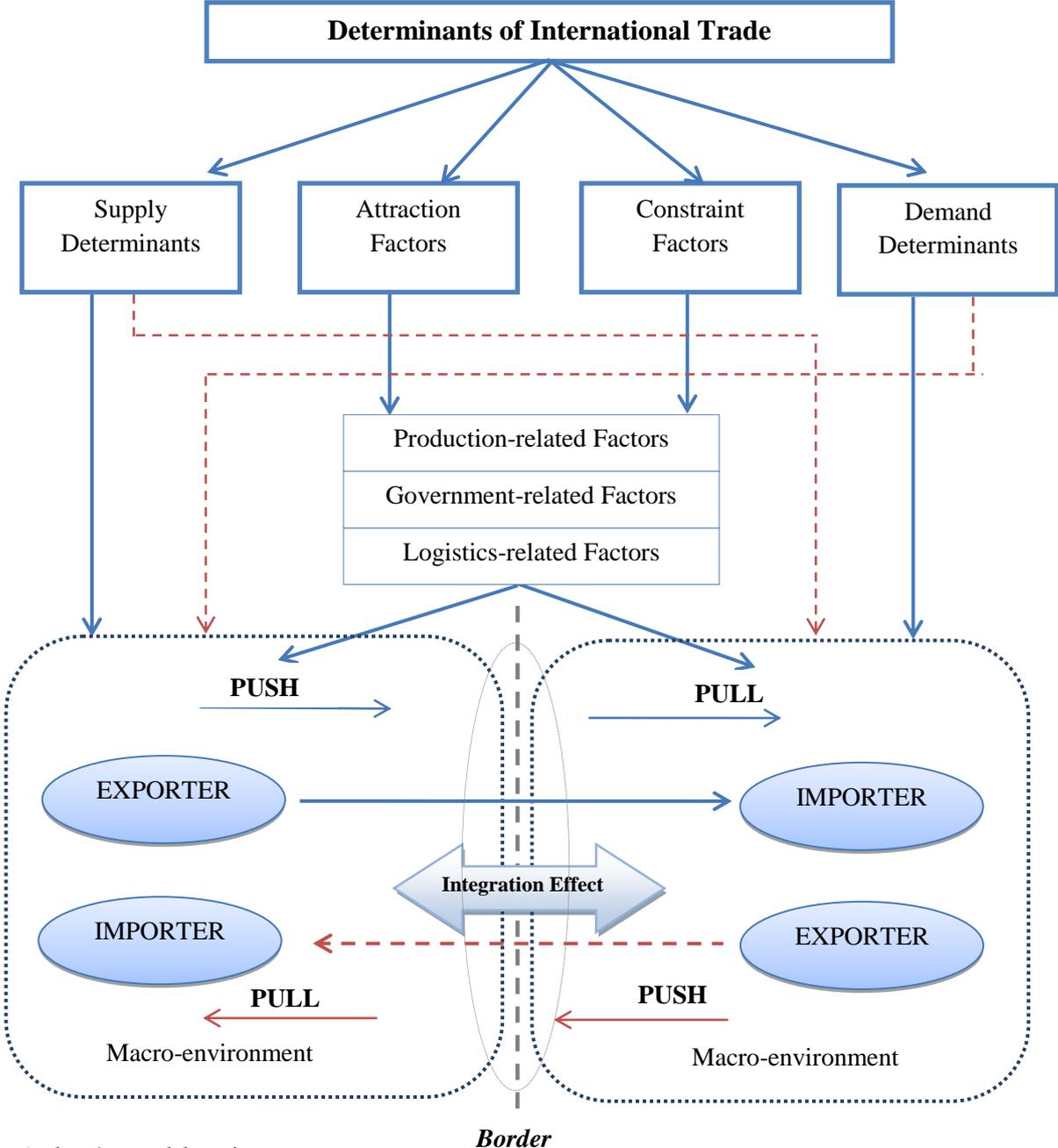
Source: Authors' own elaboration

2.5.1. Supply determinants and Demand determinants

The economic terms "supply" and "demand" are mainly discussed in microeconomics in the balance model which is concerned with the relationship between the price and the quantity of products demanded by customers or supplied by producers (Samuelson & Nordhaus, 2001). In terms of international trade, the focus is on the traditional causes of trade flows, such as the differences in factor endowments, customer preferences or technological changes, or in the modern macroeconomic determinants of trade flows, such as the consequences of joining international institutions, such as monetary unions or multilateral initiatives (WTO, IMF, World Bank) (Rose, 2004). In the specific case of Sino-Vietnamese cross-border trade, the authors focus their concern with supply and demand on the capability of import and export countries in serving the requirements of the trading partners.

According to Fugazza (2004), determinants of trade performance can be split into two types: internal and external factors. Internal factors include *factor endowments* (access to raw materials and other resources) and *factors costs* (labour, capital) under the control of the *institutional environment* of the home country. External factors consist of *market access conditions* (trade barriers, competitive condition) and *demand determinants* (of import country) or *supply determinants* (of export country) in the host country. In the context of an export country, supply determinants consist of GDP and population in that country. An increase in GDP will result in a higher export (or supply) capability. Population is also directly proportional to the export volume and export growth rate since this is one of the major production resources. In the context of an import country, GDP and population affect the demand of the country. An increase in the GDP of the import country leads to a stronger production capability. Likewise, population also has a positive effect on the amount of imports especially when population size is very large. In some studies, GDP per capita is also taken into consideration because it reflects the real growth of purchasing power of the import country which will in turn affect the value and volume of imports.

Therefore, in the case of Sino-Vietnamese cross-border trade, it is essential to analyse the macroeconomic factors, such as GDP, population, GDP growth rate and GDP per capita, so as to have a broad view of production capability and purchasing power of these two countries.

2.5.2. Attraction factors and Constraint factors

The internal determinants affect the trade flow either in a positive way or in a negative way, which are classified in the attraction and constraint factors of the conceptual framework. Many scholars have studied the attraction and constraint factors of international trade. Some researchers have conducted research from a monetary perspective to test the different responses of international trade flows to the changes in both exchange rates and prices (Junz & Rhomberg, 1973; Wilson & Takacs, 1979), whereas others estimated the demand function of both import and export (Bahmani-Oskooee, 1986). In this section, the authors follow the study of NEG theory combining with comparative advantage theories to discuss what compose the attraction and constraint factors in the case of Sino-Vietnamese cross-border trade.

As suggested by NEG theory, there are both *centripetal forces* and *centrifugal forces* which determine the geographical distribution of economic activities in a certain region. The centripetal forces are the positive forces that attract production factors and companies to a certain location, while centrifugal forces are the negative forces that constrain production factors and companies from concentrating at a certain location. Centripetal forces and centrifugal forces are derived from the labour cost, land cost, production capability as well as governmental policies towards trade and industries at a certain location. Therefore, the authors consider the centripetal forces as attraction factors and centrifugal forces as constraint factors, which relate to locational advantages of a certain region. In the case of Sino-Vietnamese cross-border trade, the attraction and constraint factors refer to production and operating costs from the business environment as well as governmental policy and trade regulation from the macro environment. Attraction and constraint factors will affect the allocation of economic activities in the China-Vietnam border regions.

A nation's comparative advantage can also be viewed as a source of attraction or constraint factors. On the one hand, a country's comparative advantage originates from *factor endowment* and *factor abundance*, which affect the cost of production and result in the trade division, thus, a country will import commodities using its scarce production factors while exporting products that use its cheap and abundant production factors. Therefore, the authors will take factor endowment and factor abundance into consideration to analyse how these determinants affect trade flows and commodity structure between China and Vietnam. Interestingly, some of these production factors are natural resources related factors while

some others such as infrastructure and education are factors related to governmental intervention. Therefore, governmental forces (such as trade policy, industrial policy) are also considered as locational factors which can facilitate or hinder trading activities.

Based on the above analysis, the authors conclude three categories of attraction and constraint factors. The first category is *production-related factors*, which refer to factor endowment, such as labour cost, production capability and exchange rate; the second category is *government-related factors*, such as various trade policy as well as industrial policy; the last category is *logistics-related factors*, such as infrastructure and transportation cost. These three categories of attraction and constraint factors together with supply and demand determinants constitute a dynamic system interfering Sino-Vietnamese trade at border regions. Overall, in the context of an exporter, these factors act as a *push force* to encourage the flow of goods out of the country. In the context of an importer, the flow of goods into the country will be affected by the *pull force*. If the attraction factors exceed the constraint factors, the push force of an exporter and the pull force of an importer will become stronger; or vice versa.

2.5.3. Integration effect

There are few studies which comprehensively discuss the integration effect or its components. Mostly, the scholars in the field interpret the integration effect under the coverage of classic and new classic trade theories and the impact of emerging economic institutions and international economic cooperative initiatives, such as WTO, APEC, EC (Niebuhr & Stiller, 2002). Other empirical studies analyse integration processes from specific aspects such as cross-border networks or individual behaviour in cross-border interaction (Tumbarello, 2007). In order to approach the subject intimately, the authors concentrate on analysing the *border effect* and *spatial effect* of economic integration.

In a broad understanding, the border effect means the extent to which domestic regions interact more intensively with each other than with foreign regions, especially border regions of neighbouring countries. Most of the scholars in this field, through their studies, conclude that crossing a national border imposes an impeding effect on the value of trade in comparison to domestic trade. In other words, the border effect plays a role as a trade barrier for inter-regional economic relationships, thus reducing economic integration between countries. However, recent studies reveal that border effects seems to decline with the appearance of multilateral and regional trade liberalization and the improvement of outward-orientated policies (Tumbarello, 2006). In this sense, the participation of countries in different

economic initiatives has a positive impact on the reduction of border effects, by making the flows of goods, services, capital, labour and technology move freely among members. That phenomenon is termed the *integration effect* by the authors.

There are only few studies that mention the spatial effect of integration, especially at border regions. According to Niebuhr and Stiller (2002), the spatial closeness of border regions opens the door to foreign markets and thus affecting the resource allocation of those regions. Despite the lack of a solid theoretical foundation, spatial effect is widely understood, in the context of trade liberalization, as the increase of production factor mobility and reallocation, facilitated with the opening of cross-border markets, changes in policy and improvements of technology (Brülhart, 2010). Consequently, economic activities will develop in either a convergent or a divergent way to reap the benefit of international specialization. However, spatial effects only occur with a certain number of preconditions for a favourable economic environment, such as a sufficient factor endowment in terms of labour, communication and transportation infrastructure as well as a high degree of mutual cooperation between the two neighbouring nations. Hanson's studies (1998) suggested that market accessibility matters for spatial distribution of economic activities on account of "increasing returns to scale in production and transport costs". Therefore, on a larger scale, the authors understand spatial effect of border trade as the *market accessibility* to new market with the involvement of policy mechanisms, such as tax scheme, non-tariff barriers. Since China and Vietnam have different definitions of border trade and also different taxations towards border trade, the authors will focus on these features in the discussion part.

In the case of cross-border trade interaction between China and Vietnam, it is recommended to measure the integration effects in the context of regional economic institutions that promote trade cooperation between their members (Tumbarello, 2006). The ASEAN and GMS Economic Cooperation Program will be the system of reference of the authors' analysis in evaluating the integration effect of the Chinese and Vietnamese economies. By doing this, the research area of border effect will not be limited to the provincial level as it has been traditionally in studies but will be extended to the national level between the countries. Evaluating the integration effect of border regions will disclose the degree of trade creation and trade diversion of China and Vietnam with other ASEAN member countries; hence unexploited trade potential is realized.

CHAPTER 3 – METHODOLOGY

This chapter illustrates the research process and the nature of study approach. Further, the authors explain the choice of research method, the process of data collection and data analysis. Finally, the credibility and validity of the study as well as the limitation of the research method are described.

3.1. Research Process

The research process of this study, as illustrated in Figure 4, is based on the authors' empirical observations combining with their theoretical understanding. As discussed in the previous chapter, New Economic Geography theory and Border Effect theory point out that the emergence of border regions as new economic hubs can help to promote regional economic cooperation, which in turn can consolidate the strategic role of border regions. Particularly, in the context of ASEAN and GMS Economic Cooperation Program, bilateral trade relations, especially the cross-border trade between China and Vietnam have attracted the authors' interest.

An extensive literature review was hence conducted. The purpose was to gain knowledge about the state of current research results in this field, and also to examine the research gaps. Based on the literature review, the authors realized that the research gap lies in a systematic study of Sino-Vietnamese cross-border trade, and the critical determinants which facilitate or hinder cross-border activities. Consequently, a conceptual framework which systematically analysed the dynamics of the border economy was elaborated. Also, the conceptual framework serves to guide the presentation of the empirical findings and further discussion in the later part. After that, an exploratory study utilizing both qualitative and quantitative research methods was employed in order to shed light on Sino-Vietnamese cross-border trade.

In the next step, the empirical findings about the current situation of Sino-Vietnamese bilateral trade, cross-border trade, and major trade determinant factors were described and illustrated. The conceptual framework was then adapted and improved. More importantly, the empirical data and information were further processed and discussed, in order to analyse how some determinants affect cross-border trade and regional economic integration, and also to propose some implication for policy makers of these two countries. Finally, the authors draw conclusion and suggestions for future research.

Figure 4: Research Process
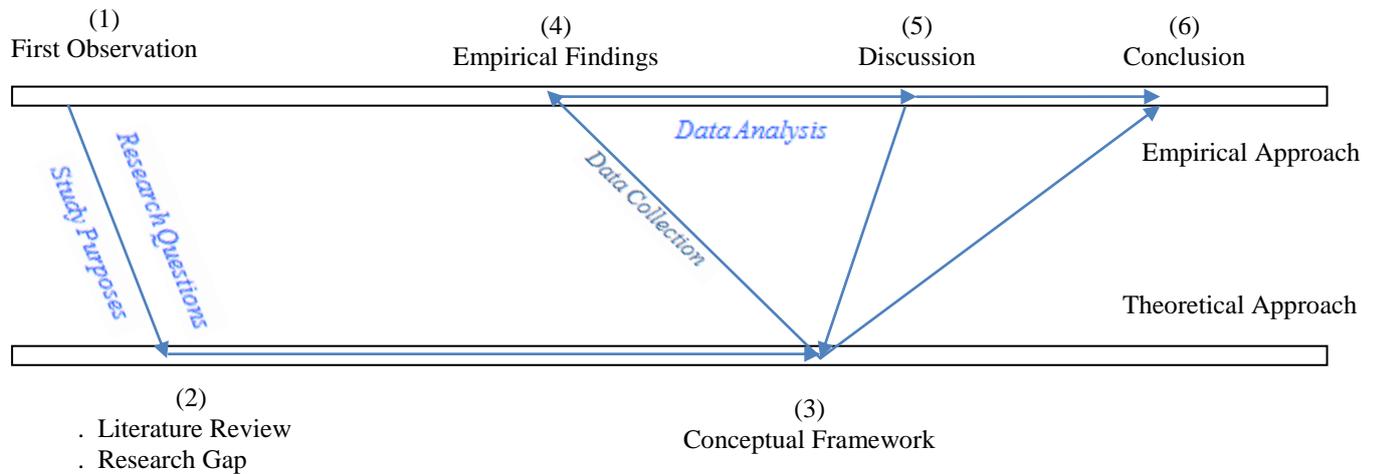
Source: Authors' own elaboration

3.2. Research Design

Jupp (2006) defined exploratory study as "a methodological approach that is primarily concerned with discovery and with generating or building theory". In the social sciences, exploratory research is considered as a journey of exploration and the researcher plays the role of an explorer. The distinctive feature of exploratory study is that the researcher does not need to employ any formula. "She/he will be flexible and pragmatic yet will engage in a broad and thorough form of research" (Jupp, 2006). In addition, exploratory study can help to obtain the understanding of a concept or a phenomenon, to examine the exact nature of the problem or to identify important variables to be studied (McDaniel & Gates, 2010).

A combination of qualitative and quantitative methods was adopted during data collection and data analysis. Quantitative methods provide quantifiable and reliable data while qualitative methods present the perspectives of research objects or understandings of research phenomena. A mixed method therefore makes use of the best features of each, and provides the researcher with complementary findings and a balanced research approach. (Johnson & Christensen, 2007)

The research process, as illustrated above in Figure 4, reveals a continuous cycle of interaction between theories and empirical findings. This is a typical abduction research approach, by which the authors combine the deductive and inductive methods of proposition development and theory construction. The abduction research approach requires the authors to go back and forth between consequences and causes. In other words, "the observer records the

occurrence of a particular event, and then works back in time in an effort to reconstruct the events (causes) that produced the event (consequence) in question" (Denzin, 1987, p.109-110).

3.3. Data Collection

The focus of this thesis is Sino-Vietnamese cross-border trade in the context of ASEAN and the GMS Economic Cooperation Program. Therefore two main issues about trade need to be discussed: the current situation of (i) Sino-Vietnamese bilateral trade and (ii) Sino-Vietnamese cross-border trade. Furthermore, in order to study trade determinants in the context of ASEAN and GMS, which have greatly facilitated cross-border activities, data about trade determinants including (iii) production-related factors, (iv) government-related factors, and (v) logistics-related factors were also collected.

In the absence of field interviews and observations this research is based on secondary data. It can therefore be considered as a desk study. Yet, the data stream derives from reliable sources, such as third party flagship organizations, and publications at international level, national level and provincial level, hence, the extent of reliability and validity of this research is significant.

At international level, data are gathered from World Bank databases, IMF databases, UN Comtrade, International Trade Center databases, and the Asian Development Bank. At national and provincial level, data are collected from national statistical yearbooks and provincial statistical yearbooks in various years, as well as the China Knowledge Resource Integrated Database (CNKI database). Other information sources, such as internet posts, newspapers, scientific papers and governmental documents, have also been consulted.

3.4. Data Analysis

The data analysis process involves three major steps, which are data preparation, data description, and data inference. For this study, the first step, data preparation, involved searching and checking the data, typing the data into a computer, transforming the data, and finally forming and documenting the authors' own database which integrated various measures. In this step, the main goals were gathering related data from flagship publications as mentioned above, checking the reliability and accuracy of the data, and hence developing

the authors' own database structure which served as the foundation of the entire analysis (Knowledge Base, 2011a).

The second step data description involved describing the features of the data collected in the first step, and presenting summaries of the sample and the measures which lay a foundation for the entire analysis. By interpreting the raw data into graphs and tables, the authors transformed and presented the data in a quantitative description form (Knowledge Base, 2011b). For instance, after collecting relevant data about Sino-Vietnamese bilateral trade, the authors first transformed the corresponding numbers into the same unit, to make it comparable, and then used Excel software to make figures of the total value and growth rate to present the data.

The final step, data inference, requires the authors to extend beyond the immediate data and to infer from these sample data. Based on data inference, the authors tried to make some analysis and hence draw conclusions (Knowledge Base, 2011c).

3.5. Credibility and Validity of the Study

The credibility, or reliability, of a study is defined as "the extent to which results are consistent over time and… if the results of a study can be reproduced under a similar methodology, the research instrument is considered to be reliable" (Golafshani, 2003). In other words, research is dependable if it can be repeated while obtaining consistent results. Meanwhile, there is no common definition of validity since it is not a single concept but rather a contingent construct, rooted in the specific methods and the means of measurement (Winter, 2000). It is understood as the truthful, logical, reasonable and meaningful nature of the research; in other words, how valid the research is.

In order to increase the validity and credibility of the study, the authors applied the *triangulation method*, meaning that the research issues are examining from more than one perspective. Merriam (1998) defined the triangulation method as a method in which multiple sources of data, various individual perceptions and organizational outlooks are employed to confirm the findings. Virtually, the database is established from various sources and filtered by comparing the resemblances and discrepancies between them; for instance, between flagship databases and national databases regarding macroeconomic conditions; or between Chinese provincial databases and Vietnamese provincial databases regarding cross-border

trade performance. It is to ensure that the authors do not either misinterpret the data or apply their own perspectives on the phenomena. While choosing the most suitable and reliable information sources as the main measure of research, discrepancies in relation to this information are also evaluated and presented. This can be seen in the example of the cross-border trade analysis, where the authors use (i) third party's definition of border trade beside two definitions of China and Vietnam; and (ii) Vietnamese perspective on Chinese statistics and vice versa when the authors cannot find consistent databases from both sides.

With regard to discussing Sino-Vietnamese trade relations, as well as cross-border trade at frontier areas, one may argue that the methodology of this thesis is only based on an exploratory study which mainly employs secondary data. The shortage of time, a lack of sufficient funds, and the scarcity of relevant fieldwork in the area result in the limitation of this methodology. Deriving from those obstacles, the primary data is impossible to obtain, and the field research is hard to conduct.

However, the authors try to cope with the limitations of data collection by carefully selecting information sources, which provide a holistic and extensive review of relevant studies, and also by comparing materials collected from different reporters, so as to guarantee the accuracy and validity of the data.

Furthermore, one may argue that the dynamics of cross-border economics as proposed in the conceptual framework are not updated with the latest data and thus cannot well illustrate the latest development of border trade. Due to nature of the border trade as a very dynamic phenomenon with frequent changes in local regulations as well as temporary changes in tariff policies, there are many difficulties regarding updating the data so as to cover all related aspects. Therefore, this study will only focus on the most important determinants to illustrate how these factors facilitate or hinder cross-border activities. In addition, smuggling is out of the scope of his study.

CHAPTER 4 – EMPIRICAL FINDINGS

In this chapter, the authors use the trade data collected from flagship publications to illustrate the current situation of Sino-Vietnamese trade at national, provincial and border level, and also to examine their comparative advantage at different levels. At national level, the authors start from the macroeconomic environment of both countries, and then analyse bilateral trade relations in the context of ASEAN and GMS. At provincial level, the authors illustrate the current situation of bilateral trade from Sino-Vietnamese border provinces' perspectives – Guangxi and Yunnan on China's side and Ha Giang, Lai Chau, Lao Cai, Dien Bien, Quang Ninh, Lang Son and Cao Bang on Vietnam's side.

4.1. Macroeconomic Environment of China and Vietnam

4.1.1. China

China experienced rapid economic growth in the last decade with an annual GDP growth rate of about 10 percent. GDP grew from about USD 1,200 billion in 2000 to over USD 5,745 billion in 2010 and it surpassed Japan to become the world's second largest economy (IMF, 2008 & The Economist, 2010). The first half of the last decade witnessed the most robust economic growth of China, and its GDP growth rate peaked at about 14 percent in 2007. However, due to the impact of the global economic crisis, China's economic growth started to slow down from 2008 (Morrison, 2009). In the long run, despite the relatively positive factors such as various favourable policies and economic stimulus packages, China is still facing some challenges such as government corruption and income disparity which may threaten its future growth and stability. Therefore, China is expected to achieve a moderate GDP growth rate at about 9 percent in the coming five years (IMF, 2008).

Besides, along with China's robust economic growth, the living standard of the people has improved dramatically. From the year 2000 to 2010, GDP per capital increased four times, from about USD 950 to over USD 4,000. GDP per capita is predicted to increase to over USD 7,000 by 2015 (IMF, 2008).

China's Trade: An Overview

Various economic reforms and trade liberalization have enabled China to become a major trading power. China's international trade experienced a continuous and robust growth in the past decade, which was marked by a peaking of exports at USD 1,430 billion and imports at USD 1,130 billion in 2008. However, due to the global economic crisis, the value of exports

dropped by 19 percent while imports decreased 11 percent, and the trade surplus declined to about USD 100 billion in 2009 (see Figure 5).

Figure 5: Trade Overview of China (value in billion USD)
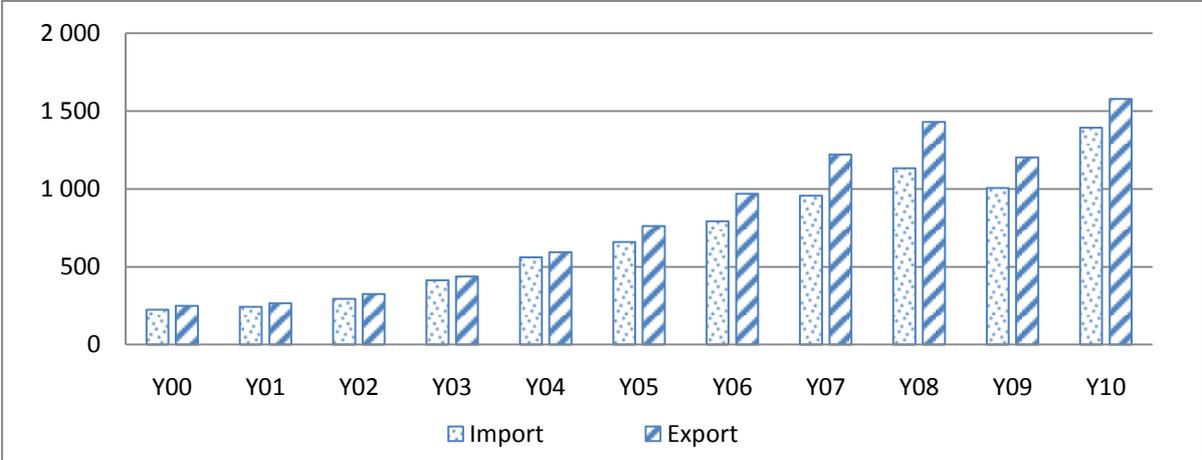
Source: UN Comtrade, 2011

China's Trade Composition and Major Trading Partners

As shown in Table 1, China mainly imports manufacturing products and primary products, which account for 71 percent and 27 percent respectively of total imports in 2009. Machinery and transport equipment (SITC 7) is the major element under manufacturing products, accounting for nearly 40 percent in total import. Crude materials and mineral fuels are the dominant imported products under primary products, accounting for 27 percent of total imports (UN Comtrade, 2011).

Table 1: China Imports by SITC sections – China and the World

SITC 1-digit	Description	2008 Value	2009 Value	Avg. growth rate 2005-2008	Growth rate 2008-2009	2009 Share
	Total	1,132.6	1,005.6	16.1	-12.6	100
0+1	Agricultural products	16.0	16.8	11.5	4.8	1.7
2+3+4	Primary products	344.4	270.4	25.5	-27.4	26.9
5+6+7+8	Manufacturing products	767.8	715.1	12.7	-7.4	71.1
9	Others	4.4	3.3	21.7	-32.9	0.3

Source: Authors' calculation from UN Comtrade Database 2005-2009. Reporter: China.
Note: Value in billion USD, growth and shares in percentage.

Japan, South Korea and Asian countries are China's major import partners[1]. Interestingly, China is its own third largest import partner. This can be explained by nominal re-import - imports of products where they were previously exported. 90 percent of China's imported goods from China are made in China, exported to Hong Kong and then re-imported to China's

---

[1] See Appendix, Table A1: China's Top Ten Import Partner.

mainland as inward processing materials. The import round tripping can help the MNEs (with headquarters and distribution centres located in Hong Kong) to enjoy favourable tariff polices, since goods imported for processing trade are exempted from tariffs (Intracen, 2011).

Table 2: China Exports by SITC sections – China and the World

SITC 1-digit	Description	2008 Value	2009 Value	Avg. growth rate 2005-2008	Growth rate 2008-2009	2009 Share
	Total	**1,430.7**	**1,201.7**	**19.7**	**-19.1**	**100**
0+1	Agricultural products	34.2	34.2	12.4	-0.1	2.9
2+3+4	Primary products	43.3	28.7	16.6	-50.8	2.4
5+6+7+8	Manufacturing products	1,351.4	1,137.0	20.0	-18.8	94.6
9	Others	1.8	1.7	7.4	-5.5	0.1

Source: Authors' calculation from UN Comtrade Database 2005-2009. Reporter: China.
Note: Value in billion USD, growth and shares in percentage.

In 2009, manufacturing products account for 95 percent of total exports (see Table 2). Manufacturing products chiefly classified by machinery and transport equipment (SITC 7) takes almost a half of exported products. Other major export manufacturing products include miscellaneous manufactured articles (SITC 8) and material (SITC 6), accounting for 25 percent and 15 percent respectively (UN Comtrade, 2011). The US is the biggest export market, followed by Hong Kong, Japan and South Korea[1].

4.1.2. Vietnam

After a tumultuous period caused by wars, the economic reform under the name "*Doi Moi*" in 1986, which comprised various economic stimulus packages, had a tremendous impact on the economic recovery (Trinh, 2007). With an impressive and stable growth, Vietnam emerged as one of the best performing economies in the world in the last decade.

Vietnam's real GDP growth rate has increased steadily from 6.8 percent in 2000 to 8.5 percent in 2007, and its GDP surpassed USD 70 billion by 2007 (IMF, 2008). Due to the global financial crisis in 2008, the GDP growth rate dropped to 5.3 percent in 2009. However, Vietnam's government is continuously introducing a wide range of market-oriented policies to improve its business environment to attract foreign investors. Therefore, the real GDP growth rate is expected to grow at a rate of about 9 percent until 2015, which means GDP reaching about USD 100 billion (IMF, 2008). Vietnam will become one of the four new Asian tigers in the coming decades if the government continues to support multilateral economic cooperation with other countries and international institutions (Qiao, 2008).

---

[1] See Appendix, Table A2: China's Top Ten Export Partners.

26

In terms of GDP per capita, Vietnam made a spectacular leap from about USD 400 in 2000 to over USD 1,100 in 2010, and is now listed as a middle-income country. GDP per capita is predicted to reach about USD 1,800 in 2015 (IMF, 2008).

Vietnam's Trade: An Overview

Figure 6: Trade Overview of Vietnam (value in billion USD)
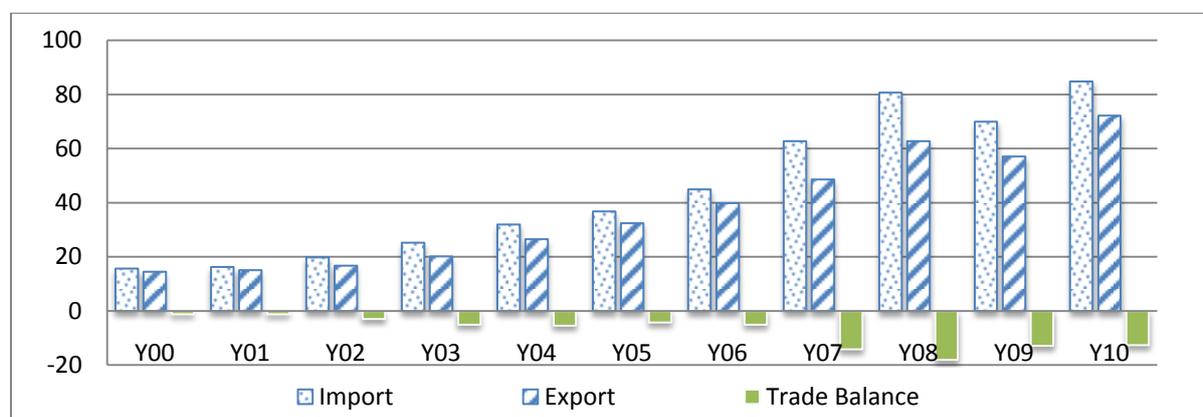
Source: UN Comtrade, 2011 & General Department of Vietnam Customs, 2010

Vietnam has emerged as an essential production base in the world. Exports are the main driving force of economic growth with an average annual growth rate at above 19 percent between 2000 and 2010. Exports recorded a peak in 2010 at USD 72 billion with a growth rate of 26 percent (see Figure 6). With an average annual growth rate of 21 percent during 2000-2010, imports also remain stable and achieved almost USD 85 billion in 2010. Vietnam has a wide trade deficit during the last ten years, 90 percent of which is with (Vietnam Business News, 2010).

Vietnam's Trade Composition and Major Trading Partners

Table 3: Vietnam Imports by SITC sections –Vietnam and the World

SITC 1-digit	Description	2008 Value	2009 Value	Avg. growth rate 2005-2008	Growth rate 2008-2009	2009 Share
	Total	80.7	70.0	20.5	-15.4	100.0
0+1	Agricultural products	4.7	4.9	22.8	4.1	7.0
2+3+4	Primary products	16.8	11.2	23.7	-49.7	16.0
5+6+7+8	Manufacturing products	56.1	53.2	18.7	-5.5	76.1
9	Others	3.1	0.7	24.1	-382.2	0.9

Source: Authors' calculation from UN Comtrade Database 2005-2009. Reporter: Vietnam.
Note: Value in billion USD, growth and shares in percentage.

In 2009, Vietnam mainly imported manufacturing products and primary products, accounting for 76 percent and 16 percent respectively of total imports (see Table 3). Manufactured goods

chiefly classified by machinery and transport equipment (SITC 7) and material (SITC 6) are dominant products under this section (UN Comtrade, 2008). China, Singapore and other ASEAN countries are Vietnam's major import partners[1].

Table 4: Vietnam Exports by SITC sections – Vietnam and the World

SITC 1-digit	Description	2008 Value	2009 Value	Avg. growth rate 2005-2008	Growth rate 2008-2009	2009 Share
	Total	**62.7**	**57.1**	**19.4**	**-9.8**	**100.0**
0+1	Agricultural products	12.3	11.7	18.6	-5.2	20.5
2+3+4	Primary products	15.0	10.3	16.8	-46.0	17.9
5+6+7+8	Manufacturing products	34.6	34.0	20.3	-2.0	59.5
9	Others	0.8	1.2	33.4	33.7	2.1

Source: Authors' calculation from UN Comtrade Database 2005-2009. Reporter: Vietnam.
Note: Value in billion USD, growth and shares in percentage.

Table 4 demonstrates that Vietnam's major export goods are manufacturing products, agricultural products and primary products, accounting for 60 percent, 21 percent and 18 percent respectively of total exports in 2009. Major export markets are the US, Japan and China[2].

4.2. Regional Economic Cooperation

4.2.1. China, Vietnam and ASEAN

The Association of Southeast Asian Nations (ASEAN) was established in 1967, constituted by 10 member states (Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Myanmar, Cambodia, Laos and Vietnam). Since the mid-1980s, most ASEAN countries have performed a significant rate of economic growth. ASEAN's annual average GDP growth rate during 2005 and 2009 is about 5 percent, and the annual average export and import growth rates from 2003 to 2008 are about 15 percent and 17 percent respectively (ASEAN Statistics, 2011; ASEAN Secretariat, 2009).

Vietnam gained full membership of ASEAN in 1995. This important event represented the country's commitment in its foreign policies towards trade openness, regional and international integration (ASEAN Secretariat, 2011). The bilateral trade value between Vietnam and other regional partners increased 25.9 percent annually during 2005 and 2008.

---

[1]See Appendix, Table A3: Vietnam's Top Ten Import Partners.
[2]See Appendix, Table A4: Vietnam's Top Ten Export Partners.

ASEAN ranks as the second largest import partner and the third largest export market of Vietnam (VCCI, 2010a). Vietnam's participation in AFTA (ASEAN Free Trade Area) manifests vividly a high degree of regional economic integration. The main mechanism of AFTA is the Common Effective Preferential Tariff (CEPT) scheme with a different schedule of tariff reduction for each member country. From 1996 to 2006, Vietnam had relaxed tariffs of more than 3,000 items, 52 percent of which enjoys tariffs at 0-5%. Vietnam has also implied other macroeconomic reforms, especially bureaucracy reforms, to gain benefits from trade liberalization. Comparing with other ASEAN member, it is viewed as a market with relatively high openness in this region (Vo, 2001).

The influence of ASEAN was broadened by ASEAN+3 (China, Japan and South Korea) since 1997, which covers more than 20 areas of economic cooperation, such as political and security, transnational crime, economic, finance and monetary, agriculture. Some empirical studies show that real GDP gains for ASEAN from an ASEAN+3 grouping are 4.3 times larger than the real GDP gained from the present AFTA (Seliger & Schönfisch, 2004).

In 2009, the total trade between China and ASEAN reached about USD 210 billion[1]. Followed by EU-27, China is the largest trading partner of ASEAN, which accounts for12 percent in ASEAN's total trade. Among these 10 member countries, Vietnam is the 5th biggest trading partner of China, accounting for about 10 percent of the total China-ASEAN trade (ASEAN Statistics, 2010). Starting from January 1st of 2010, the world's third largest free trade area −ACFTA is established, which implies that tariffs of most commodities trading between ASEAN-6 and China will be completely eliminated by 2010, while for the rest four countries (Cambodia, Laos, Myanmar, and Vietnam) tariffs will be eliminated by 2015 (Singapore FTA Network, 2011).

4.2.2. China, Vietnam and GMS

The Great Mekong Sub-region (GMS), comprising Vietnam, Cambodia, Myanmar, Thailand, Laos, as well as Yunnan and Guangxi Province of China, was initiated by Asian Development Bank in 1992. Based on its strong agricultural base, GMS obtains considerable natural resources such as forestry, fisheries and mineral resources which make it a dynamic region with robust economic growth in Asia (Zhu, 2010). The GMS Economic Cooperation Program endeavours to promote economic development and reinforces linkages between member

---

[1]See Appendix, Figure A5: Trade Overview between China and ASEAN 2009.

countries. It involves a wide range of projects in 11 sectors: agriculture, energy, environment, human resource management, investment, telecommunications, tourism, trade, transport, multi-sector and development of economic corridors (ADB, 2010a).

Vietnam is one of ADB's co-founders and an active member in the GMS. The country has also aggressively participated in all three economic corridors under the GMS Economic Cooperation Program, including North-South, East-West and Southern corridors (VCCI, 2011). By facilitating the flows of goods and services across borders, these corridors generate gateways to all the sub-region markets. Hence, with the implementation of trade and transport facilitation measures, Vietnam can foster the sub-regional connectivity and enhance its competitiveness which will in turn boost the development of provinces and areas covered by the GMS economic corridors, especially at the borderline (ADB, 2007).

As a country located at the upstream of the Mekong River, China actively participated into GMS Program. Under the instruction and support from the central government, the cooperative partnership between Yunnan/Guangxi and the five GMS countries have been extended and deepened. China's participation is mostly focused on the construction of the North-South Corridor, which connected China and ASEAN together. In the case of China and Vietnam, the improving transportation system including road system such as Kunming – Hanoi – Haiphong system and Nanning – Hanoi system will strengthen the existing tires and thus facilitating the moving of commodities and labour force between these two countries. Besides, China also initiated a number of programs to boost bilateral linkages with GMS countries; for instance, the setup of the Pan-Tonkin/ Beibu Gulf Economic Cooperation scheme between Guangxi and Vietnam is believed to contribute to wave the economic ties (Lim, 2008).

4.3. Trade Relations between China and Vietnam

The relationship between China and Vietnam can be traced back to 1991 when the two countries came to a normalization period after a long history of military conflicts. Since then, bilateral trade between two countries started to accelerate with a strong political foundation derived from important documents, such as China-Vietnam Trade Agreement (1991), China-Vietnam Economic Cooperation Agreement (1992), The Treaty on Land Border (1999), and more than 30 bilateral agreements at governmental level (Lao Cai, 2011a,b). The bilateral trade volume had increased from USD 200 million in the earlier 90s to USD 1.5 million in

2000, with a stable average growth rate at 20 percent per year (UN Comtrade, 2011). Both countries also share many similarities in term of natural resources, political system, culture and society. Besides, both countries have shifted from a central-planning economy to a socialist-oriented market economy (Dinh, 2005 & Ha, 2010). The foundation of this bilateral relation is established under a principle of "long term stability, future orientation, good-neighbourly friendship and all-around cooperation" (CRI, 2010).

Trade relations between Vietnam and China started to flourish beyond expectation during 1998-2008, declined in 2009 due to the global recession and recovered since 2010. Trading activities are carried out in three forms: official trade ("*chính ngạch*"), small-scale trade and border trade ("*tiểu ngạch*"). From China's perspective, there are two trade forms: the trade under the control of Central Body ("*guo mao*") and the trade under Local Body ("*bian mao*").

Figure 7: China's trade with Vietnam (value in billion USD)
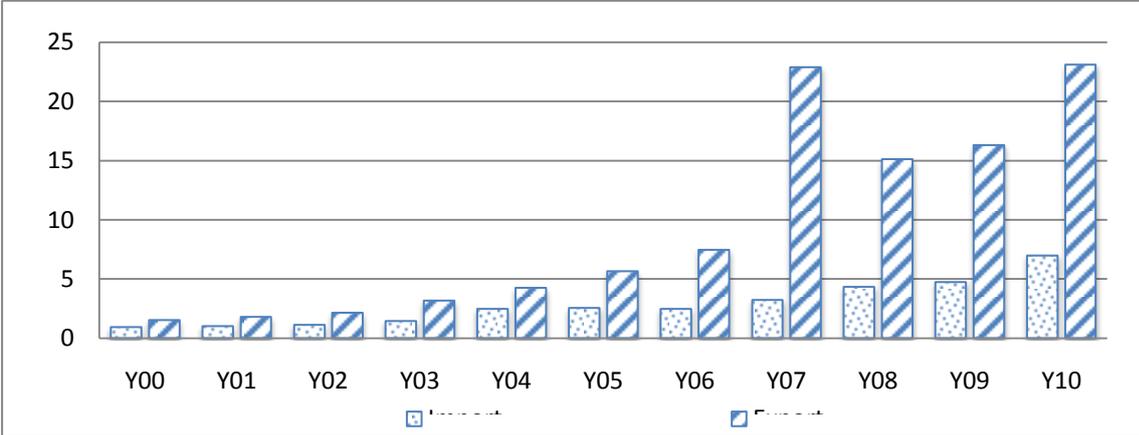
Source: UN Comtrade, 2011. Reporter: China

According to Chinese statistics, from 2000 to 2008, the export volume increased ten times; from USD 1.5 billion to more than USD 15 billion (see Figure 7). China's trade with Vietnam continuously generate a trade surplus for China during the last decade. China is the biggest import partner of Vietnam which accounts for 22 percent of Vietnam's total import in 2009 and the third largest export partner which account for 9.5 percent of Vietnam's total export in the same year. Vietnam's import from China surpassed its bilateral exports in term of value and thus generating a significant trade deficit since 2007. In 2007, China's export to Vietnam had grew more than double and lead to a trade deficit of more than USD 9 billion and it reached USD 16 billion in 2010 (see Figure 8).

Figure 8: Vietnam's trade with China (value in billion USD)

The bilateral trade of the two countries only accounts for 0.2 percent to 0.7 percent in China's total trade during 2000-2009 period, while it contributes from 10 percent to 26 percent in Vietnam's total trade in the same period (UN Comtrade, 2011). The disparity of trade flows reflects the difference in the levels of economic development between the two countries. Vietnam mainly imports high-value added and technology-intensive goods from China for its strategic industries, while exports mostly low-value added raw material. China, therefore, can take advantage on Vietnam's inherent assets to enhance its economy (Do & Ha, 2008).

China – Vietnam trade composition

Table 5: Top Ten Import Commodities to China from Vietnam

No.	HS Code	Product Label	Y10 Value	Avg. growth rate Y05-Y10	Y10 Share
	TOTAL	**All products**	**6.98**	**14.9**	**100.0**
1	27	Mineral fuels	1.78	-2.9	25.5
2	85	Electrical & electronic equipment	1.16	37.7	16.7
3	84	Machinery	0.64	27.1	9.2
4	40	Rubber	0.53	7.7	7.5
5	44	Wood products	0.40	29.0	5.8
6	52	Cotton	0.34	49.6	4.8
7	26	Ores	0.32	14.5	4.6
8	08	Fruit & nuts	0.32	30.1	4.5
9	64	Footwear	0.22	26.5	3.1
10	07	Vegetables	0.21	10.1	3.0
		Others	1.07	22.3	15.3

As shown in Table 5, raw materials such as mineral fuels (HS 27) and manufacturing products (HS 84, 85) are the dominant commodities that China imports from Vietnam, accounting for 25.5 percent and 26 percent respectively in the total import. Other major products that China imports from Vietnam are rubber (HS40), and agriculture products (HS 07, 08).

Table 6: Top Ten Export Commodities from China to Vietnam

No.	HS Code	Product Label	2010 Value	Avg. growth rate Y05-Y10	Y10 Share
	TOTAL	**All products**	**23.11**	**24.0**	**100.0**
1	85	Electrical & electronic equipment	3.60	36.2	15.6
2	84	Machinery	3.41	25.4	14.7
3	27	Mineral fuels	1.85	14.1	8.0
4	72	Iron & steel	1.63	0.9	7.1
5	52	Cotton	1.17	28.6	5.1
6	61	Garment	0.79	26.3	3.4
7	60	Knitted or crocheted fabric	0.74	27.4	3.2
8	87	Vehicles	0.63	14.9	2.7
9	73	Iron & steel products	0.59	26.2	2.6
10	07	Vegetables	0.54	33.4	2.4
		Others	8.17	21.9	35.3

Source: Authors' calculation from Intracen, 2011. Reporter: China.
Note: Value in billion USD, growth and shares in percentage.

In general, the composition of major export commodities from China to Vietnam does not change much in recent years. China mainly exports manufacturing products which classified chiefly by electrical and electronic equipment (HS 85), machinery (HS 27), and primary materials (HS 27, 72, 73) to Vietnam. These products serve as critical industrial inputs for Vietnam's industrialization (see Table 6)[1].

4.4.   Comparative Advantage of China and Vietnam

In order to have a comprehensive insight about the economic relationship between China and Vietnam, it is necessary to draw a clear picture of their strengths and strategies, and to know what industries form the strategic pillars for each country in their bilateral relations. Hence, the authors decided to use an indicator called Revealed Comparative Advantage Index (RCA) in order to measure the competitiveness of all the trading sectors of both economies[2].

---

[1]The trade composition between China and Vietnam is updated until 2010 on UN Comtrade with China as the reporter. There is no report from Vietnam's side for 2010 figures. Therefore, the authors decided to use China's report to analyse bilateral trade composition. Product labels have been shortened.
[2]See Appendix, Revealed Comparative Advantage Index (RCA)

According to Marrwijk (2011), RCA < 1 means no comparative advantage, between 1 and 2 means the comparative advantage is low, between 2 and 4 means a moderate competitiveness and RCA > 4 means high comparative advantage to be observed.

China and Vietnam's trading pattern appears to be in line with H-O model. As a big country with a 1.3 billion population, China specializes in exporting labour-intensive products. On a global scale, China holds a maximum comparative advantage in light industrial products[1]. Meanwhile, since Vietnam owns favourable production conditions in natural resources and labour force, its comparative advantage lies in agricultural products, footwear and textile products[2].

Relative RCA (RRCA): China-Vietnam

There are both similarities and differences in the comparative advantages of China and Vietnam. On one hand, the abundant labour and natural resources have made China and Vietnam becomes low production-cost countries specializing in manufacturing labour-intensive products (Liu, 2007). Therefore, China and Vietnam acquire high or relatively high comparative advantage in textile products and construction materials, and their rising advantages from some same sectors, such as electronics products, result in unavoidable competition in the world export market. On the other hand, the authors also found out some differences regarding trade advantages. China has relatively high comparative advantage in heavy industrial products while Vietnam has relatively high comparative advantage in agricultural and tropical products as well as raw materials.

Table 7: China's Top Ten Comparative Sectors relative to Vietnam

Rank	HS Code	Product Label	RRCA
1	51	Wool and animal hair	18.0
2	66	Umbrellas and sticks	15.0
3	86	Railway and tramway locomotives	12.0
4	67	Animal and artificial skin and feathers	9.6
5	29	Organic chemicals	9.0
6	91	Clocks and watches	9.0
7	58	Special woven or fabric	7.2
8	89	Ships and boats	7.0
9	81	Other base metals	6.3
10	32	Tanning and dying extracts	6.0

Source: Authors' calculation based on Intracen database, 2011. Product labels have been shortened.

---

[1]See Appendix, Figure A6: Top Ten Commodities with high RCA of China.
[2]See Appendix, Figure A7: Top Ten Commodities with high RCA of Vietnam.

Table 8: Vietnam's Top Ten Comparative Sectors relative to China

Rank	HS Code	Product Label	RRCA
1	10	Cereals	54.0
2	09	Coffee, tea and spices	30.8
3	41	Raw hides and leather	17.0
4	27	Mineral fuels and oils	10.0
5	03	Fish	9.7
6	08	Fruit and nuts	8.3
7	25	Minerals	5.6
8	11	Milling products, wheat gluten	5.3
9	64	Footwear	4.9
10	71	Precious stones	4.3

Source: Authors' calculation based on Intracen database, 2011. Product labels have been shortened.

Furthermore, due to the strong competition in some sectors where both China and Vietnam has high comparative advantages, the relatively strong advantage of China has been neutralized. This can be observed in the textile industry in China. As shown in Table 7 and 8, during the period 2005-2009, China's strong advantages in relative to Vietnam lie in light industrial products and transportation equipment, while Vietnam still holds very strong comparative advantages in some agricultural products, and mineral resources in relative to China.

4.5. Overview of Border Provinces

The borderline between China and Vietnam goes across two Chinese provinces (Yunnan, Guangxi) and seven Vietnamese provinces (Quang Ninh, Lang Son, Cao Bang, Ha Giang, Lao Cai, Lai Chau, Dien Bien). In general, these provinces belong to poor and under-developed parts of the two countries. With a politically, militarily and economically strategic role, the border area is attracting more and more attention and investment from national governments and it is expected to become a new economic focus. From China's side, Chinese central government launched various stimulus packages and projects under "Western Development Strategy" which aims at narrowing the east-west gap (Ma & Summers, 2009). From Vietnam's side, enhancing border trade has a critical meaning in developing the regional economy, alleviating poverty and improving the living standard of border inhabitants. Moreover, all these border provinces have been actively participating into ASEAN and GMS Economic Cooperation Program which greatly strengthened their economic and political linkages with Southeast Asian countries.

4.5.1. Yunnan
4.5.1.1. Macroeconomic overview of Yunnan

Yunnan province is the eighth largest province which has a population size of about 46 million accounting for about 3.4 percent in the total population. It is a land-locked province with many minority nationalities (Yunnan Bureau of Statistics, 2010). Along a 4,060 km international boundary, Yunnan shares borders with three neighbouring countries, Myanmar, Laos and Vietnam (ADB, 2011).

Figure 9: Yunnan's GDP composition by sectors
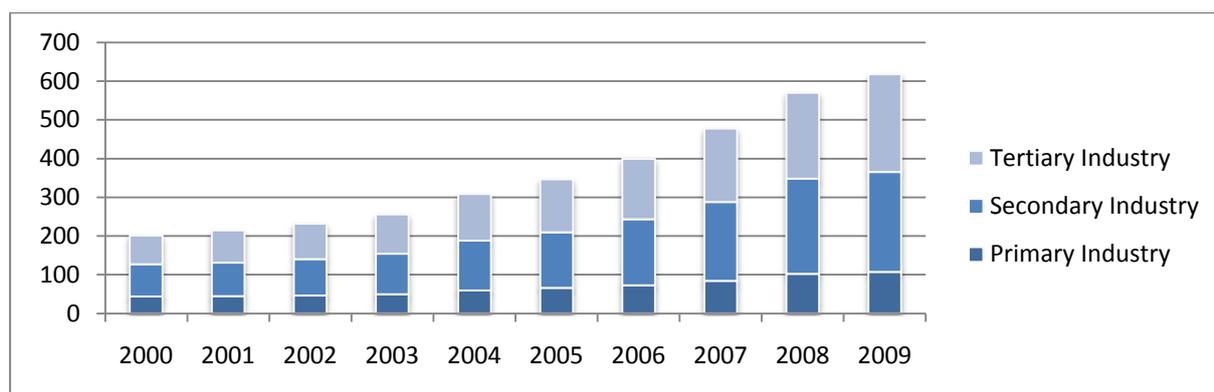
Source: Yunnan Bureau of Statistic, 2010.
Note: Value in million RMB, current price. Constant price is not available.

Since China's open-door policy in 1979, Yunnan started fast economic growth, its GDP annual growth rate peaked at about 12 percent in 2007. However, its growth pace is still lag behind national average level. During 2000 and 2009, although it achieved a fast growth that the annual average GDP growth rate is 9.7 percent, it is still about 0.6 percent lower than national level at the same time period[1]. In 2009, the GDP size of Yunnan reached RMB 617 billion (see Figure 9). It is ranked as the 24th among all 31 provinces, but only contributes about 2 percent to national GDP.

As regards to GDP composition, secondary industry contributes largest share to GDP, and it maintains at a stable level of about 42 percent during 2000 and 2009. In 2009, the primary, secondary and tertiary industry account for 17 percent, 42 percent and 41 percent respectively in GDP. The importance of the tertiary industry is rising. It increased stably from 36 percent in 2000 to 41 percent in 2009.

Given the geographical condition that 94 percent of its area is covered by mountains, Yunnan is often considered as inaccessible and isolated, even regarded as one of the poorest provinces

---

[1] GDP value at current price, GDP growth rate at constant price.

of China (Poncet, 2006). The GDP per capita value is only about 53 percent of the national average level (NBSC, 2010). These figures imply that the existing east-west gap is still wide although the living standard of Yunnan has been greatly improved.

4.5.1.2. *Trade profile of Yunnan with neighbouring countries*

Yunnan province possesses rich natural resources. These natural resources serve as the main input for its three pillar industries - tobacco industry, mining industry, and power industry. Tobacco industry is Yunnan's strategic industry, contributing the most to its economic growth. Over 70 percent of Yunnan's tax income comes from cigarette manufacturers. Meanwhile, power industry is the most competing industry, Yunnan started power trade with Vietnam and Myanmar in 2004; and the demand of power from Vietnam and Myanmar is constantly increasing (Zhu, 2011).

Figure 10: Yunnan's Trade Overview (value in million USD)
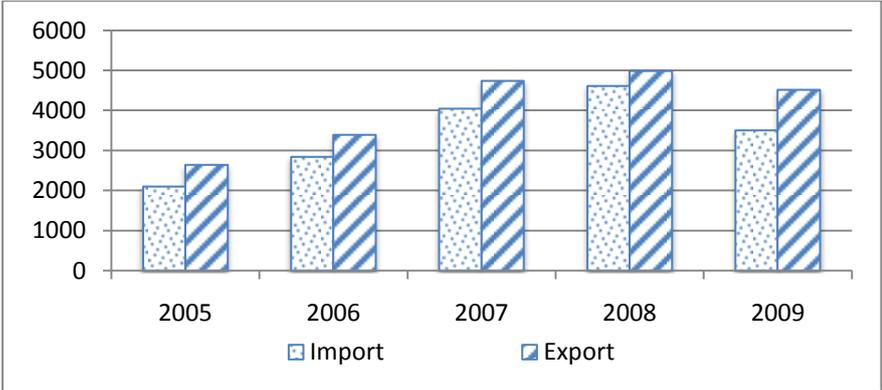
Source: Yunnan Bureau of Statistics, 2010

From 2005 to 2009, the import and export of Yunnan achieved rapid growth with an average growth rate of about 21 percent and 16 percent respectively. Yunnan's economy was unavoidably struck by world economic crisis in 2008 which led to a decline in provincial trade performance (see Figure 10). Export takes the dominant share in total trade (about 55 percent). This is in line with the economic strategy adopted by Yunnan government, which has highlighted the export-oriented strategy as a priority (Poncet, 2006).

Since 1979 when China started "open-door" policy, the bilateral trade between Yunnan and other Southeast Asian countries revived (Poncet, 2006). ASEAN has become Yunnan's largest trading partner in terms of regions. The annual average growth rate of total trade with ASEAN is over 20 percent, and it peaked at about 40 percent in 2006 (Yunnan Bureau of Statistics, 2010). In 2009, the total trade with ASEAN reached USD 3,000 billion, accounting

for about 40 percent in Yunnan's total foreign trade. In the same year, China's central government pursued "Bridgehead Strategy", which aims at building international transportation routes and establishing foreign trade production bases for southeast region. Under this initiative, Yunnan constitutes the "bridgehead", and thus its strategic role was highlighted (Wade, 2010).

Figure 11: Yunnan's Import from ASEAN, Vietnam, Myanmar, Laos (value in million USD)
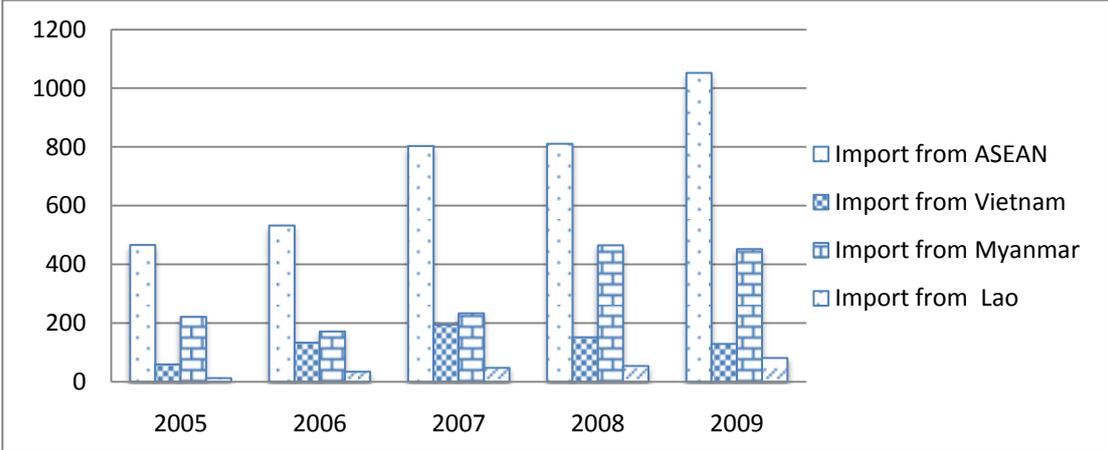
Source: Yunnan Bureau of Statistics, 2010.

Myanmar is the biggest trading partner of Yunnan (see Figure 11). The import from Myanmar contributed 43 percent in the import of Yunnan from ASEAN in 2009. The annual average growth rate of the import value from Myanmar is about 30 percent during 2005 and 2009, with a doubled value in 2008. Noteworthy, imports from Lao and Vietnam achieved fastest growth; they astonishingly peaked at 173 percent and 124 percent respectively in 2006. The export with Laos and Vietnam had reached USD 80 million and USD 128 million in 2009.

Figure 12: Yunnan's Export to ASEAN, Vietnam, Myanmar, Laos (value in million USD)
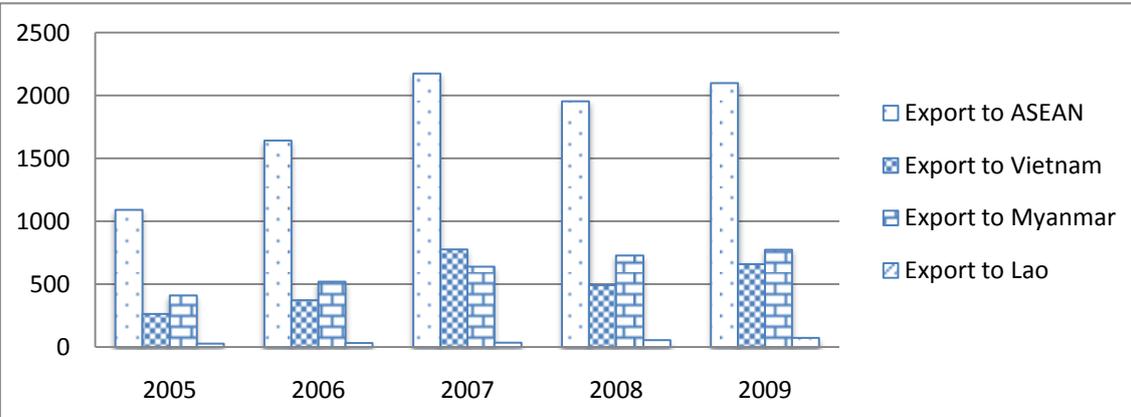
Source: Yunnan Bureau of Statistics, 2010.

ASEAN is also the dominant export destination in terms of regions. In 2009, the export value from Yunnan to ASEAN reached USD 2billion, accounting for 47 percent in the total export of Yunnan. Myanmar is the largest export destination by countries and it is followed by Vietnam. The export to Myanmar and Vietnam contributed about 37 percent and 32 percent respectively in the total export of Yunnan to ASEAN. The export to Vietnam achieved the annual average growth rate (28 percent) during 2005-2009, which is about 10 percent higher than the export to ASEAN.

Import Composition

In order to meet the demand for materials to support local industrial construction, the import volume and commodities categories have been gradually expanded, which means that Yunnan's import structure has been continuously optimizing. In the past few years, the dominant import commodities compose five categories: metal raw materials, non-metallic raw materials, mechanical and electrical products, agricultural products as well as timber, accounting for about 84 percent all together in the total import in 2010 (see Table 9).

Table 9: Yunnan's Import Composition

Product Label	2010 Value	Avg. growth rate 2006-2010	Growth rate 2010	2010 Share
Total	**5,762.3**	**15.2**	**39.1**	**100.0**
Metal raw material	2,691.9	12.3	42.8	46.7
Agricultural products	871.0	37.2	52.0	15.1
Mechanical and electrical products	841.6	14.6	7.7	14.6
Non-metallic raw materials	247.8	-93.1	38.7	4.3
Timber products	178.5	-0.6	8.4	3.1
Others	931.3	21.1	50.5	16.2

Source: Department of Commerce of Yunnan Province-Statistic Database, 2011.
Note: Value in million USD, growth and shares in percentage.

Similarly, Yunnan mainly import raw materials and primary products from ASEAN, including agriculture products, metal ores, rubber products, and electricity, accounting for about 73 percent in Yunnan's total import from ASEAN (Department of Commerce of Yunnan Province, 2011). The import structure of Yunnan with its three neighbouring countries is in line with its import composition with ASEAN. Yunnan mainly imports primary goods, including agricultural products (such as rice, corn and seafood, etc.), timber and minerals products (such as jade and rubies, etc.) (Poncet, 2006).

Export Composition

Table 10a: Yunnan's Export Composition

Product Label	2010 Value	Avg. growth rate 2006-2010	Growth rate 2010	2010 Share
Total	**7,605.7**	**17.1**	**40.6**	**100.0**
Mechanical & electrical products	1,720.0	25.3	47.4	22.6
Agriculture products	1,351.7	18.5	26.8	17.8
Phosphorus chemical products	1,146.6	3.9	32.8	15.1
Textile and Clothing	701.7	24.8	56.3	9.2
Electricity	286.9	40.6	28.4	3.8
Non-ferrous metals	244.8	-25.9	-33.9	3.2
Others	2,153.9	16.2	40.6	28.3

Source: Department of Commerce of Yunnan Province-Statistic Database, 2011.
Note: Value in million USD, growth and shares in percentage

Yunnan mainly exports phosphorus chemical products, mechanical and electrical products, agriculture products, non-ferrous metals and textile products, contributing 72 percent all together to its total export in 2010 (see Table 10a). Since the demand of power from Vietnam and Myanmar are constantly increasing, the export of electricity has also emerged as an essential sector. The growth rate from 2006 to 2007 is almost 230 percent. Textile products and mechanical & electrical products are the two fastest growing sectors in 2010.

Table 10b: Yunnan's Export Composition with ASEAN, 2010

Products Label	2010 Value	2010 Growth Rate	Share in the total export of corresponding sector
Mechanical and electrical products	740	42	43
Agriculture products	600	57	44
Electricity	287	39	100
Textile and clothing	267	49	38
Non-ferrous metals	92	34	38

Source: Department of Commerce of Yunnan Province, 2011.
Note: Value in million USD, growth and shares in percentage

The structure of the export from Yunnan to ASEAN has undergone consistent changes that the share of technology-intensive products has been increasing; now apparent complementarities in their export structures can be observed. As shown in Table 10b, in 2010, the major products to ASEAN are mechanical & electrical products, agriculture products and electricity. The share of nature resources (such as non-ferrous metals) in total export has decreased significantly compared with previous years. In general, the structure of the export from Yunnan to its neighbouring countries is in line with its export composition with ASEAN, including low-priced consumer products, electrical products, machinery and equipment, home appliances to its neighbours (Poncet, 2006).

4.5.2. Guangxi
4.5.2.1. Macroeconomic overview of Guangxi

Guangxi Zhuang Autonomous Region (Guangxi province) is the ninth largest province in China. It has a population size about 51 million, accounting for about 4 percent in the total population of China. Guangxi is mainly inhabited by Zhuang nationality and it enjoys regional autonomy. Like Yunnan, Guangxi is also a south-western mountainous province that about 71 percent of its territory is covered by mountains or hills (ADB, 2000).

Figure 13: Guangxi's GDP by sectors
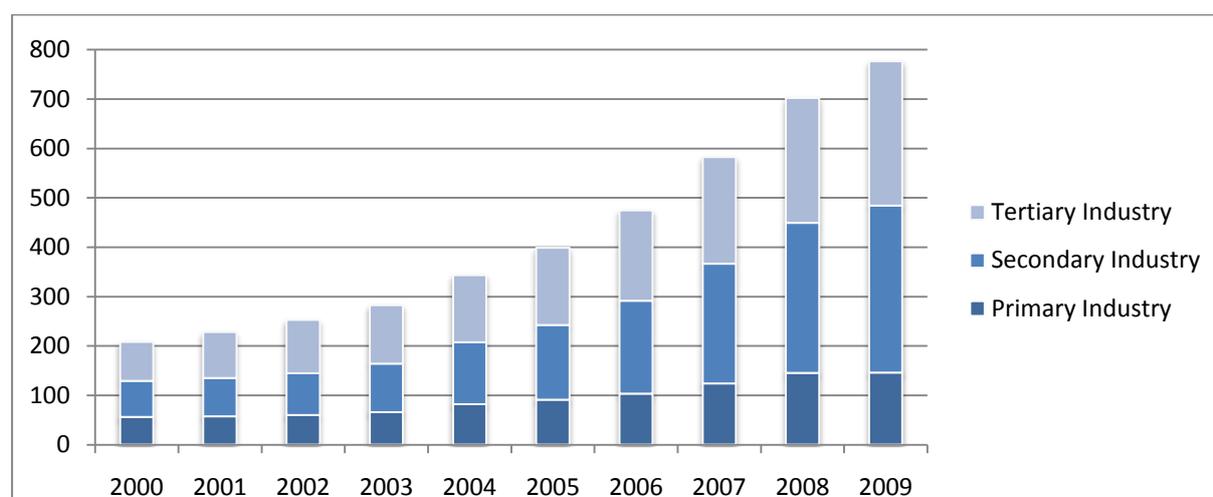
Source: Guangxi Bureau of Statistics, 2010.
Note: GDP value in billion RMB, current price. Constant price is not available.

Thanks to the various economic stimulus projects from Chinese government and the participation to GMS Economic Cooperation Program in late 2004, Guangxi has achieved fast economic growth in the past decade. It has also made significant progress in its goal of becoming an efficient gateway for central and eastern China to ASEAN market (ADB, 2009a). The establishment of the Beibu Gulf Economic Zone which works as a regional and international cooperation platform has also helped to integrate Guangxi with its neighbouring Southeast Asian countries (Gu & Li, 2009). From 2000 to 2009, the annual average GDP growth rate is 11.7 percent, about 1.4 percent higher than national level during the same period. The GDP annual growth peaked at 15 percent in 2007, and it reached RMB 776 billion in 2009 (see Figure 13). In 2009, the GDP size of Guangxi is ranked the 18th, contributing 2.3 percent to national GDP.

As regards to GDP composition (see Figure 13), the secondary industry contributes the largest share to GDP, and it is becoming more importance. It increased stably during 2000-2009,

from 35 percent in 2000 to 44 percent in 2009. In 2009, the primary industry and the tertiary industry account for 19 percent and 38 percent respectively in GDP.

Guangxi is also economically and socially backward. In 2009, the GDP per capita of Guangxi is about RMB 16,000, and it is only about 63 percent of the national average level (NBSC, 2010).

4.5.2.2. Trade profile of Guangxi with neighbouring countries

Guangxi has a special geographical location since it is offshored by Hainan province and surrounded by other four provinces. Hence, Guangxi has emerged as an important gateway of inland provinces to get access to ASEAN. Furthermore, as an autonomous region with greater economic autonomy, Guangxi has actively participated in promoting foreign trade and attracting FDI.

Figure 14: Guangxi's Trade Overview (value in million USD)
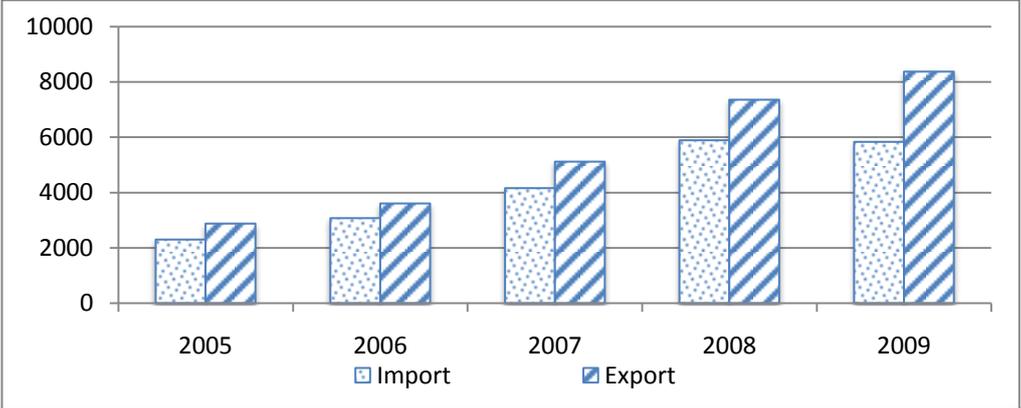
Source: Guangxi Bureau of Statistics, 2010.

With an annual average growth rate of about 28 percent, the total trade of Guangxi grew rapidly during 2005-2009, and it peaked at 43 percent in 2008. The import and export achieved an annual average growth rate of about 26 percent and 29 percent respectively in this period, and reached USD 5.8 billion and USD 8.4 billion respectively in 2009 (see Figure 14). Similar with Yunnan, export also takes the majority in total trade (about 59 percent in total trade) as a result of stressing economic cooperation, foreign trade (especially border trade with Vietnam) and investment ties with Southeast Asian countries. The bilateral trade of Guangxi and Vietnam accounts for 81 percent in Guangxi-ASEAN bilateral trade in 2009.

Figure 15: Guangxi's Import from ASEAN and Vietnam (value in million USD)
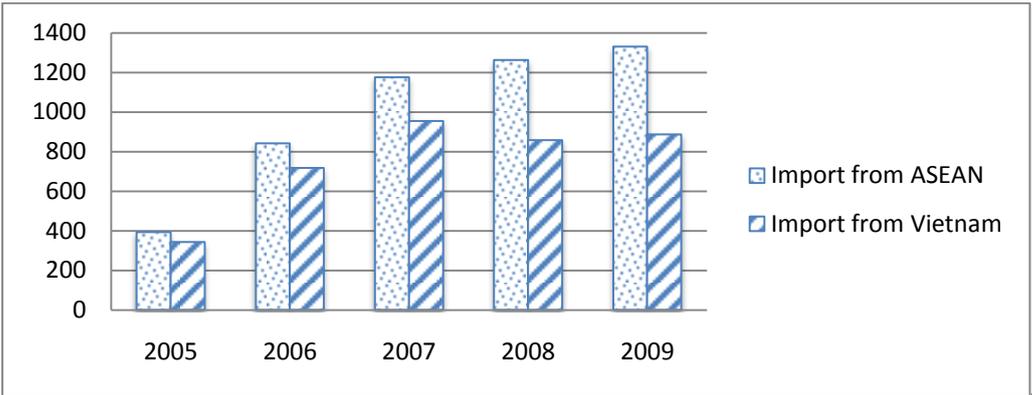
Source: Guangxi Bureau of Statistics, 2010.

ASEAN is the largest trading partner of Guangxi in terms of import by regions, the import from ASEAN takes 23 percent in the total provincial import during 2005 to 2009. The annual average growth rate of the import from ASEAN is about 35 percent, 5 percent higher than the same rate of Guangxi with Vietnam (see Figure 15). Vietnam is the biggest importing partner of Guangxi in terms of import by countries. The import growth rate of Guangxi from Vietnam peaked at about 110 percent in 2006, one year after Guangxi joined GMS.

Figure 16: Guangxi's Export to ASEAN and Vietnam (value in million USD)
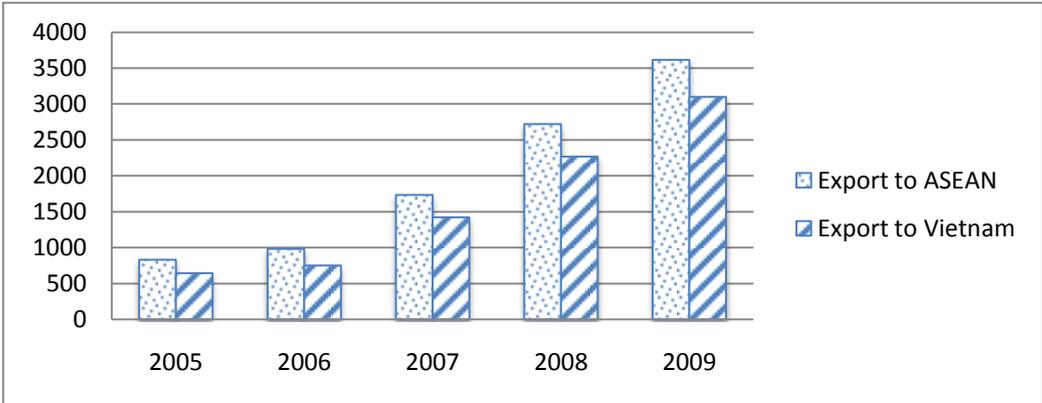
Source: Guangxi Bureau of Statistics, 2010.

As regards to export, ASEAN is the dominant export destination by regions, accounting for 43 percent in the total export of Guangxi during 2005-2009, and Vietnam is the largest export destination by countries (see Figure 16). The export to Vietnam contributed about 86 percent in the total export to ASEAN in 2009. The export to Vietnam achieved the highest growth rate (90 percent) in 2007, 14 percent higher than the same rate of Guangxi with ASEAN.

Import Composition

Table 11: Guangxi's Import Composition

Product Label	2008 Value	2009 Value	Avg. growth rate 2006-2008	Growth rate 2008-2009	2009 Share
Total Major import	**5471.3**	**5367.3**	**29.0**	**- 1.9**	**100.0**
Agricultural Products	**1591.2**	**1610.5**	**31.0**	**1.2**	**30.0**
-Fresh, Dried Fruits & Nuts	2.6	235.9	- 2,237.1	98.9	4.4
-Soybean	1505.0	1298.9	30.1	- 15.9	24.2
Raw Materials	**2185.9**	**2266.2**	**43.3**	**3.5**	**42.2**
- Non-metallic material	594.4	863.2	46.9	31.1	16.1
- Metal material	1591.5	1403.1	36.3	- 13.4	26.1
Chemical Products	**33.2**	**38.1**	**17.0**	**12.9**	**0.7**
Manufacturing products	**1644.8**	**1439.7**	**17.3**	**- 14.2**	**26.8**
- Mechanical & Electrical Products	877.8	753.1	16.6	- 16.6	14.0
- High & New-tech Products	308.3	291.3	21.0	- 5.8	5.4
- Machinery and Equipment	314.2	244.7	18.1	- 28.4	4.6
Textile & Clothing	**14.6**	**12.2**	**11.0**	**- 19.5**	**0.2**
Others	**0.9**	**0.5**	**- 19.7**	**- 72.0**	**0.0**

Source: Guangxi Bureau of Statistics, 2010.
Note: Value in million USD, growth and shares in percentage

Guangxi mainly imports manufacturing products, raw materials, as well as agriculture products, accounting for 27 percent, 42 percent and 30 percent respectively in the total import in 2009. However, the import composition has undergone some structural changes that the proportion of material in the total import has been increasing (from 29 percent in 2005 to 42 percent in 2009), while the proportion of manufacturing products has been decreasing (from 43 percent to 27 percent) (see Table 11).

Export Composition

Table 12: Guangxi's Export Composition

Product Label	2008 Value	2009 Value	Avg. growth rate 2006-2008		Growth rate 2008-2009	2009 Share
Total Major Export	**6013.5**	**7714.5**		**17.9**	**22.0**	**100.0**
Agricultural Products	**322.4**	**522.1**		**13.3**	**38.3**	**6.8**
-Fresh, Dried Fruits & Nuts	154.4	214.2		4.1	27.9	2.8
-Aquatic & Seawater Products	11.6	152.6	-	60.2	92.4	2.0
- Vegetables	91.3	92.2		26.2	1.0	1.2
Raw Materials	**666.4**	**319.2**	**-**	**35.3**	**-108.8**	**4.1**
- non-metallic material	258.0	230.0		10.8	-12.2	3.0
- metal material	408.4	89.1	-	76.5	-358.2	1.2
Chemicals Products	**167.2**	**96.4**	**-**	**84.2**	**-73.4**	**1.2**
Manufacturing products	**3805.3**	**4825.8**		**20.5**	**21.1**	**62.6**
- Mechanical & Electrical	1926.3	2703.8		30.0	28.8	35.0

Products					
- High & New-tech Products	304.4	435.0	37.6	30.0	5.6
- Furniture & accessory	53.2	223.9	15.5	76.2	2.9
- Rolled Steel (ton)	696.8	131.2	56.1	- 431.3	1.7
- Motor Vehicles & Chassis	254.5	123.8	- 116.8	- 105.5	1.6
- Electric Wires & Cables	131.6	112.5	22.2	-16.1	1.5
Textile & Clothing	**1041.8**	**1896.5**	**48.1**	**45.1**	**24.6**
Others	**10.4**	**55.0**	**- 17.5**	**81.1**	**0.7**

Source: Guangxi Bureau of Statistics, 2010.
Note: Value in million USD, growth and shares in percentage

Agricultural products, raw materials, textile and clothing, and manufacturing products, compose the major export commodities of Guangxi. Manufacturing products take the dominant share in the total export with an average growth rate at 20.5 percent during 2006-2008. Mechanical and electrical products, which take 35 percent in total value of major export in 2009, are the dominant export commodities under manufacturing products sector (see Table 12). Figures also reveal some critical changes of the export structure. Firstly, the share of raw material in the major export is continuously decreasing, from 27 percent in 2007 to 4 percent in 2009. Secondly, the share of textile and clothing products in the total export increased significantly, from 6 percent in 2005 to 25 percent in 2009.

4.5.3. Vietnam's seven border provinces

Vietnam's seven border provinces which share the borderline with China locate in the north of the country. They consist of Ha Giang, Lai Chau, Lao Cai, Dien Bien (contiguous with Yunnan) and Quang Ninh, Lang Son, Cao Bang (contiguous with Guangxi). These seven provinces cover an area of more than 54,000 square kilometres with total population of 4.6 million (see Table 20). Being considered as a gateway from the north of Vietnam to southeast China and further to Mainland, this area has a militarily, politically and economically strategic role. Nevertheless, some provinces are underdeveloped and ranked among the poorest regions of the country. For instance, Dien Bien and Lai Chau are among the biggest areas of the nation (Table 20) yet their social and economic developments have not caught up with counterparts in the region due to their short history, Dien Bien and Lai Chau were established in 2004 by separating old Lai Chau province (Lai Chau, 2009).

Table 13: Population and Area of Vietnam's seven border provinces

	Area (square kilometres)	Share in national area (%)	Population (million)	Share in national population (%)
Quang Ninh	6,099	1.8	1.1	1.3
Lang Son	8,324	2.5	0.7	0.8
Cao Bang	6,725	2.0	0.5	0.6

Ha Giang	7,946	2.4	0.7	0.8
Lao Cai	6,384	1.9	0.6	0.7
Lai Chau	9,112	2.8	0.4	0.4
Dien Bien	9,563	2.9	0.5	0.5
Total	**54,153**	**16.4**	**4.6**	**5.3**
Nation	331,051		86	

Source: Vietnam's Provincial Bureau of Statistics, 2007.

Dien Bien, Lai Chau and Lao Cai belong to the northwest economic region while Ha Giang, Cao Bang, Lang Son and Quang Ninh belong to the northeast economic region[1]. The northwest economic region is characterized by mountainous terrains with full of obstacles and less cultivated land for agricultural and industrial development. Furthermore, this landlocked region is considered as the poorest region of Vietnam where the unfavourable natural condition and remote distance to municipals force it to be self-sufficient (Lai Chau, 2009). Contrarily, the northeast economic region enjoyed the favourable economic condition with various types of mineral and natural resources as well as a long history of exploration and development since the French domination (Le, 2010). However, this favourable condition is not distributed evenly. Ha Giang and Cao Bang locate in mountainous areas, thus giving difficulties in their social and economic improvement. Lang Son has been prosperously enhancing trading with China through Huu Nghi international border gate and Dong Dang border economic zone (Nghi Quyet Lang Son, 2010). Quang Ninh, which shares the land border and sea border with China, is the strategic area of Vietnam's northeast economic zone and the "entrepôt" to ASEAN market from China (Quang Ninh, 2010).

Total GDP of the border region only accounts for about 5 percent of national GDP during 2004-2007, however, the provinces of this region has the highest GDP growth rate of the country (Vietnam's Provincial Bureau of Statistics, 2007). The unbalanced development among provinces in the border region is observed during 2004-2007 period (see Figure 17). Lai Chau and Dien Bien are the two poorest provinces with average GDP are VND 650 billion and VND 1,226 billion, respectively. Quang Ninh and Lang Son have the highest GDP and their GDP also increased during this period with average GDP are nearly VND 7,900 billion and VND 4,700 billion, respectively. Quang Ninh's GDP is the highest in the group and 10 times higher than the lowest GDP of Lai Chau.

---

[1] The northwest economic region comprises 4 provinces, Dien Bien, Lai Chau, Son La and Hoa Binh, located in the mountainous north-western part of Vietnam. The northeast economic region comprises 9 provinces, Phu Tho, Ha Giang, Tuyen Quang, Cao Bang, Bac Kan, Thai Nguyen, Lang Son, Bac Giang and Quang Ninh, located in the north-eastern of Ha Noi, Vietnam's capital.

Figure 17: GDP of Vietnam's seven border provinces, 2004-2007
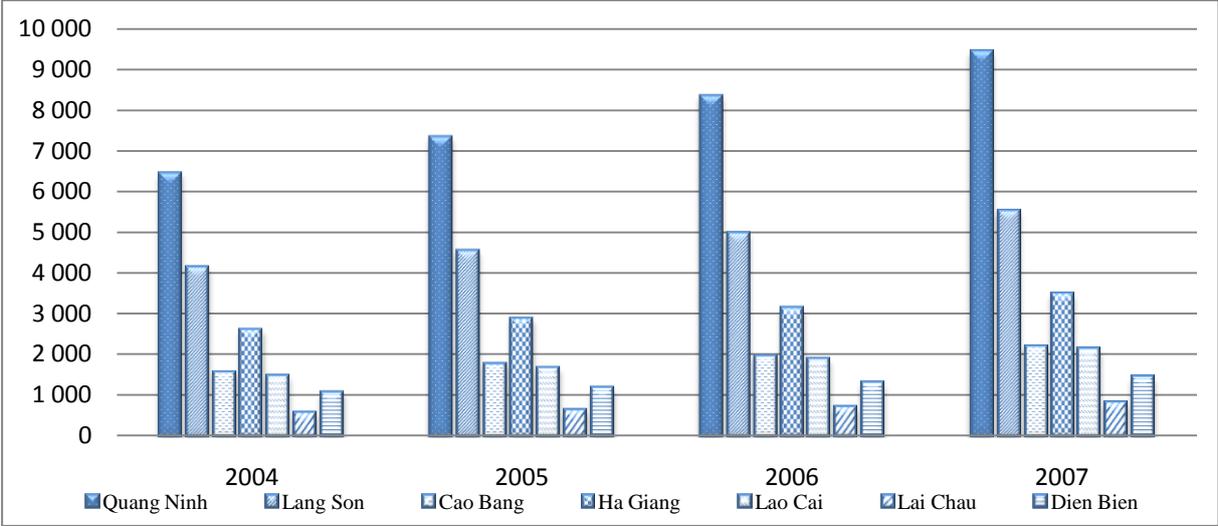
Nevertheless, the GDP growth rate of these seven provinces are maintained at a very high ratio, from 10 percent to 13 percent while the national GDP growth rate in the same period was from 7.7 percent to 8.5 percent. Some mountainous provinces with small population, mainly minority ethnic groups, have low living standard. Ha Giang, Lai Chau, and Dien Bien have GDP per capita lower than 500 USD (Vietnam Provincial Bureau of Statistics, 2007). Meanwhile, GDP per capita of Lang Son and Lao Cai are more than 800 USD and Quang Ninh has the highest value, 1587 USD in 2010 (Quang Ninh, 2010b; Lang Son, 2010; & Mai, 2010). In general, GDP per capital of the border region only accounted for 60 percent in relative to the whole country. High poverty rate and low education level are major obstacles in the long-term of these border provinces (Lao Cai, 2010).

The economic composition during 2004-2007 is illustrated in Figure 18. It represents an equal allocation of local investment in three major sectors of the economy. Agriculture, forestry and aquaculture have a long history exploitation and been one of two major revenue income sources of Vietnam's border provinces (except Quang Ninh) with the average portion of 33 percent. Products of this sector not only serve local demands but also contribute to exports, including rice, tea, vegetables, maize, fruits (dry and fresh), cigarette, cassava, rubber (Vietnam Provincial Bureau of Statistics, 2007). Interestingly, service has been enhancing and become the most promising sector in the region's economy. It occupied the highest portion during 2004-2007 with 38.5 percent. This can be explained by the increased investment of

Taiwanese and Chinese enterprises in tourism industry, transport and communication services, as well as other business supporting services.

Figure 18: Economic Composition of Vietnam's seven border provinces, 2004-2007
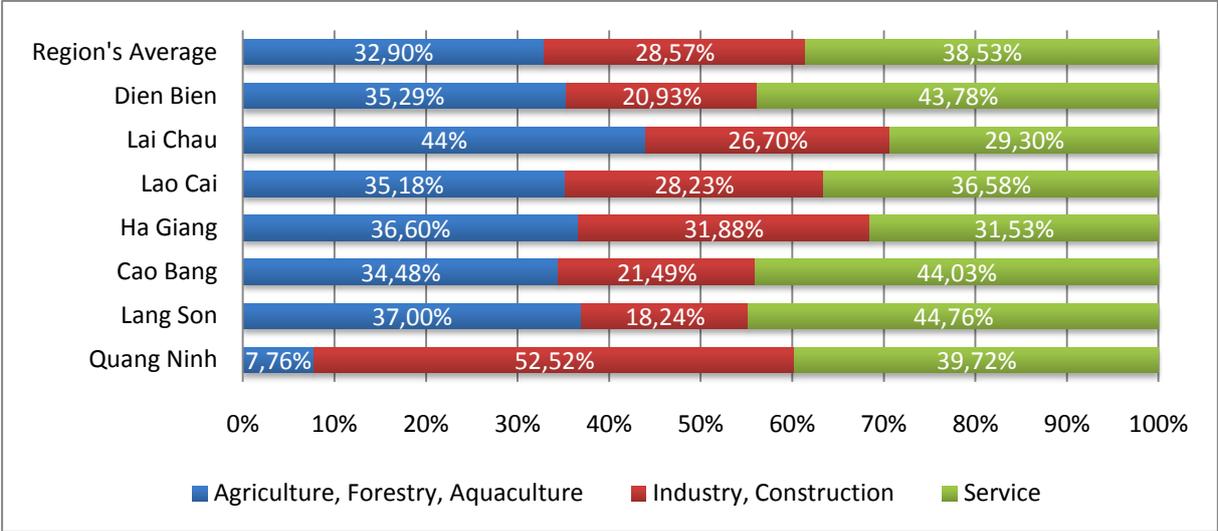
Source: Vietnam Provincial Statistic Yearbook, 2007

Figure 18 also reveals the shift of local economy towards industrialization in the recent years. Quang Ninh is the most industrialized province thanks to its ideal location, with inland borderline and coastal line with China, three border economic zones (Mong Cai, Hoanh Mo, Bac Phong Sinh) and six sea ports that can handle large-capacity ships (Quang Ninh, 2010c). These factors give priority to develop industries in shipping, construction material production, mining, cement production, food processing and fishing. The province also has rich mineral resources, such as coal (90 percent of the country), limestone, granite, white sand. With an abundance of natural resources and economic potential, Quang Ninh is the most important hub in Vietnam's northern economic triangle (Hanoi–Hai Phong–Quang Ninh) and in the "Two corridor, one belt" initiative between China and Vietnam (Nanning–Lang Son–Hanoi–Hai Phong–Quang Ninh economic corridor) (Ha Long Invest, 2010). Quang Ninh's industry and construction accounted for more than 52.5 percent while the region's average portion was 28.5 percent.

4.6. Cross-border Trade between China and Vietnam

The 1999 Land Border Treaty between Chinese and Vietnamese governments laid a firm legal and political foundation for officially bilateral trade relations thereafter. In 2009, China and Vietnam signed three important accords, the Protocol on Border Demarcation and Marker Planting, the Agreement on Border Management Regulations and the Agreement on Border

Gates and Border Management Regulations. The enforcement of these accords will help to solve conflicting issues related to border markers, border rivers management, the crossing of border residents, and the transport of goods (Vietnamplus, 2010).

Figure 19: China-Vietnam border area with 8 first-level border gates
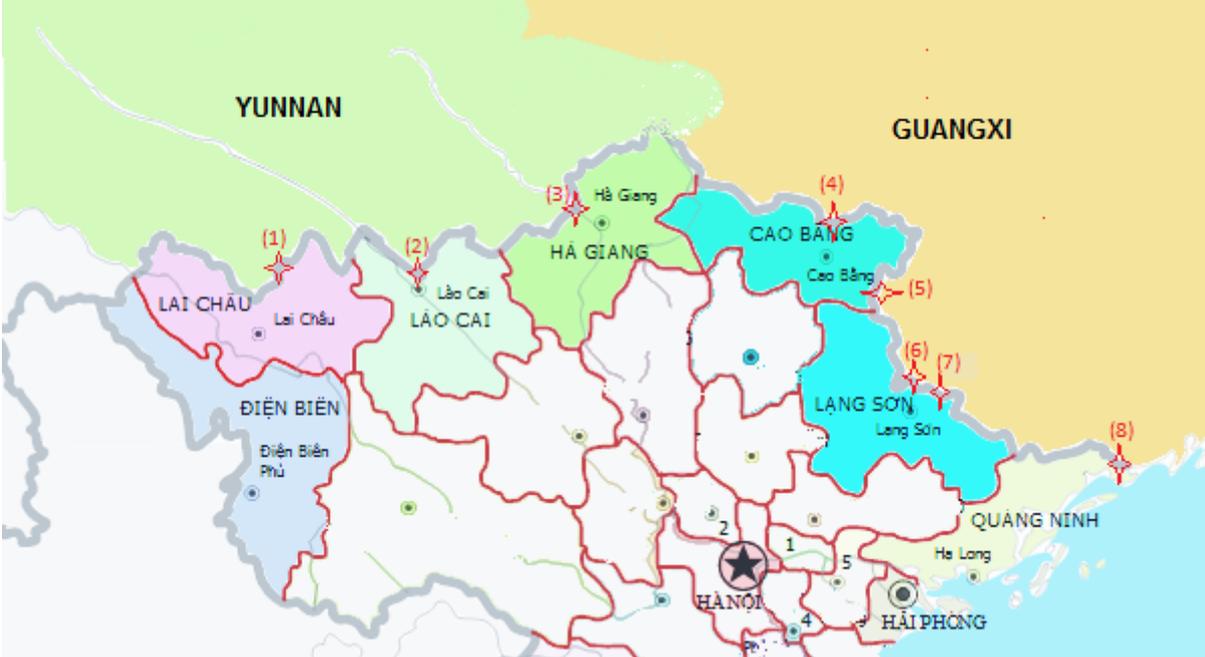
Source: Authors' elaboration based on Google Maps

Along Sino-Vietnamese frontier, the two governments have set eight pairs of border gate[1] that have the most important role in cross-border trade (see Figure 19 and Table 14). Other 13 border gates are improving to boost the amount of imports and exports across border.

Table 14: China-Vietnam border gate pairs

No.	Vietnam		China	
	Border province	**Border gate**	**Border gate**	**Border province**
(1)	Lai Chau	Ma Lu Thang	Jingshuihe	
(2)	Lao Cai	Lao Cai	Hekou	**Yunnan**
(3)	Ha Giang	Thanh Thuy	Tianbao	
(4)	Cao Bang	Tra Linh	Longbang	
(5)	Cao Bang	Ta Lung	Shuikou	
(6)	Lang Son	Huu Nghi	Youyiguan	**Guangxi**
(7)	Lang Son	Dong Dang	Pingxiang	
(8)	Quang Ninh	Mong Cai	Dongxing	

Source: Bien gioi lanh tho, 2011.

---

[1] From Vietnam's perspective, border gate pairs with China are classified into international border gates and national border gates. However, from China's perspective, border gate pairs are classified into national border gates, provincial border gates and crossing points.

The Sino-Vietnamese cross-border trade has a stable and positive growth during 2005-2009 with an average growth rate of 24 percent. The total cross-border trade in 2009 achieved USD 4 billion despite the global economic crisis (Yunnan Bureau of Statistics, 2010 & Guangxi Bureau of Statistics, 2010). The participation of the border provinces in ASEAN and GMS programme ensures the strong development of border trade between China and Vietnam.

4.6.1. Yunnan – Vietnam

As an essential form of foreign trade, border trade takes 58 percent in the total bilateral trade with Yunnan's three neighbouring countries in 2009. Along the Yunnan-Vietnam border line of 1,353km, Yunnan has set 3 national level gates (Hekou, Tianbao, Jinshuihe), one provincial gate (Jinping), as well as 13 border trade gateways[1]. Hekou gate is the largest border gate connecting Yunnan and Vietnam (Kunming Government, 2007).

ASEAN and GMS program have provided Yunnan with enjoyable economic cooperation platforms, under which the total value of border trade has bloomed; the total value of border trade in 2010 (USD 1,517 million) has doubled compared with the value in 2005 (USD 655 million). The annual average growth rate is about 20 percent from 2005 to 2010, and it peaked at 30 percent in 2007. It is expected to maintain fast growth in the future.

Figure 20: Yunnan's border trade with neighbouring countries
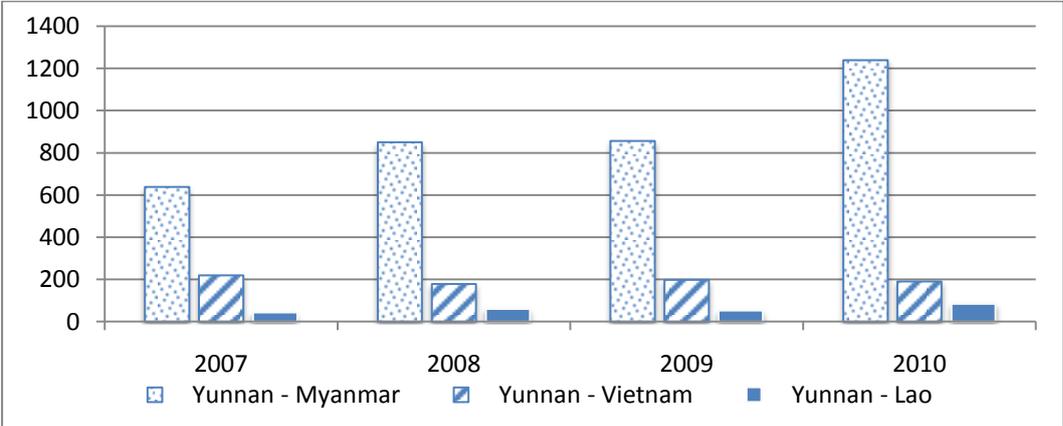
Source: Department of Commerce of Yunnan Province, Statistic Database, 2011.
Note: Value in million USD. Data is only available from January to November.

As the biggest border trade partner of Yunnan, Myanmar occupies 82 percent in the total value of the border trade (see Figure 20). Following Myanmar, Vietnam is the second largest

---

[1] Thirteen border gateways: Heping, Malin, Yangwan, Dabu, Mengdong, Xiaobazi, Jinchang, Laoka, Bajiu, Xinzhai, Shilicun, Nanke, Nongfu.

border trade partner, accounting for 13 percent in the total border trade. The border trade with Vietnam maintains at a stable level at about USD 200 million during 2007 and 2010.

Figure 21: Yunnan's border trade with Vietnam – Import and Export
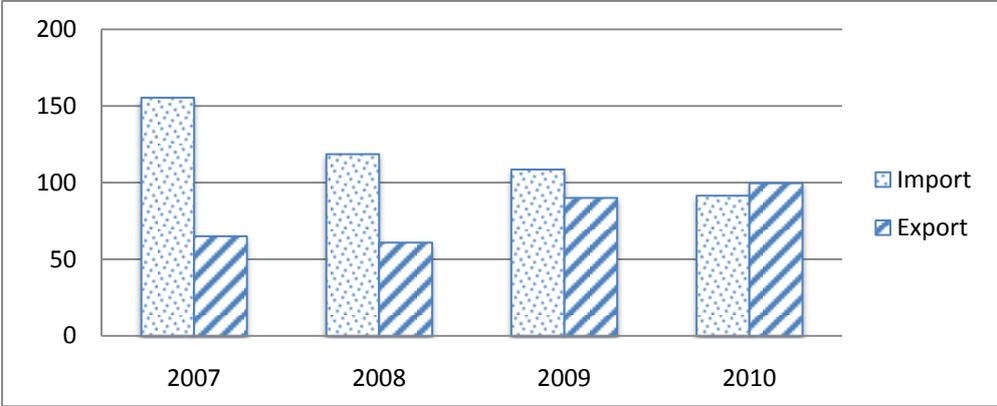
Source: Department of Commerce of Yunnan Province, Statistic Database, 2011.
Note: Value in million USD. Data is only available from January to November.

Figure 21 reveals that the import of border trade has kept decreasing from 2007 (USD 155 million) to 2010 (USD 91 million) with an average decreasing rate at -16 percent, while the border trade export value increased stably at an average 17 percent in the same time period (from USD 65 million in 2005 to USD 100 million in 2010). Export growth rate peaked at 48 percent in 2009 and then slowed down to 11 percent in 2010.

Cross-Border Trade Composition

Agricultural products compose the majority of the imported commodities from Vietnam to Yunnan, while industrial manufactures take a significantly modest share. The major import commodities under the agriculture sector are grains, Vietnamese local food that is popular among Yunnan people living along the border line, as well as tropical fruits. In addition, due to the increasing numbers of industrial projects which aim at promoting the economic cooperation between Yunnan and AESAN countries, as well as the domestic demand for mineral resources from Yunnan itself, Yunnan also imports a variety of nature resources whereas iron takes the majority share. As regard to border trade export, Yunnan mainly exports low-priced daily necessities, such as cooking pots, pans and table ware, mechanical & electrical products, home appliances (rice cooker, microwave, etc.), children toys, textiles (clothing, blankets, etc.) as well as relatively small amount of agricultural products (grains, fruits, etc.) to Vietnam (Department of Commerce of Yunnan Province, 2011)[1].

---

[1] The information of border trade composition is confirmed by a brief interview with the Chief Section Member of Border Trade Division, Department of Commerce of Yunnan Province.

To be more specific, at the largest Yunnan–Vietnam border trade gate – Hekou gate, in 2007, import commodities are composed by 7 major categories, they are hardware minerals, chemical products, live animals, grains, pharmaceutical products, textiles, arts & crafts. Export commodities include 11 major categories: hardware minerals, chemical products, live animals, transportation equipment, mechanical & electrical products, grains, coal, optoelectronic products, light industry products, textiles and pharmaceutical products. The import and export structure indicate that the trade overlap between the export profile of Yunnan at Hekou and the import profile of Vietnam is relatively high. However, strong comparative advantage of Yunnan in the export of transportation equipment, mechanical & electrical products can be observed (Shi & Ma, 2009).

4.6.2. Guangxi – Vietnam

Within the framework of China-ASEAN Free Trade Area, together with the context of the GMS program, Guangxi has made great achievement in improving its transportation and service infrastructure, the border trade between Guangxi and Vietnam has boomed in the past years. Guangxi has eight counties[1] sharing the border with Vietnam along a total of 1,020km border line, Guangxi has set 12 gates including 5 national level gates (Dongxing, Pingxiang, Youyiguan, Shuikou, Longbang), 7 provincial level gates (Tongzhong, Aidian, Pinger, Kejia, Shuolong, Yuexu, Pingmeng) (Fan et al., 2006), and 27 border trade points. The biggest border trade market is located in Dongxing county.

Figure 22: Guangxi's border trade – Total value
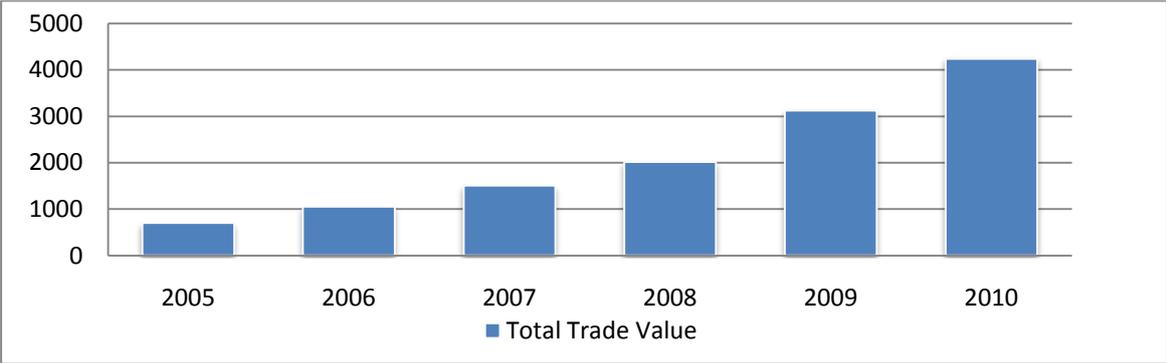
Source: Guangxi Bureau of Statistics, 2010.
Note: Value in million USD. 2010 data is from Nanning Customs.

As shown in Figure 22, the total value of border trade in 2010 (USD 4,240 million) is 6 times as the value in 2005 (USD 701 million). The annual average growth rate is over 40 percent from 2005 to 2010, and it amazingly peaked at 55 percent in 2009 even the global economic

---

[1] Guangxi's 8 counties: Pingxiang, Longzhou, Jingxiang, Jingxi, Ningming, Napo, Daxin, Dongxing.

crisis exerted negative effects on both countries. However, due to the economic problems emerged in Vietnam in the first half of 2010; the bilateral border trade has unavoidably been struck (Guijing, 2010). In 2010, the growth rate of border trade slowed down to 36 percent.

Figure 23: Guangxi's border trade – Import and Export
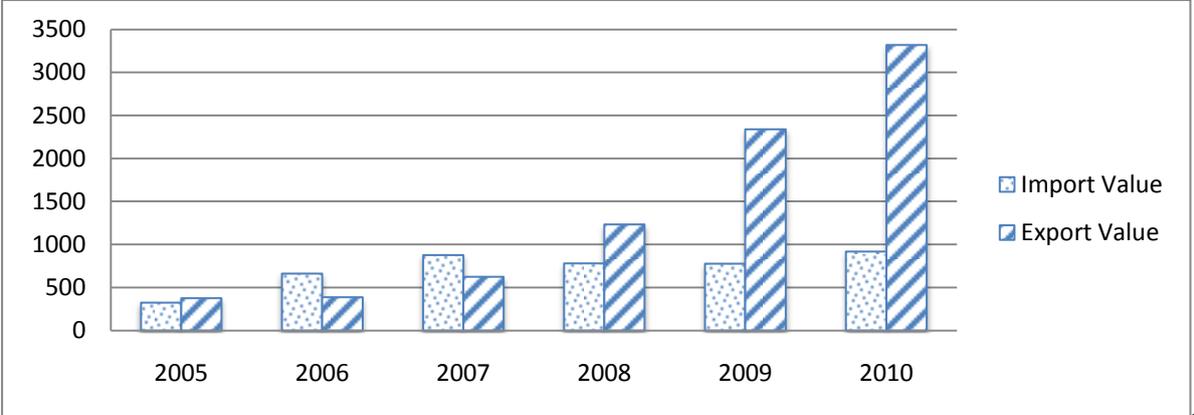
Source: Guangxi Bureau of Statistics, 2010.
Note: Value in million USD. 2010 data is from Nanning Customs.

The import value of border trade in 2010 (USD 920 million) is almost tripled compared with the value in 2005 (USD 324 million). The average growth rate is about 26 percent in this corresponding time period. Export has also undergone robust and continuous growth since 2005. The value in 2010 (USD 3,320 million) is about 9 times as in 2005 (USD 377 million), and the average annual growth rate is about 55 percent in this time period. From 2007 to 2008, the export value was almost doubled (see Figure 23).

Cross-Border Trade Composition – Import

Given the condition of comparative advantage that Guangxi has a stronger advantage in industrial manufactures while Vietnam has a stronger advantage in primary products, the bilateral border trade is in line with the comparative advantages of both economies. Guangxi mainly import agriculture and industrial primary products, accounting for 45 percent and 43 percent respectively in the total border trade import in 2009. Aquatic products and tropical fruits are the dominant products under agriculture sector, nature resources such as coal, mineral ores and rubber are dominant imported industrial products (see Table 15). The import of both agriculture and industrial primary products show an increasing trend in the past years, although Vietnam government exerted some restriction on nature resources export (He, 2008).

Table 15: Guangxi's border trade composition - Import

Product Label	2008 Value	2009 Value	Avg. growth rate 2005-2008	Growth rate 2008-2009	2009 Share
Total Value	**87,578.9**	**113,176.8**	**24.08**	**22.6**	**100**
Major Grain, Sideline, Native & Special Products	**45,332.8**	**50,660.7**	**28.7**	**10.5**	**44.8**
- Aquatic Products	22,307.2	24,692.0	28.7	9.7	21.8
- Fresh & Dried Fruits	11,060.4	12,109.6	28.3	8.7	10.7
- Vegetables	1,241.7	1,493.0	30.3	16.8	1.3
- Grain	17.4	1,292.9	- 325.8	98.7	1.1
- Chinese Herbal	58.8	120.4	- 138.3	51.2	0.1
Industrial Products	**30,732.3**	**48,471.9**	**14.8**	**36.6**	**42.8**
- Coal	20,743.6	37,226.5	40.5	44.3	32.9
- Zinc Ore	2,761.8	4,380.0	- 417.3	36.9	3.9
- Rubber	530.5	2,844.6	- 178.0	81.4	2.5
- Woodwork & Furniture	1,007.8	2,139.0	70.4	52.9	1.9
- Manganese Ore	2,761.8	1,554.6	21.6	-77.7	1.4
Other Commodities	**11,513.8**	**14,044.2**	**24.5**	**18.0**	**12.4**

Source: Guangxi Bureau of Statistics, 2010.
Note: Value in 1,000 RMB; growth and shares in percentage.

Cross-Border Trade Composition – Export

The export composition of border trade has undergone some structural changes, which could be explained partly by the rising comparative advantage of Vietnam in agriculture sectors, partly by the strategy of maximizing comparative advantage in industrial manufactures from Guangxi's side. Hence, the share of agriculture products in total border trade export has been decreasing. Due to the comparatively weak industrial foundation and low purchasing power of the bordering regions, Vietnam relies on Guangxi to import low-priced daily necessities as well as some light industry commodities (such as fabric and clothing, beer, cement, home appliances, etc.). The export of industrial products almost took half in the total export of border trade in 2009 (see Table 16).

Table 16: Guangxi's border trade composition - Export

Product Label	2008 Value	2009 Value	Avg. growth rate 2005-2008	Growth rate 2008-2009	2009 Share
Total Value	**132,216.6**	**189,406.4**	**27.6**	**30.2**	**100**
Major Grain, Sideline, Native & Special Products	8,516.0	12,212.3	- 9.9	30.3	6.4
- Fresh & Dried Fruits	3,852.1	9,606.9	- 10.0	59.9	5.1
- Vegetables	3,040.2	746.2	15.7	-307.4	0.4
- Grain	505.7	9.2	- 56.2	- 5,396.7	0
- Chinese Herbal	0.0	0.0	34.5	0	0
Industrial Products	**60,215.2**	**88,090.5**	**27.3**	**31.6**	**46.5**

	2008 Value	2009 Value	Average growth rate 2006-2008	Growth rate 2008-2009	2009 Share
- Garment	1,098.2	18,155.4	65.9	94.0	9.6
- Fabric	32,067.8	25,860.0	36.6	- 24.0	13.7
- Beer	15.6	31.9	- 8.9	51.1	0
- Cement	115.8	34.1	- 12.4	- 239.6	0
- Glass	106.9	118.4	- 140.0	9.7	0.1
- Bicycles	96.0	65.0	30.0	- 47.7	0
- Household Electric Appliances	1,190.9	5,154.2	- 5.9	76.9	2.7
- Woodwork & Furniture	2,175.3	399.4	30.5	- 444.6	0.2
Other Commodities	**63,485.4**	**89,103.6**	**35.1**	**28.8**	**47**

Source: Guangxi Bureau of Statistics, 2010.
Note: Value in 1,000 RMB; growth and shares in percentage.

4.6.3. Vietnam – Yunnan & Guangxi

Table 17: Border trade of Vietnam's seven border provinces - Import

Provinces	2008 Value	2009 Value	Average growth rate 2006-2008	Growth rate 2008-2009	2009 Share
Total	**4,364.3**	**2,104.4**	**34.9**	**- 107.4**	**100.0**
Quang Ninh	2,474.0	288.5	45.1	- 757.5	13.7
Lang Son	1,184.0	1,096.4	26.2	- 8.0	52.1
Cao Bang	65.0	57.4	28.1	- 13.2	2.7
Ha Giang	80.3	109.0	32.1	26.4	5.2
Lao Cai	541.4	545.2	10.8	0.7	25.9
Lai Chau	5.1	3.9	31.1	- 30.8	0.2
Dien Bien	14.5	4.0	36.4	- 262.5	0.2

Source: Vietnam Provincial Departments of Commerce, 2011
Note: Value in million USD, growth and shares in percentage

According to Vietnam's statistics, the cross-border trade with China has a stable growth during 2005-2009 with an average growth rate at 29 percent. As shown in Table 17 and Table 18, the highest growth can be observed in the import of Quang Ninh (45 percent) and the export of Cao Bang (31 percent). Quang Ninh and Lang Son, with their modern and developing border ports and gates, take the largest share of the total region exports. The border trade of Ha Giang, Lai Chau and Dien Bien is still modest.

Table 18: Border trade of Vietnam's seven border provinces - Export

Provinces	2008 Value	2009 Value	Average growth rate 2006-2008	Growth rate 2008-2009	2009 Share
Total	**2,163.7**	**1,544.1**	**18.2**	**- 40.1**	**100.0**
Quang Ninh	1,596.0	905.2	20.5	- 76.3	58.6
Lang Son	314.0	404.5	20.7	22.4	26.2
Cao Bang	71.0	106.5	31.0	33.3	6.9
Ha Giang	49.3	11.5	- 17.7	- 328.7	0.7
Lao Cai	110.1	103.5	- 10.8	-6.4	6.7

| Lai Chau | 19.3 | 6.9 | - 60.8 | - 178.5 | 0.4 |
| Dien Bien | 4.0 | 6.0 | 31.0 | 33.3 | 0.4 |

Source: Vietnam Provincial Departments of Commerce, 2011
Note: Value in million USD, growth and shares in percentage

4.7. Mechanisms of facilitating cross-border trade

Both Chinese and Vietnamese government have launched various measures to provide favourable conditions for border trade development. In this part, the authors present the internal and external mechanisms that both governments imposed on border economy. The internal mechanisms mainly include related policies and bureaucracy reforms. The external mechanisms mainly include the participation in different economic initiatives to improve logistic and infrastructure. Border trade policy and logistic facilitation are two main focuses.

4.7.1. Internal Mechanisms

China and Vietnam have their own policies and regulations towards small-scale trade. In this part, the authors will analyse the enhancing and hindering impacts of these policies and regulations in the context of trading across China-Vietnam border.

Yunnan and Guangxi follow strict instructions, laws and regulations regarding international trade of Chinese Central government. Meanwhile, Yunnan and Guangxi are granted more autonomy in terms of economic affairs, tax schemes as well as promoting trade and attracting investment (Ko, 2007). There are two types of cross-border trade under their control: *trade at border markets* where border residents exchange locally original products through border gate pairs between two countries under the control of Customs; and *small-scale trade across border* - the main actors are border-located companies or enterprises with small-trade license issued by provincial Commerce Departments, they also operate under the control of Customs (Nguyen, 2007). Chinese government implemented preferential policies for these types to encourage trading and investing in the border areas, and to generate revenues for local governments from taxes. These measures include: 50 percent reduction in VAT and import tax for small-scale trading enterprises (in Yunnan), tax free for trading activities at border markets with exchanging amount less than USD 350, all the income from taxes are detained for local development (Lao Cai, 2011). Additionally, five international border gates between China and Vietnam enjoy special preferential incentives: no limitation in ownership of cross-border trade enterprises, removal of quota and non-tariff barriers, ease tax and import license for necessary products and improvement of customs clearance service (Pham, 2008).

In recent years, Vietnam exporters still encounter many difficulties since China only allows certain exporting products to go through certain border gates, for instance, fruits go through Lao Cai (Lao Cai) and Tan Thanh (Lang Son) border gates, rubber and seafood go through Mong Cai gate (Quang Ninh), equipment and machineries go through Huu Nghi gate (Lang Son) (Pham, 2011). However, since FTAs between China and ASEAN came into effect in 2010, Yunnan and Guangxi had to lower all tariffs and apply intensive quality and sanitary checking systems to make trade more liberalized (Nguyen, 2007).

Vietnam does not have its own policy framework towards trading with Yunnan and Guangxi, but with all countries as a whole. Comparing to China, Vietnam's border trade policy is more unpractical, passive and resistant, even Vietnamese government constantly updates laws and regulations[1]. Additionally, as mentioned above, China has two different import tax schemes, one for official trade and one for small-scale trade and it offers more incentives to cross-border trading companies. Meanwhile, Vietnam only has one tax scheme applying for both official trade and border trade[2]. This is interpreted as a drawback of Vietnamese policy framework because it does not encourage small-scale trade, especially border trade, as much as Chinese does. Border trade taxation also restricts the origin of products and the actors of trading activities. Exchanging daily necessities that are originated in China and sold to border inhabitants' for daily necessities, under USD 1,200 is tax-free[3].

4.7.2. External Mechanisms

4.7.2.1. GMS three economic corridors

The GMS economic corridor system is compromised by three main corridors, which are North-South Economic Corridor (NSEC), East-West Economic Corridor (EWEC), and the Southern Economic Corridor (SEC) (ADB, 2011). The economic corridor system consists of multiple routes, and all these corridors are facing seaports, which have provided landlocked provinces (such as Yunnan on China's side) with good accessibility to foreign markets (Wiemer, 2009).

The NSEC involves three different subcorridors (routes), which are Western Subcorridor (Kunming- Chiang Rai - Bangkok via Lao PDR or Myanmar route), Central Subcorridor (Kunming- Ha Noi – Hai Phong route) and the Eastern Subcorridor (Nanning - Ha Noi via

---

[1]Decree No. 32/2005/ND-CP (14 March 2005) regarding imports, exports through inland border gates; Decision No. 254/2006/QD-TTg (07 November 2006) regarding cross-border trade management.
[2]Decree No. 32/TT-LB (08 April 1994) regarding transfer of border import-export taxes.
[3]Speech of Mountainous Commerce Department representative at Conference of Chinese market (24 July 2009)

Youyiguan or Fangcheng – Dongxing– Mong Cai route). The Central Subcorridor connects the highway No.1 which also goes from the northern to the southern part of Vietnam (ADB, 2009). The NSEC links major urban areas that are the richest part in GMS, and it provides Yunnan with the accessibility of important sea ports (Wiemer, 2009).

In the case of China and Vietnam, under the NSEC, the Central Sub-corridor (Kunming - Ha Noi–HaiPhong route) and the Eastern Sub-corridor (Nanning - Ha Noi route) connect China and Vietnam directly together. Chinese and Vietnamese government have also signed agreement at the border towns Hekou and Lao Cai in order to achieve "one city, two countries" strategy and thus enhancing cross-border cooperation (ADB, 2008).

Time and cost are two important factors determine the efficiency of border crossings. As shown in Figure 24, the total cost and time reduces sharply along with the continuous development of Kunming – Ha Noi – Hai Phong route. The total cost dropped from USD 1,904 in 2000 to USD 772 2015, and the time of transport reduced from 85 hours in 2000 to only 26.5 hours in 2015. However, the steep steps in the figures also suggest that the border crossing was a significant bottleneck before the year 2015 (ADB, 2008).

Figure 24: Cost and Time VS. Distance in 2000, 2006 and 2015, Kunming-Hai Phong route.
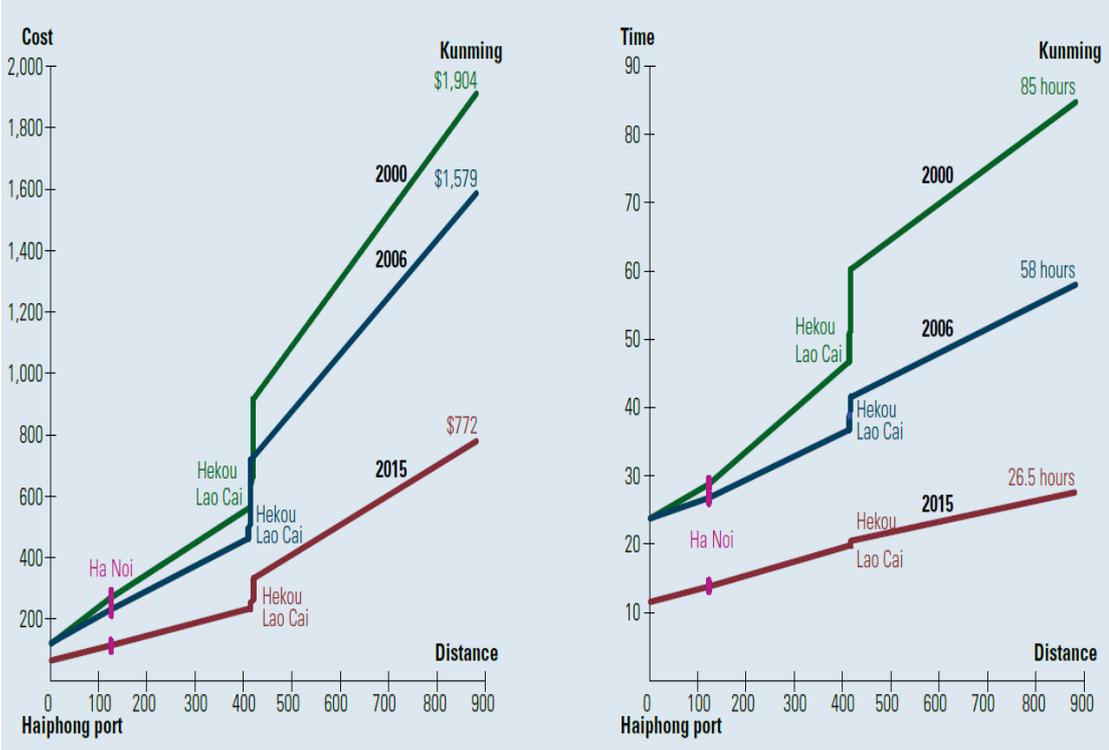
Source: Banomyong, 2007. Note: Costs, in US dollars, are those related to transporting a laden container, based on freight all-kind rate, 885 kilometres.

Figure 25: Cost and Time VS. Distance in 2000, 2006 and 2015, Nanning-Hai Phong route.
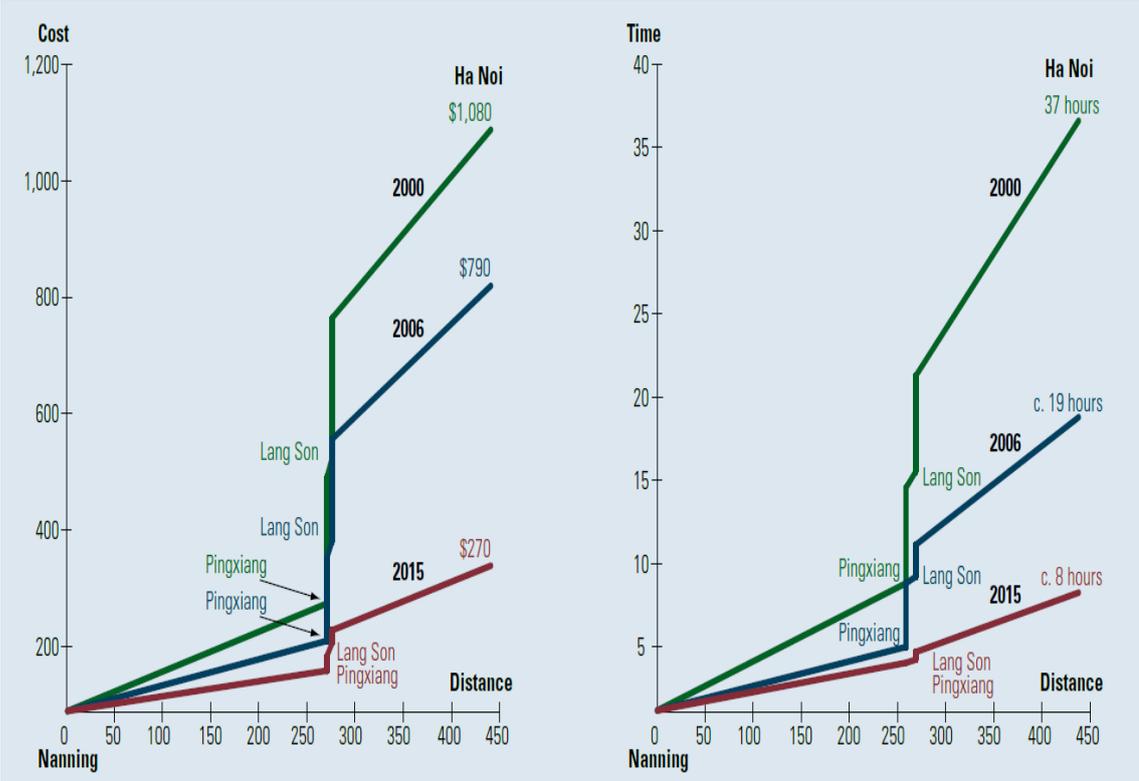
Source: Banomyong, 2007. Note: Costs, in US dollars, are those related to transporting a 30-ton full truckload of steel products, 440 kilometres.

Likewise, in the context of sharply reduced cost and time of transport in 2000, 2006 and 2015, the even steeper steps suggest that the bottleneck of border crossing is even worse in the case of Nanning – Ha Noi route (see Figure 25). More than half of the cost and over 1/3 of the time were spent at Pingxiang - Lang Son border gate in 2000. However, this situation is expected to be eased by 2015, by then the total cost will drop to 270 USD and the time of transport will be reduced to about 8 hours for this 440km route (ADB, 2008).

4.7.2.2. Two Economic Corridors and One Belt

The initiative of "Two Corridors, One Belt" was first proposed in 2004 by Vietnamese Prime Minister in his visiting to China. The agreement on developing this project was signed in November 2006 in the official visit of Chinese President to Vietnam in the schedule of the 14th APEC Summit. Basically, this proposal is an economic cooperation to develop "two economic corridors" which cover the central part of GMS North-South corridors, including two routes: Kunming – Lao Cai– Ha Noi–Hai Phong and Nanning – Lang Son – Ha Noi–Hai Phong; and the Tokin Gulf "economic belt" (Lao Cai, 2008). The objective of this initiative is to boost the local economic growth based on the potential and strengths of each province

along the corridors and the belt; and to turn this area become a major economic centre, a driving force of China-Vietnam economic relations (Lao Cai, 2008).

The first corridor running from Kunming via Lao Cai and Ha Noi to Hai Phong covers an area of 80,000 square meters and a total population of 19 million. The second corridor running from Nanning via Lang Son and Ha Noi to Hai Phong covers an area of 60,000 square meters and a total population of 20 million. Whereas, the Tokin/ Beibu Gulf economic belt bounds Guangxi, Guangdong, Hainan of China and ten coastal localities of Vietnam to form an area of 26,000 square meters. The strategic advantages of this proposals lie in the dynamic sea ports, such as Quinzhou and Fangcheng in China, Cai Lan and Hai Phong in Vietnam; and three economic hubs of two countries, Kunming (Yunnan), Nanning (Guangxi) and Ha Noi (Vietnam) (Do, 2009). The most apparent benefit of "Two Corridors, One Belt" is promoting trade between the related regions by geographical proximity and convenient transportation. The intensive cooperation will happen in major fields, such as trade, tourism, industry, cargo and passenger cargo, shipping, agriculture, health, education, science and technology. Vietnamese government actively advocates improve transportation infrastructure, including building new Ha Noi– Friendship Border Gate, Ha Noi–Hai Phong, Noi Bai– Ha Long gateways, an international railway and developing Pha Lai port as a major port for waterways.

CHAPTER 5 - DISCUSSION

5.1. The need to develop border trade

Focusing on China-Vietnam border trade, the authors want to study the current performance of the bilateral border trade as well as its impacts on Sino-Vietnamese trade relations in recent years. Obviously, the growth and the potential of border trade, which have a significant impact on the regional economic integration, have been recognized by both governments.

5.1.1. Yunnan: Border Trade and Economic Growth

The upsurge of border trade, as a consequence of trade liberalization, is closely connected to economic growth (McNeil, 2006). The fast economic development of border regions will facilitate border trade, which in turn could also support regional growth. The contribution of border trade to economic growth can be measured by three indicators: the share of border trade in Yunnan-Vietnam bilateral trade, the share of border trade in total provincial trade of Yunnan, and the ratio of border trade to the GDP of Yunnan.

Table 19: The contribution of Yunnan's border trade (%)

Yunnan	2005	2007	2008	2009	2010
Share of border trade in Yunnan-Vietnam bilateral trade	30.81	22.68	27.84	25.14	20.11
Share of border trade in total provincial trade	2.10	2.51	1.87	2.48	1.43
Border trade as percentage of GDP	0.23	0.34	0.22	0.22	0.18

Source: Authors' own elaboration.
Note: GDP (Million USD) was converted from GDP (Yuan), using the period average exchange rate at the end of each year from The People's Bank of China, Statistic and Analysis Department.

As revealed by Table 19, in 2010, Yunnan-Vietnam border trade takes about 20 percent in Yunnan-Vietnam bilateral trade, over 30 percent less than the share of Yunnan's total provincial border trade in the total bilateral trade with its neighbouring countries. Moreover, the role of Yunnan-Vietnam border trade in Yunnan's foreign trade and economic growth is also very limited. Although the total value of Yunnan-Vietnam border trade has been increasing in recent years, it only contributed 1.4 percent to Yunnan's foreign trade in 2010. More importantly, the role of Yunnan-Vietnam border trade in the economic growth is very tiny – only corresponds to 0.18 percent in GDP in 2010. The strategic role of border trade is still unexploited thus it should be highlighted in the future.

5.1.2. Guangxi: Border Trade and Economic Growth

As suggested in Table 20, border trade, as a critical form of foreign trade, takes a dominant part in Guangxi-Vietnam bilateral trade, an average about 70 percent during the year 2005 and 2009. The growth of border trade has promoted the growth of total foreign trade of Guangxi; it contributed 22 percent to Guangxi's total foreign trade in 2009, an increasing of about 7 percent from 2008. The figures also imply that the ratio of border trade to GDP has kept continuously increasing since 2005, corresponding to about 4 percent in GDP in 2009. Border trade has gained critical importance in Guangxi's foreign trade and economic growth. Therefore, the strategic role of border trade should be highlighted when it comes to sustainable economic growth in the future.

Table 20: The contribution of Guangxi's border trade (%)

Guangxi	2005	2006	2007	2008	2009
Share of border trade in Guangxi-Vietnam bilateral trade	71.0	71.6	63.3	64.5	78.3
Share of border trade in total provincial trade	13.5	15.7	16.2	15.2	22.0
Border trade as percentage of GDP	2.2	2.6	2.8	3.1	3.9

Source: Authors' own elaboration.
Note: GDP (Million USD) was converted from GDP (Yuan), using the period average exchange rate at the end of each year from The People's Bank of China, Statistic and Analysis Department.

5.1.3. Vietnam's seven border provinces: Border Trade and Economic Growth

At national level, the economic development of border provinces has contributed to Vietnam's sustainable economic growth with steadily increasing ratios corresponding to national GDP. The average ratio of cross-border trade of Vietnam's seven border provinces corresponds to 5.5 percent in national GDP during 2005-2010, and the year 2007 witnessed the highest ratio at 7.7 percent (Table 21). Moreover, together with the lower ratio from China's side in comparing with provincial GDP, figures imply that the enormous potential of cross-border trade is still unexploited and thus lots of spaces are left for both governments jointly dig the potential.

Table 21: The contribution of Vietnam's border trade

Vietnam's border provinces	2005	2006	2007	2008	2009	2010
Border Trade	2155.76	2667.91	5468.3	6527.97	3648.53	4612.29
GDP	52931	60933	71111	90274	93164	101987
Border trade as percentage of GDP	4.07	4.38	7.69	7.23	3.92	4.52

Source: Authors' own elaboration. Note: Value in million USD, share in percentage (%).

The development of border trade will also promote the advance of various industries, such as agriculture, industrial products processing, mining, shipping, freight forwarding, as well as

trade-supporting services (customs, distribution and delivery, warehousing and inventory management, logistics and banking) (Nguyen, 2010a). Furthermore, both countries have acknowledged the strategic roles of border areas in regional integration. From Vietnam's perspective, Yunnan and Guangxi are gateways to a huge promising market with 1.3 billion potential customers. From China's perspective, Vietnam border areas serve as entrance to the Southeast Asian market. Especially for Yunnan province, it has to go through different sea ports and harbours of Hai Phong or Quang Ninh (one of Vietnam's border provinces) to reach other markets. The proximity of markets, the convenience of common border gates and transportation infrastructure require both countries to reduce factor costs and lead times and to improve the competitiveness of domestic industries. Finally, favourable petty trade policies allow China obtain various raw materials and processing products which are critical inputs for its strategic industries but difficult to get through formal international trade channels. These include iron ore, copper, zinc, bauxite, lead, forest products, chemicals, etc. (Nguyen, 2010b).

At provincial level, the most important benefit of cross-border trade lies in its ability to boost local economy. Border areas are usually esteemed as remote and underdeveloped. Hence, border trade is expected to stimulate economic development of border areas and thus providing sufficient needs for local inhabitants. Moreover, border trade allows residents living at border areas trade their agricultural and manufacturing products at the border markets in order to enjoy more favourable tariff policies. For example, Lai Chau - one of the poorest border province in Vietnam, made a significant performance that the ratio of border trade corresponding to its provincial GDP increased significantly from 2 percent in 2001 to 9 percent in 2005 (Do & Ha, 2008). Import and export taxes of trading goods across borders are also the main income of local governments' revenues. For instance, Quang Ninh and Lang Son provinces gained relatively high tax income from their developed border gates compared to other provinces. Therefore, developing cross-border trade is a strategy to shorten development gaps, and also to alleviate poverty along the border line.

Overall, border trade is considered as a bridge connecting China and Vietnam together. Thus it is critical in regards promoting regional economic cooperation. There are still a lot of works which require joint effort to create a secure and attractive business environment so as to guarantee all activities taking place under a systematic and effective policy framework.

5.2. Reflection on the Literature: Comparative Advantage / NEG

China and Vietnam, as two emerging countries both of which have transformed from a central planned economy to a socialist-oriented market economy, share many similarities in terms of culture, politics and economics. The similarities and differences arising from culture, politics especially economics will determine their comparative advantages, which will further affect Sino-Vietnamese trade relations in both positive and negative ways. In this section, the authors analyse how border trade may affect Sino-Vietnamese trade relations. Firstly, the relationship between border trade and the comparative advantages are discussed, and then the authors illustrate the rising of border regions by applying NEG theory.

According to the analysis of relative RCA in the previous chapter, the authors found that both China and Vietnam have very strong comparative advantage in labour- and resource-intensive sectors (such as textile and clothing, articles of apparel and cotton, construction materials, etc.). This implies that the export competition in these sectors has been tensed due to the continuous increasing competitiveness from Vietnam's side. Meanwhile, China is increasing its competitiveness in mechanical and electrical sectors, as well as transportation equipment sector. On the other hand, the authors found that the pattern of China-Vietnam border trade is in line with the bilateral trade at national level. China's border provinces mainly import agriculture products (tropical fruits, aquatic products, etc.), industrial primary products (such as nature recourses), while export low-priced daily necessities, mechanical and electrical products, and some light industry commodities (such as fabric and clothing, beer, cement, home appliances). In other words, the border provinces on each side have taken advantage of the comparative advantage of their own country. The complementarities of border trade will help to expand bilateral trade relations and economic cooperation in the long run.

The emergence of these border provinces is not a coincidence. Firstly, there are external driving forces. ASEAN and GMS Programme have provided favourable economic opportunities, under which numerous transport and infrastructure projects along three economic corridors have been implemented. The benefits are not invisible, since infrastructure investments are directly connected with production activities and business opportunities. They have led to the cross-border labour migration, the increasing of cross-border trade, improved access to education, information, health service, and poverty reduction in this region. Secondly, there are also inner factors driving the emerging of border provinces. Both Chinese and Vietnamese border provinces' authorities have paid great attention to

promote and facilitate cross-border activities, numerous forums, summits, favourable policies as well as foreign aid projects have been launched in order to meet the increasing market demand and to deepen the strategic cooperation.

All in all, border provinces located at frontier areas are enjoying various *centripetal forces* which help them to emerge as new economic centres in this region, and the spatial agglomeration of business opportunities at these centres will further consolidate their role as dominant economic centres, and accelerate the pace of integration in this region.

5.3. Analysing Conceptual Framework
5.3.1. Demand and Supply analysis

As stated in the conceptual framework, supply refers to production capacity of one country or region and demand implies its purchasing power. Each country has a certain degree of supply and demand because it plays two roles: an exporter and an importer at the same time. GDP and population are the main drives of supply capacity whereas GDP per capita and population size determine demand capacity. Besides, sharing the same borderline and with many similarities in culture, trading behaviours, and customer's tastes, Yunnan and Guangxi are considered as easy exporting markets of Vietnam and vice versa (Nguyen, 2007).

Yunnan, with a large population size and area, has an advantage in developing a strong industrial foundation with several labour-intensive industries. The key fields of these industries are agricultural and forest product processing, electromechanical processing, flower, silk and tourism (YFAO, 2007). While acting as an exporter, Yunnan province has a high locational advantage due to its geographical condition. Given the high growth of its provincial GDP derived from various governmental stimulate packages and its linkages with ASEAN and GMS, Yunnan is expected to become the new industry centre.

Due to its fast economic growth and improving living standard, Yunnan market obviously has a high demand for food and daily necessities. Furthermore, Yunnan's urban population has been increasing from 10 million in 2003 to 15 million in 2009, accounting for 34 percent of total provincial population (Yunnan Bureau of Statistics, 2010). Consequently, high demand of Yunnan focuses on raw materials which serve as inputs for its pillar industries, and basic necessities to meet local needs. This province also serves as a transit market of Vietnam for further export to inland China, which in turn will increase its demand for Vietnamese exporting commodities.

Guangxi is considered to be equivalent to Yunnan in terms of production capacity. Since Guangxi serves as a gateway of central and eastern China to get access to ASEAN countries, it is becoming a regional and international economic platforms and a favourable destination of domestic and foreign investments. Moreover, Guangxi maintains a rapid development at its pillar industries including agriculture, machinery, construction materials, automobile, material processing and tourism. Thus, it has the potential to become another industrial hub in this area. Possessing a large population size, Guangxi's demand for industrial inputs, agricultural products from Vietnam and other ASEAN countries is increasing speedily (CII, 2007). Guangxi is also a transit market of Vietnam in order to trade with other inland provinces; in particular, many trade fairs have been organized here to facilitate trading activities between Guangxi and other ASEAN countries (Nguyen, 2007). Hence, the better the Guangxi's economic condition and business climate become, the greater its purchasing power will be.

Vietnam's seven border provinces share the similar economic development pattern with each other as well as with China's two border provinces. The similarities in customer preferences will support and enhance the border trade. When comparing the comparative advantages and competitiveness between China and Vietnam's border provinces, competitive exporting goods from Vietnam's side include agricultural, aquatic and forest products, industrial primary products and other low-value added commodities that Yunnan and Guangxi do not produce much. Moreover, Yunnan and Guangxi have the tendency to become strong exporters of high-technology products while the seven Vietnam's border provinces remain as the importers. In other words, Vietnam's export portfolio is a complement of Yunnan and Guangxi. Besides, along with the fast industry development on Vietnam's side, those border provinces will significantly increase the purchasing capacity.

5.3.2. Attraction and Constraint factors
5.3.2.1. Production-related factors

Production-related factors refer to factor endowment, such as production capability, the extent of the abundance of resources, and other cost-related factors. In regards Sino-Vietnamese border trade; the authors understand these factors as the ability of producing products at low costs with the high quality, by using existing resources. Hence, production-related factors will determine the import or export capability and the trade pattern of one country.

Based on the previous study on trade at different levels, it is obvious that China and Vietnam are complementary trading partners at national, provincial and border level. This situation is

determined by production-related factors, especially the extent of the abundance of resources, and the development of the economy. On one hand, with a higher degree of development, China possesses new technologies and is taking the lead in technology-intensive and high-value added industries. As a result, Yunnan and Guangxi mainly export mechanical and electrical products, home appliances, and transportation equipment to Vietnam's border provinces. On the other hand, due to the strong competitiveness of Vietnam in primary products sector, Vietnam can produce and exploit high quality agriculture and primary products that China cannot compete. Besides, with a short development history and low living standards, Vietnam's border provinces can hardly have the ability to enhance the export of technology-intensive products, thus, they have to rely on import to meet the local demands. Moreover, raw materials and agricultural products which are derived from exploitation of locally natural resources are dominant export commodities in border trade. As a consequence, the trade pattern is determined. In a long-term, this is not a sustainable development strategy.

In general, the trading portfolio of China and Vietnam are determined by production-related factors. In regards border trade, it is critical for both authorities to make a sustainable development strategy in order to optimize export structure and improve products quality.

5.3.2.2. Government-related factors

Due to the nature of border trade that it is petty trade taking place at frontier area where is hard to investigate and supervise, the authors thus consider government-related factors as the most complicated factors. In the case of Sino-Vietnamese border trade, governments have a critical role as policy makers and regulators. Border trade policies and regulations have direct impact on cross-border activities. Therefore, the authors will mainly discuss how policies and regulations proposed by governments affect cross-border border.

Relevant policies and administration framework are also major composition of the locational advantages of frontier areas. Due to the relatively weak economic foundation of border provinces, as well as backward administration, border gates are considered as bottlenecks of border-crossing. Firstly, proper regulation is still insufficient. Tariff rates of border trade have frequent changes, thus resulting in the emergence of speculating behaviours of the trader, by which the value and the composition of border trade are affected. Because the trader may store commodities to wait for a favourable tariff rate, or raise the price without authorities' approving when the demand is increasing. The market order is thus often disturbed.

Secondly, common policies and administration on border trade between China and Vietnam are not established, which may exert great problem for market integration and regional cooperation. At Sino-Vietnamese border gate, there is no common customs clearance procedure between the customs on each country's side. Sometimes one side may even adjust the tariff rate without informing the other one. In addition, China and Vietnam's government have different statistic standards, which is a big obstacle in regards border market integration. Thus, a systematic regulation is required in order to harmonize common administration, and joint efforts are required when formulate tariff rate.

Overall, government-related factors can affect the flow and the composition of border trade either in a positive way or negative way. At the current stage, the major constraint lies in the inconsistent and insufficient administration from both countries side. Therefore, government-related factors, especially various border trade policies and industrial policies, are critical obstacles to overcome in order to enhance border region's locational advantages.

5.3.2.3. Logistic-related factors

Infrastructure condition and transportation cost are major determinants composing logistic-related factors. They are also the major measurements for external mechanism as discussed in the previous chapter. In the case of China-Vietnam border areas, the infrastructure condition and transportation cost are vital for border trade.

The authors understand logistic-related factors as the most important factors in terms of the border trade cost. Border trade cost is consisted by two parts: (i) transportation cost - the cost spent on transporting goods (rent vehicles, pay fuels, etc.) and (ii) border-crossing cost (pay taxes, customs clearance, etc.). Each cost is composed by both physical cost and the time spent. In the case of Sino-Vietnamese border trade, border gates are major obstacles in terms of improving the efficiency of border-crossing. For instance, more than half of the cost (equals to USD 540) and over 1/3 of the time (equals to 14 hours) were spent at Pingxiang-Lang Son border gate in 2000. In addition, given the current situation that most these border regions are regarded as poor and remote areas, the physical connectivity is relatively low.

The development of infrastructure will definitely help to improve the efficiency of border-crossing, thus reducing total cost and promote the growth of border trade. Under GMS Programme, various projects have greatly contributed to improve the physical connectivity of the border areas between China and Vietnam. Therefore, the total cost and time spent on

border trade has been continuously decreasing. Besides, since various projects have also been invested to improve the infrastructure at the border gates, the "bottleneck" situation of border gates is expected to be eliminated by 2015. As a result, the total cost spent on border trade will be greatly reduced, and the border trade is expected to maintain fast growth in the future.

In general, the logistic-related factors, especially infrastructure condition and transportation cost, will determine the flow and value of border trade by affecting physical connectivity and border-crossing cost. Therefore, the importance of logistic-related factors should be highlighted both for importers and exporters.

5.3.3 Integration effect

Integration effect is the consequence of economic cooperation and trade promotion within a system. Based on empirical findings, the authors found out that by participating in ASEAN and GMS Programme, the border provinces have improve their trade performance through the free movement of goods and labours across borders, and thus they have acknowledged and reaped the benefits from these. Hence, the border effect which is an impediment to free mobility of production inputs can be defused when the degree of integration increases. The active roles of China and Vietnam in the regional economic cooperation will provide both countries with opportunities to approach new markets and spread their influence regionally.

Noteworthy, the main mechanism of ACFTA - the Common Effective Preferential Tariff scheme will have significantly impact to China and Vietnam, especially to border provinces. Although the authors could not provide some data on cross-border trade in 2010 and 2011 when China fulfilled the obligation with ACFTA in tax reduction, it is still can be observed that the flow of goods, services and people across Sino-Vietnamese border have been increased tremendously. In addition, China also equips its border provinces with better policies and cross-border infrastructure. Meanwhile, Vietnam still has many works to do in order to reap the full benefits of regional integration.

CHAPTER 6 – CONCLUSION

6.1. Conclusion

This thesis has studied Sino-Vietnamese trade relations in the context of ASEAN and the GMS Programme, as well as major facilitating and impeding determinants of cross-border trade. At national level, the authors found that Sino-Vietnamese bilateral trade has undergone rapid growth in the recent years. As regards commodity composition, although there are some overlapping products from labour-intensive industries which resulted in unavoidable competition on global markets, China and Vietnam are still complementing each other by effectively making use of their specific comparative advantages.

At provincial and border level, border provinces are strengthening their economic ties by actively participating in the ASEAN region and GMS Programme. Provincial trade and border trade have also boomed. Vietnam has become the first and the second largest trading partner of Guangxi and Yunnan respectively, while Yunnan and Guangxi have emerged as critical sources which provide technology-intensive manufacturing products for Vietnam. As regards trade composition, the commodity structure of each country is in line with their comparative advantage. Moreover, various investments in infrastructure and transportation networks have greatly facilitated cross-border activities. Hence, border trade, as an important form of foreign trade, is gaining critical importance in terms of promoting foreign trade and contributing to local and regional growth.

The underlying determinants of trade are production-related factors, government-related factors, and logistics-related factors. They are essential determinants affecting border trade in both positive and negative ways. While the benefits of cross-border trade are undeniable, its risks and problems cannot be ignored. The main challenges are insufficient infrastructure network (roads and railways), the lack of communication, and the poor policy framework for border control. Insufficient quarantine regulations and sanitary inspections, as well as illegal actives such as gambling and smuggling also exert high pressure on border regulation.

Under the platforms of ASEAN and the GMS Programme, China and Vietnam's governments have cooperated closely together, devoting joint efforts to improve infrastructure, physical connectivity, and the administrative framework. These positive effects serve as one of the major forces driving border trade and regional economic growth. However, due to the factor endowments of each country, the relatively poorer industry foundation of Vietnam's border provinces makes it difficult to optimise the export structure in the bilateral trade with China.

Besides, the relatively high cost of crossing the border is still a bottleneck for border trade at present.

All in all, the interaction between trade and these trade determinants will determine the trade flow at different levels, thus affecting Sino-Vietnamese bilateral trade relations in the long run.

6.2. Policy Implication and Countermeasures

The Chinese and Vietnamese governments have realized the importance of cross-border trade cooperation in the border region, for instance, the cross-border trade between Guangxi and Vietnam accounts for more than 80 percent of Guangxi's provincial trade with Vietnam. Therefore, the two countries have a strong intention to develop mutual economic relations. Thus the strategic role of cross-border trade should be highlighted.

To begin with, the long-term development of border trade requires a high degree of cooperation and agreement from both governments. When conducting the study on border trade, the authors found that the mutual information exchange is not sufficient, the policy regulation and the statistical standards of two countries are not consistent either. As a consequence, data divergences regarding border trade volume and value are generated, and the differences of border regulations hindered the cross-border activities. Therefore, a thorough study on border trade flow and policy regulation is needed by both countries. Besides, proper communication and information exchange should also be prioritized.

Secondly, both governments should consider how to improve export commodity quality and optimize export commodity structure. Currently, many products exported at border gates are low-price daily necessities. Many fake and bad quality commodities are prevalent and thus disturbing market competition. In addition, smuggling, and drug and human trafficking are also prevalent in this region. Both governments should emphasize these problems in their agenda. More importantly, the export commodity structure is essential to sustainable growth. Optimizing the export commodity structure could help to achieve the best allocation of production factors under the given determinants condition such as technology, production capability, company resources, and market demand. Both governments should consider transforming export composition from a pattern dominated by primary products to a high technology and high added-value commodity dominated pattern. In other words, they should

foster high added-value industries as export pillar industries in the long run. China is undergoing this shift, Vietnam has long way to go.

Thirdly, the relatively poor infrastructure system is still a big concern. Indeed, various projects and infrastructure investments have helped to improve accessibility and efficiency at the border gates, but the insufficient transportation capacity and the poor road condition are still bottlenecks which greatly hinder the openness of border gates. In addition, the poor functioning of the border gates cannot meet the rapid increase in demand. Many border gates do not have a fully functional yard which can plan systematic customs clearance functions like inspection, storage, weighing, fumigation, disinfection and refrigeration. Besides, border provinces lack funding for maintenance of the border markets, which cannot be supported only by local governments. Provincial and central governments should conduct detailed surveys and launch corresponding projects to address these bottlenecks.

The long-term development of the border provinces and border gates require continuous efforts. Both governments should devote joint efforts to conducting suitable surveys and projects to improve infrastructure capability and policy regulations. Under the economic platform of ASEAN and GMS Programme, China and Vietnam should also make full use of the opportunity to come up with more preferential policies for border trade (such as subsidies and tariff refunds), so as to further deepen and strengthen bilateral economic and trade cooperation.

6.3. Contribution, Limitation and Further Research

Acknowledging the importance of border provinces in promoting cross-border economic cooperation, the authors have studied the current situation and the strategic role of cross-border trade in Sino-Vietnamese trade relations. The most significant contribution of this work is the conceptual framework, which provides a comprehensive understanding of the mechanism of bilateral trade between two countries with a focus on the border area. In addition, this study addresses the deficiencies of existing studies by providing relatively comprehensive information and analysis regarding the dynamics of Sino-Vietnamese cross-border trade. It also sheds light on the critical factors facilitating or hindering Sino-Vietnamese cross-border trade. Due to the difficulties of collecting data and the lack of field research, there are some limitations than deserve research attention in the future.

Firstly, trade data about Sino-Vietnamese bilateral trade and border trade are not complete and consistent. Sino-Vietnamese trade data presented in this paper was categorized into three tiers – national, provincial and border level. At national trade level, the total value and trade composition is presented comprehensively and completely. However, when it comes to provincial and border level, the authors realized that the data on trade composition from Yunnan's side was hard to collect hence asymmetric. Likewise, the data availability from Vietnam's statistics is also low, and even some data obtained through personal networks from Vietnamese authorities are not highly reliable. Hence, the analysis of border trade composition was mainly based on the data collected from China's perspective.

Secondly, due to the limited space of this thesis, the data analyses were not tested by quantitative study. The authors analysed trade determinate factors from three perspectives – production-related factors, government-related factors and logistics-related factors. However, the size of the effect of each factor group has not been discussed yet, which could have been well tested by establishing mathematical models and conducting "principal components analysis" with the support of statistic software, such as SPSS and EViews. In addition, the impact of different industries on border trade is not discussed either. In future research, it would be interesting to study the importance of each factor and industry, and find out the most essential factor(s) and industry(s) regarding Sino-Vietnamese cross-border trade.

Furthermore, the lack of field research is a drawback for this research theme. Since the purpose of this study is to acknowledge Sino-Vietnamese trade relations, especially the cross-border activities along the borderline, the authors should ideally have conducted some field research including interviews and meetings with local authorities and merchants at border trade markets. However, the majority of the information presented in this thesis was only collected from governmental publications and academic studies rather than the real understanding and feelings from local people's perspectives.

APPENDIX

Figure A1: China's Major Import Partners

Rank	Country	Value			Share in total trade (%)		
		2007	2008	2009	2007	2008	2009
	Total	956.1	1,132.6	**1,005.6**	**100.0**	**100.0**	**100.0**
1	Japan	134.0	150.6	130.9	14.0	13.3	13.0
2	South Korea	103.8	112.1	102.6	10.9	9.9	10.2
3	China	85.8	92.5	86.1	9.0	8.2	8.6
4	Taiwan	101.0	103.3	85.7	10.6	9.1	8.5
5	USA	69.6	81.6	77.8	7.3	7.2	7.7
6	Germany	45.4	55.8	55.8	4.7	4.9	5.5
7	Australia	25.8	37.4	39.4	2.7	3.3	3.9
8	Malaysia	28.7	32.1	32.3	3.0	2.8	3.2
9	Brazil	18.3	29.9	28.3	1.9	2.6	2.8
10	Thailand	22.7	25.7	23.6	2.4	2.3	2.3
	ROW	321.0	411.6	343.1	33.6	36.3	34.1

Source: UN Comtrade, 2011
Note: Value in billion USD, growth and shares in percentage

Figure A2: China's Major Export Partners

Rank	Country	Value			Share in total trade (%)		
		2007	2008	2009	2007	2008	2009
	Total	**1,220.1**	**1,430.7**	**1,201.7**	**127.6**	**126.3**	**119.5**
1	USA	233.2	252.8	222.3	24.4	22.3	22.1
2	Hong Kong	184.4	190.7	116.2	19.3	16.8	11.6
3	Japan	102.1	116.1	97.9	10.7	10.3	9.7
4	South Korea	56.4	73.9	53.7	5.9	6.5	5.3
5	Germany	48.7	59.2	49.9	5.1	5.2	5.0
6	Netherlands	41.4	45.9	36.7	4.3	4.1	3.6
7	United Kingdom	31.7	36.1	31.3	3.3	3.2	3.1
8	Singapore	30.0	32.3	30.7	3.1	2.9	3.1
9	India	24.1	31.6	29.7	2.5	2.8	3.0
10	France	20.5	23.5	21.6	2.1	2.1	2.1
	ROW	447.6	568.6	511.7	46.8	50.2	50.9

Source: UN Comtrade, 2011
Note: Value in billion USD, growth and shares in percentage

Figure A3: Vietnam's Major Import Partners

Rank	Country	Value			Share in total trade (%)		
		2007	2008	2009	2007	2008	2009
	Total	62.8	80.7	**69.9**	100.0	100.0	100.0
1	China	12.7	16.0	15.4	20.2	19.8	22.0
2	Singapore	7.6	9.4	7.0	12.1	11.6	10.0
3	Japan	6.2	8.2	6.8	9.9	10.2	9.8
4	South Korea	5.3	7.3	6.7	8.4	9.0	9.6
5	Taiwan	7.0	8.4	6.1	11.1	10.4	8.7
6	Thailand	3.7	4.9	4.5	5.9	6.1	6.4
7	USA	1.7	2.7	2.7	2.7	3.3	3.9
8	Malaysia	2.3	2.6	2.6	3.7	3.2	3.7
9	Hong Kong	2.0	2.6	2.1	3.2	3.2	3.0
10	India	1.4	2.1	1.5	2.2	2.6	2.2
	ROW	12.9	16.6	14.5	20.5	20.5	20.7

Source: UN Comtrade, 2011

Note: Value in billion USD, growth and shares in percentage

Figure A4: Vietnam's Major Export Partners

Rank	Country	Value			Share in total trade (%)		
		2007	2008	2009	2007	2008	2009
	Total	**48.6**	**62.7**	**57.1**	100.0	100.0	100.0
1	USA	10.1	11.9	11.4	20.8	19.0	20.0
2	Japan	6.1	8.5	6.3	12.6	13.6	11.0
3	China	3.7	4.9	5.4	7.6	7.8	9.5
4	Switzerland	0.2	0.5	2.5	0.4	0.8	4.4
5	Australia	3.8	4.4	2.4	7.8	7.0	4.2
6	South Korea	1.2	1.8	2.1	2.5	2.9	3.7
7	Singapore	2.2	2.7	2.1	4.5	4.3	3.7
8	Germany	1.9	2.1	1.9	3.9	3.3	3.3
9	Malaysia	1.6	2.0	1.8	3.3	3.2	3.2
10	Philippines	1.0	1.8	1.5	2.1	2.9	2.6
	ROW	16.8	22.1	19.7	34.6	35.2	34.5

Source: UN Comtrade, 2011

Note: Value in billion USD, growth and shares in percentage

Figure A5: Trade Overview between China and ASEAN 2009 (value in million USD)
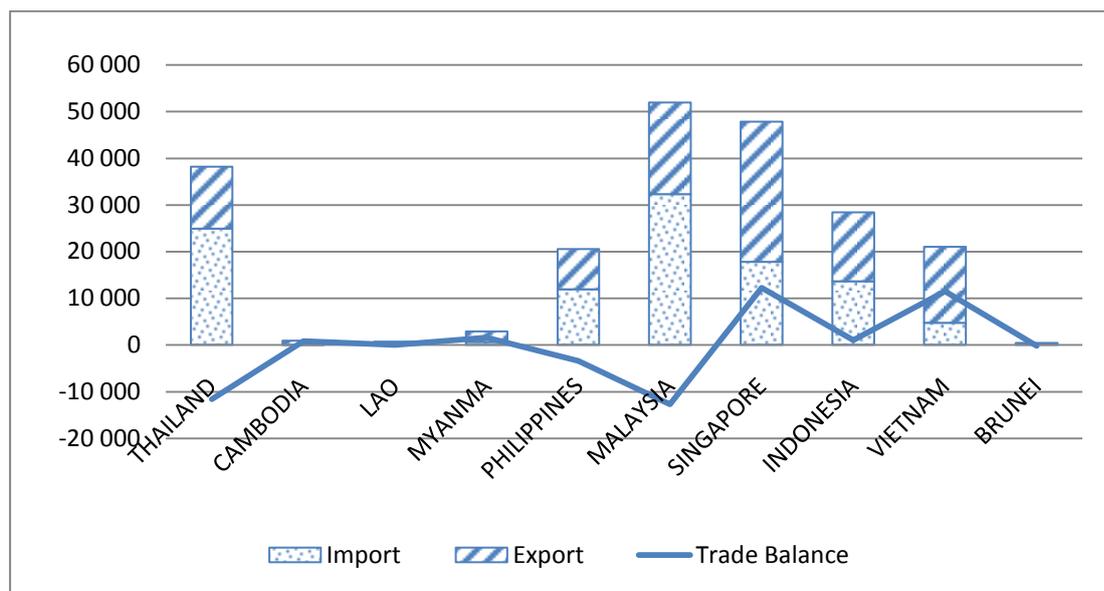
Source: UN Comtrade, 2011; China Statistic Yearbook 2009, ASEAN Statistic 2011

Revealed Comparative Advantage Index (RCA)

The meaning of using Revealed Comparative Advantage Index (RCA) is that this indicator illustrates the export potential of a country by analysing the actual export flows. The strong sectors of that country is "revealed" by comparing the country's trade profile (share of certain industries in the total national exports) with the world average (share of those industries in the world exports) (Mikic& Gilbert, 2009).RCA was erected and developed by BelaBalassa (1965, 1989), thus it is also called Balassa Index. It is defined as a ratio of two shares (Marrwijk, 2011):

$$RCA_A^j = \frac{share\ of\ indutry\ j\ in\ country\ A\ exports}{share\ of\ industry\ j\ in\ the\ world\ exports}$$

According to Marrwijk's classification (2011), there are 4 ranges of RCA: less than 1 means no comparative advantage, between 1 and 2 means the comparative advantage is low, between 2 and 4 means a moderate competitiveness and above 4 means high comparative advantage to be observed. The commodity list under HS 2-digit code is employed to analysed the RCA of China and Vietnam in relative to the world as well as the RRCA between two countries, during the period of 2005-2009.

Figure A6: Top Ten Commodities with high RCA of China in relative to the world

Rank	HS Code	Product Label	RCA
1	66	Umbrellas, walking-sticks, seat-sticks, whips, etc.	7.5
2	67	Bird skin, feathers, artificial flowers, human hair	6.7
3	46	Manufactures of plaiting material, basketwork, etc.	6.5
4	50	Silk	5.5
5	65	Headgear and parts thereof	4.8
6	63	Other made textile articles, sets, worn clothing etc	4.2
7	42	Articles of leather, animal gut, harness, travel goods	3.7
8	58	Special woven or tufted fabric, lace, tapestry etc	3.6
9	61	Articles of apparel, accessories, knit or crochet	3.5
10	64	Footwear, gaiters and the like, parts thereof	3.5

Source: Authors' calculation based on Intracen database, 2011

Figure A6: Top Ten Commodities with high RCA of Vietnam in relative to the world

Rank	HS code	Product Label	RCA
1	64	Footwear, gaiters and the like, parts thereof	17.2
2	9	Coffee, tea, mate and spices	15.4
3	46	Manufactures of plaiting material, basketwork, etc.	12
4	3	Fish, crustaceans, molluscs, aquatic invertebrates nes	9.7
5	65	Headgear and parts thereof	7.5
6	62	Articles of apparel, accessories, not knit or crochet	6.9
7	61	Articles of apparel, accessories, knit or crochet	5.8
8	10	Cereals	5.4
9	94	Furniture, lighting, signs, prefabricated buildings	5
10	16	Meat, fish and seafood food preparations nes	4.4

Source: Authors' calculation based on Intracen database, 2011

REFERENCE LIST

ADB (2000). PRC: Regional Road Sector Study. TA No. 3986. *Asian Development Bank.*

ADB (2007).Vietnam in the Greater Mekong Subregion. *Asian Development Bank.*

ADB (2008).Logistics Development Study of the Greater Mekong Subregion North-South Economic Corridor. *Asian Development Bank: Philippines.*

ADB (2009a). Toward Sustainable and Balanced Development: A Strategy and Action Plan for the GMS North-South Economic Corridor. *Asian Development Bank*

ADB (2011a). Greater Mekong Subregion. *Asian Development Bank.* http://www.adb.org/gms/ (Accessed March 10, 2011)

ADB (2011b). GMS Economic Corridors. *Asian Development Bank.* http://www.adb.org/GMS/Economic-Corridors/gms-ec.asp (Accessed on May 8, 2011)

Anderson, J. E. & van Wincoop, E. (2003). Gravity with Gravitas: A Solution to the Border Puzzle. *American Economic Review*, *93*(1), 170-192.

Anderson, W. P. & Brown, W. M. (2002). Spatial markets and the potential for economic integration between Canadian and U.S. regions. *Papers in Regional Science*, *81*(1), 99-120.

ASEAN Secretariat (2009). ASEAN Statistic Yearbook 2008.

ASEAN Secretariat (2011). Vietnam in ASEAN: Toward Cooperation for Mutual Benefits. *Associate of Southeast Asian Nations*. http://www.aseansec.org/10098.htm (Accessed on March 29, 2011).

ASEAN Statistics (2010). Table 19 - ASEAN trade by selected partner country/ region, 2009. *ASEAN Merchandise Trade Statistics Database.*

ASEAN Statistics (2011). Table 6 - ASEAN Statistics Growth of the gross domestic product in ASEAN, year-on-year. *ASEAN Finance and Macro-economic Surveillance Unit Database.*

Bahmani-Oskooee, M. (1986). Determinants of international trade flows: The Case of Developing Countries. *Journal of Development Economics 20* (1), 107-123.

Baldwin, R. Forslid, R., Martin, P., Ottaviano, G. & Rober-Nicoud, F. (2003). *Economic Geography and Public Policy*. Princeton: Princeton University Press.

Banimyong, R. (2007). Logistics Development Study of the North South Economic Corridors. *Asian Development Bank, Manila*.

Bien gioi lanh tho (2011) Tong quan ve bien gioi tren dat lien Vietnam- Trung Quoc [Overview of land border of Vietnam-China]. *Border and Territory*. http://biengioilanhtho.gov.vn/vie/tongquanvebiengioitren-nd-b24fee12.aspx (Accessed May 20, 2011)

Brülhart, M. (2010). The Spatial Effects of Trade Openness: A Survey. *Economic Policy*, 1-28.

Ceglowski, J. (2006). Is the Border Really That Wide? *Review of International Economics*, *14*(3), 392-413.

Chandra, A., Head, K. & Tappata, M. (2010). The Economics of Border Crossings. *University of British Columbia Manuscript*, 1-40.

China Foreign Exchange Department (2009). Definition of Border Trade. *State Administration of Foreign Exchange*. http://www.safe.gov.cn/model_safe/zssk/zssk_detail.jsp?ID=150101000000000000,3 (Accessed on March 5, 2011)

China State Council (1984). Government Document: Interim Measures for the Administration of Petty Trade in the Border Areas. *The State Council of the People's Republic of China*. http://www.yfzs.gov.cn/gb/info/LawData/gjf2001q/gwyfg/2003-06/25/0943407554.html (Accessed on March 5, 2011)

CII (2007) China Provincial Update – Guangxi Zhuang Autonomous Region. Confederation of Indian Industry.

CORN (2011) Sustainable Livelihoods and Economic Development Through Trade. Community Organizations Regional Network (CORN) and American Friends Service Committee (AFSC).

CRI (2010). Phuong cham 16 chu chi dao phat trien toan dien quan he Trung Viet [16-word Principle in developing Sino-Vietnamese relations]. *Chinese Radio Online*. http://vietnamese.cri.cn/721/2010/01/14/1s135231.htm (Accessed on May 10, 2011)

Denzin, N.K. (1987) Sociological Methods – A Sourcebook. New York/US: McGraw- Hill.

Department of commerce of Yunnan province – Statistic Database (2011). Statistic Database. http://www.bofcom.gov.cn/bofcom/436005838436433920/index.html (Accessed on April 10, 2011).

Department of Commerce of Yunnan province (2011). 2010 年云南省对东盟贸易增长迅猛 (Trade between Yunnan and ASEAN experienced robust growth in 2010). http://yunnan.mofcom.gov.cn/aarticle/sjshangwudt/201101/20110107378396.html (Accessed on April 14, 2011).

Dinh, V. A. (2005). Vietnam-China Economic Relations: Progress and Problems. Presentation at New Opportunity for the Furtherance of Regional Economic Integration. *The 9th Academic Forum on East Asian Economy*. International Conference Center, Nanning, Guangxi. China.

Dixit, A. K. & Stiglitz, J. E. (1977). Monopolistic Competition and Optimum Product Diversity. *American Economic Review 67*, 297-308.

Do, T. S. & Ha, T. H. V. (2008). Vietnam-China Trade, FDI and ODA Relations (1998-2008) and the Impacts upon Vietnam. *Bangkok Research Center, IDE-JETRO, Thailand*.

Do, T. T. (2009). Implementation of Vietnam-China land border treaty: bilateral and regional implications. *DR-NTU, Nanyang Techonological University*.

Do, T.S. & Ha, T.H.V. (2008).Vietnam-China Trade, FDI and ODA Relations (1998-2008) and the Impacts upon Vietnam. *Bangkok Research Center, IDE-JETRO, Thailand*.

Elizondo, R. L. & Krugman, P. (1996).Trade policy and Third World Metropolis. *Journal of Development Economics 49,* 137-150.

Engel, C. & Rogers, J. H. (1996). How Wide Is the Border? *The American Economic Review*, *86*(5).

Engel, C. & Rogers, J. H. (2000). Relative Price Volatility: What role does the border play? *Board of Governors of the Federal Reserve System - International Finance Discussion Papers*, (623).

Engel, C. & Rogers, J. H. (2001). Deviation from Purchasing Power Parity: Cause and Welfare Costs. *Journal of International Economics 55*, 29-57.

Evans, C. L. (2003). The economics significance of national border effects. *American Economics Review 93* (4), 1291-1312.

Evenett, S. J. & Keller, W. (2002). On Theories Explaining the Success of the Gravity Equation. *Journal of Political Economy 110* (2), 281-316.

Fan, H. G. & Liu, Zh.Q. (2006). 中越边境贸易研究.民族出版社 [A Study on Sino-Vietnamese Border Trade]. *Minority Press*.

Fugazza, M. (2004). Export Performance and Its Determinants: Supply and Demand Constraints. *Policy Issues in International Trade and Commodities. United Nations Conference on Trade and Development*.

Fujita, M. & Thisse, J. F. (1996). Economics of Agglomerations. *Journal of the Japanese and International Economies 10*, 339-378.

Fujita, M. (1988). A monopolistic competition model of spatial agglomeration: A differentiated product approach. *Regional Science and Urban Economics 18* (1),87-124.

Fujita, M., Krugman, P. & Venables, A. J. (1999). *The Spatial Economy: Cities, Regions and International Trade*. Cambridge: MIT Press.

Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report 8*(4), 597-607

Gopinath, G., Li, N., Gourinchas, P.-O., & Hsieh, C.-T. (2009). Estimating the Border Effect: Some New Evidence. *Federal Reserve Bank of Boston - Working Papers*.

Gorodnichenko, Y. & Tesar, L.(2005). A Re-examination of the Border Effect. *National Bureau of Economic Research - Working Paper*, *11706*.

GSO (2009). *2009 Statistical Yearbook of Vietnam*. General Statistics Office.

Gu, X. & Li, M. J. (2009). Beibu Gulf: Emerging Sub-regional Integration between China and ASEAN. *S. Rajaratnam School of International Studies. Singapore.*

Gu, X. & Womack, B. (2000). Border Cooperation between China and Vietnam in the 1990s. *Asian Survey 40* (6), 1042-1058.

Guangxi Bureau of Statistics (2010). Guangxi Statistical Yearbooks 2000-2009.

Guijing Online (2010). 广西：越南经济困难中越边境贸易出现下滑 (Guangxi: Guangxi-Vietnam trade decreased due to the economic problems in Vietnam). http://www.gxi.gov.cn/gjw_zt/ynhbwj/ynhbwj_hbgx/hbgx_bjzy/201012/t20101207_263 715.htm (Accessed on March 15, 2011)

Ha Long Invest (2010) Loi the dau tu – Tiem nang phat trien [Investing Advantages – Developing Potential]. *Quang Ninh Economic Zone Authority*. http://halonginvest.gov.vn/NewsDetail.aspx?CatId=61&NewsId=6012&LangId=VN (Accessed on April 15, 2011)

Ha, T. H. V. (2010). Comparison of Vietnam and East Asia Countries (China, Korea, and Japan) Economic Relations. In Japan and Korea with the Mekong River Basin Countries,

edited by Mitsuhiro Kagami, *BRC Research Report No.3, Bangkok Research Center, IDE-JETRO, Thailand*.

Hanson, G. H. (1998). Market Potential, Increasing Returns, and Geographic Concentration. *National Bureau of Economic Research – Working Paper, 6429*.

He, L.H. (2008) 中国-东盟自由贸易区背景下的广西边境贸易发展研究. *The Research on the development of Guangxi Border Trade*. Master thesis of South-Central University for Nationalities.

Head, K. & Mayer, T. (2002). On the pervasiveness of home market effects. *Economica 69*, 371-390.

Heckscher, E. (1919). The Effects of Foreign Trade on the Distribution of Income. *Ekonomisk Tidskrift 21,* 497-512.

Helliwell, J. & Verdier, G. (2001). Measuring Internal Trade Distances: A New Method Applied to Estimate Provincial Border Effect in Canada. *Canadian Journal of Econometrics 34*, 1024-1041.

Henderson, V. J. (1974). The Sizes and Types of Cities. *American Economic Review 64*, 640-656.

IMF (2008). World Economic and Financial Surveys - World Economic Outlook Database - October 2008 Edition. http://www.imf.org/external/pubs/ft/weo/2008/02/weodata/index.aspx (Accessed on March 16, 2011)

Intracen (2011). Country Market Analysis Profile (Country Map). *International Trade Center*. http://www.intracen.org/menus/countries.htm (Accessed on March 3, 2011)

Johnson, B. & Christensen, L. (2007). Education Research: Quantitative, Qualitative and Mixed Approaches. *Saga Publications*. http://www.sagepub.com/bjohnsonstudy/02/index.htm (Accessed on May 10, 2011)

Junz, H. B. & Rhomberg, R. (1973).Price Competitiveness in Export Trade among Industrial Countries. *American Economic Review63* (2), 412-418.

Jupp, V. (2006). *The Sage Dictionary of Social Research Methods*. Pine Forge Press: The United Kingdom.

Knowledge Base (2011a). Data Preparation. *Research Methods Knowledge Base*. http://www.socialresearchmethods.net/kb/statprep.php (Accessed on May 11, 2011)

Knowledge Base (2011b). Descriptive Statistics. *Research Methods Knowledge Base*. http://www.socialresearchmethods.net/kb/statdesc.php (Accessed on May 11, 2011)

Knowledge Base (2011c). Interferential Statistics. *Research Methods Knowledge Base*. http://www.socialresearchmethods.net/kb/statinf.php (Accessed on May 11, 2011)

Ko, A. H. (2007). *China's Foreign Economic Policy Towards Vietnam, 1991-2005*. The United Kingdom: University of Glasgow.

Krugman, P. (1991). *Geography and Trade*. Cambridge: MIT Press.

Kunming Government (2007).云南省边境口岸一览 [An overview of Yunnan border gates]. *Government of Kunming: Kunming Border Management Committee*. http://www.km.gov.cn/structure/xtzkm/tzhd/tzzxnr_77532_1.htm (Accessed on April 17, 2011)

Lai Chau (2009). Tong quan ve thi xa Lai Chau [Overview of Lai Chau Province]. *Lai Chau Portal.* http://laichau.gov.vn/news/detail/tabid/77/newsid/12085/seo/Thi-xa-Lai-Chau/language/vi-VN/Default.aspx (Accessed on April 15, 2011)

Lai Chau (2010). Tinh hinh phat trien kinh te-xa hoi cua tinh Lai Chau sau gan 5 nam chia tach [Lai Chau's socio-economic situation after 5 year separation]. *Lai Chau Portal.* http://laichau.gov.vn/news/detail/tabid/77/newsid/12108/seo/Tinh-hinh-phat-trien-kinh-te--xa-hoi-cua-tinh-Lai-Chau-sau-gan-5-nam-chia-tach/language/vi-VN/Default.aspx (Accessed on April 15, 2011)

Lang Son (2010). Khai mac Dai hoi Dang bo tinh Lang Son lan thu XV, nhiem ky 2010-2015 [Opening of Lang Son Communist Congress, 2010-2015 term]. *Lang Son Portal.* http://langson.gov.vn/content/khai-m%E1%BA%A1c-%C4%90%E1%BA%A1i-h%E1%BB%99i-%C4%90%E1%BA%A3ng-b%E1%BB%99-t%E1%BB%89nh-l%E1%BA%A1ng-s%C6%A1n-l%E1%BA%A7n-th%E1%BB%A9-xv-nhi%E1%BB%87m-k%E1%BB%B3-2010-2015 (Accessed on April 15, 2011)

Lao Cai (2008). Hien thuc hoa sang kien "hai hanh lang, mot vanh dai kinh te" [Realizing the "Two corridors one belt" initiative]. *Lao Cai Portal.* http://www.laocai.gov.vn/hoptacdautu/hoptaclaocai(vn)vannam(tq)/haihanhlangmotvanhdai/Trang/634046203916154190.aspx (Accessed May 8, 2011)

Lao Cai (2010).Quy hoach 7 tinh tiep giap bien gioi Viet-Trung [Developing plan of seven border provinces along China-Vietnam frontier]. *Lao Cai Portal.* http://laocai.gov.vn/hoptacdautu/hoptaclaocai(vn)vannam(tq)/thongtinkinhtethuongmaitrungquoc/kinhtevathuongmaisongphuong/Trang/634046201920014190.aspx (Accessed on April 15, 2011)

Lao Cai (2011). Chinh sach ve phat trien hon nua mau dich voi Van Nam [Policies to promote border trade of Yunnan province]. *Lao Cai Portal.* http://portal.laocai.gov.vn/nhdltntq/content/1030003_014_004.htm (Accessed May 8, 2011)

Lao Cai (2011a) Quan he song Phuong Viet Nam – Trung Quoc [Bilateral relations between Vietnam and China]. *Lao Cai Portal.* http://portal.laocai.gov.vn/nhdltntq/content/1010004_012.htm (Accessed May 10, 2011)

Lao Cai (2011b) Thuong mai song phuong [Bilateral trade relations]. *Lao Cai Portal.* http://portal.laocai.gov.vn/nhdltntq/content/1030001_005.htm (Accessed May 10, 2011)

Le (2010) Vung kinh te Dong Bac [*Vietnam's Northeast economic zone*]. http://baigiang.violet.vn/present/show/entry_id/4437764 (Accessed April 15, 2011)

Lim, T. S. (2008). China's Active Role in the Greater Mekong Subregion: a "Win- Win" Outcome? *EAI Background Brief No. 397*

Lu, J. H. (1988). A Discussion of the Definition, Scope, and the Development of the Border Trade. *International Trade Issues 1988 (07).*

Ma, D. & Summers, T. (2009) Is China's Growth Moving Inland? A Decade of 'Develop the West'. Centre for East Asian Studies. The Chinese University of Hong Kong. *Asia Programme Paper: ASP PP* 2009/02.

Mai, X. H. (2010) Tinh Lao Cai tham va chuc tet Ngan hang Phat trien Viet Nam. [Lao Cai governors visit Bank of Investment and Development of Vietnam]. *Lao Cai Portal.* http://www.laocai.gov.vn/sites/vpubnd/Tintucsukien/sukiennoibat/Trang/634046135827934190.aspx

McCallum, J. (1995). National Borders Matter : Canada-U.S. Regional Trade Patterns. *The American Economic Review*, *85*(3), 615-623.

McDaniel, C. & Gates, R. (2010). *Marketing Research Essential - Seventh Edition*. John Wiley & Sons, Inc: the United States.

McNeil, L. (2006) International Trade and Economic Growth: A Methodology for Estimating Cross-Border R&D Spillovers. *U.S. Bureau of Economic Analysis*.

Merriam, S. B. (1998). *Qualitative Research and Case Study Application in Education*. San Francisco: Josey-Bass.

Myrdal, G. (1957). *Economic Theory and Under-Developed Regions*. London: Gerald Duckworth & Co.

Nam Dinh Vu (2010) Vi tri chien luoc – Hai Phong va Khu kinh te Dinh Vu, Cat Hai [The strategic location of Hai Phong and Dinh Vu-Cat Hai Industrial Park]. *Nam Dinh Vu Industrial Park*. http://www.namdinhvu.com/Desktop.aspx/Noidung/Vi-tri-chien-luoc/Vi_tri_chien_luoc/ (Accessed on May 8, 2011)

NBSC (2010). China Statistical Data, 2000-2010. http://www.stats.gov.cn/tjsj/ndsj/2010/indexeh.htm (Accessed on March 15, 2011)

Nguyen, H. T. (2010b) Tinh hinh kinh te bien mau tai mot so cua khau lon cua Viet Nam – Thuc trang va huong giai quyet [Current situation of cross-border trade at some major border gates of Vietnam – Affairs and Resolutions]. *Industry Magazine (1)*-Oct 2010

Nguyen, V. H. (2010a) Viet Nam day manh hop tac phat trien kinh te – thuong mai vung bien. [Vietnam boosts border economic and trading development and cooperation]. *Industry Magazine (1)*-Oct 2010

Nguyen, V. L. (2007). Quan he thuong mai Viet Nam voi Van Nam va Quang Tay, Trung Quoc [Trade Relations between Vietnam and Yunnan, Guangxi of China]. *Ministry of Commerce of Vietnam.*

Niebuhr, A. & Stiller, S. (2002). Integration Effects in Border Regions - A Survey of Economic Theory and Empirical Studies. *Hamburg Institute of International Economics*.

Obstfeld, M. & Rogoff, K. (2000). The Six Major Puzzles in International Macroeconomics. Is There a Common Cause. *National Bureau of Economic Research – Macroeconomics Annual 2000*.

Ohlin, B. (1933). *Interregional and International Trade*. Cambridge: Harvard University Press.

Ohlin, B. (1967). *Interregional and International Trade – Revised Edition*. Cambridge: Harvard University Press.

Okubo, T. (2004). The border effect in the Japanese market: A Gravity Model analysis. *Journal of the Japanese and International Economies18* (1), 1-11.

Ottaviano, G., & Thisse, J. F. (2004). Interregional and international trade: Seventy years after Ohlin. *CEPR Discussion Papers 4065.*

Pareja, S. G., Llorca-Vivero, R., & Martinez-Serrano, J. (2006). The border effect in Spain: The Basque Country case. *Regional Studies*, *40*(4), 335-345.

Parsley, D. & Wei, S.-J. (2001). Explaining the border effect: the role of exchange rate variability, shipping costs, and geography. *Journal of International Economics*, *55*(1), 87-105.

Pham, H. (2011) Xuat khau bien mau sang Trung Quoc: Con dao hai luoi [Border export to China: A two-edge sword]. *Vietnam Economic Forum*. http://vef.vn/2011-01-05-xuat-khau-bien-mau-sang-trung-quoc-con-dao-hai-luoi- (Accessed on May 8, 2011)

Pham, T. H. (2007). Nhung quy dinh ve mau dich bien gioi cua Trung Quoc [Chinese policies on border trade]. *Trade Magazine 2008*.

Poncet, S. (2006) Economic Integration of Yunnan with the Greater Mekong Subregion. *Asian Economic Journal 20* (3), 303-317.

Puga, D. & Venables, A. J. (1996). The Spread of Industry: Spatial agglomeration in Economic Development. *Center for Economic Performance, Discussion Paper No. 279*.

Puga, D. (1999). The Rise and Fall of Regional Inequalities. *European Economic Review 43*, 303-334.

Qiao, H. H. (2008). Vietnam: The Next Asian Tiger in the Making. *Global Economics Paper No. 165. Goldman Sachs Global Economic Website*.

Quang Ninh (2010a) Bien phap phat trien thuong mai cua khau [Mechanisms to develop border trade]. *Quang Ninh 360 Portal*. http://quangninh24h.vn/tin-tuc-su-kien/kinh-te-doanh-nghiep/21713-bin-phap-phat-trin-thng-mi-ca-khu-.html (Accessed on April 15, 2011)

Quang Ninh (2010b) Quang Ninh nam 2010 GDP binh quan dau nguoi khoang 1,587 USD [Quang Ninh's GDP per capital in 2010 is around 1,587 USD]. *Quang Ninh Portal*. http://nganhangonline.com/quang-ninh-nam-2010-gdp-binh-quan-dau-nguoi-khoang-1587-usd-28260.html (Accessed on April 15, 2011)

Quang Ninh (2010c) Nam 2010: Kim ngach xuat khau tiep tuc tang [Import and export volume keep growing in 2010]. *Quang Ninh 360 Portal* . http://www.quangninh24h.vn/tin-tuc-su-kien/kinh-te-doanh-nghiep/21170-nam-2010-kim-ngach-xuat-khau-tiep-tuc-tang.html (Accessed on April 17, 2011)

Rauch, J. (1991). Modelling the Informal Sector Formally. *Journal of Development Economics 35,* 33–47.

Ricardo, D. (1817). *On the Principles of Political Economy and Taxation*. Ontario: Batoche Books.

Rose, A. K. (2004). Macroeconomic Determinants of International Trade. *National Bureau of Economic Research - Reporter*.

Seliger B. & Schönfisch K. P. (2004). ASEAN plus three (China, Japan, Korea) – towards an economic union in East Asia? *Seoul: Hanns Seidel Stiftung*.

Shi, J.G. & Ma, H.B. (2009).云南河口口岸边贸发展:现状、问题与对策. On Border Trade: Problem and Solution.红河学院学报，*Journal of Honghe University 7* (3), 12-16.

Singapore FTA Network (2011). Overview of ASEAN-China (ACFTA). *Singapore Free Trade Area Network*. http://www.fta.gov.sg/fta_acfta.asp?hl=2 (Accessed on March 10, 2011)

Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations*. New York: Random House, Inc.

Statistics and Analysis Department of the People's Bank of China, (2011) Statistics Database. http://www.pbc.gov.cn/publish/english/984/index.html (Accessed on April 18, 2011)

Subhani, M., Osman, A., & Khokhar, R. (2010). Determinants and barriers to bilateral trade: A study on developing economies. *Munich Personal RePEc Archive - Working Paper*, (26179).

The Economists (2010). China – Second in line. *The Economist Online*. http://www.economist.com/blogs/freeexchange/2010/08/china_0 (Accessed on May 10, 2011)

Tianjin University of Commerce (1980). International Knowledge Manual. *Tianjin: Tianjin Social and Science Press.*

Trinh, T. (2007).Understanding Vietnam – A look beyond the facts and figures. *Frankfurt am Main: Deutsche Bank Research.*

Tu, T. A. & Dao, N. T. (2008). Cac nhan to anh huong toi muc do tap trung thuong mai cua Viet Nam voi ASEAN+3 [Determinants of trade concentration between Vietnam and Asean+3].*CEPR Report No.NC-05/2008*. Center of Economic and Policy Research.

Tumbarello, P., Lee, I. H., Sacasa, N., &Mitra, P. (2006). Vietnam: Selected Issues. *IMF Working Paper - Asia and Pacific Department*, *07*(385).

UN Comtrade (2011). United Nation Commodity Trade Statistics Database. http://comtrade.un.org/db/ (Accessed on March 10, 2011)

VCCI (2010a). International Cooperation: Fostering Vietnam – ASEAN Trade Ties. *Vietnam Chamber of Commerce and Industry.* http://www.vccinews.com/news_detail.asp?news_id=21902 (Accessed March 10)

VCCI (2010b). Vietnam Incurs $10.5B Trade Deficit with China in Jan-Oct: GSO. Export–Import. *Vietnam Chamber of Commerce and Industry.* http://www.vccinews.com/news_detail.asp?news_id=22104 (Accessed on March 29, 2011).

VCCI (2010c). International Cooperation: Vietnam-China Trade Target US$10Bln by 2010. *Vietnam Chamber of Commerce and Industry.* http://vccinews.com/news_detail.asp?news_id=3888 (Accessed on March 29, 2011)

VCCI (2011). Vietnam Has Been One of Fastest Expanding Economies in Asia. Finance &Banking. *Vietnam Chamber of Commerce and Industry.*http://www.vccinews.com/news_detail.asp?news_id=22731&parent_id=0&cate _id=23 (Accessed on March 29, 2011).

Venables, A. J. (1996). Equilibrium Locations of Vertically Linked Industries. *International Economic Review 37* (2), 341-359.

Vietnam Business News (2010). 90% Vietnam Trade deficit comes from China. Import-Export. *Vietnam Business News*. http://vietnambusiness.asia/90-vietnam-trade-deficit-comes-from-china (Accessed on March 29, 2011).

Vietnam Customs (2010). *Table of International Merchandise Trade Statistics 2008-2010*. General Department of Vietnam Customs.

Vietnam's Provincial Bureau of Statistics (2007). Provincial Statistics Yearbook 2004-2007 of Quang Ninh, Lang Son, Cao Bang, Ha Giang, Lao Cai, Lai Chau, Dien Bien provinces.

Vietnam's Provincial Department of Commerce (2011). Reports on Border Trade across Vietnamese-Sino border, 2005-2009.

Vietnamplus (2010) Vietnam, China enforce major border accords. *Vietnam Plus News Agency*. http://en.vietnamplus.vn/Home/Vietnam-China-enforce-major-border-accords/20107/10597.vnplus (Accessed on May 20, 2011)

Viner, J. (1950). *The Customs Union Issue*. London: Stevens.

VnEconomy (2008). Impacts of the Financial Crisis on Vietnam: Gain and Loss. *Finance – VNEconomy*.http://vneconomy.vn/20081016011018103P0C6/anh-huong-khung-hoang-tai-chinh-den-viet-nam-duoc-va-mat.htm (Accessed on March 29, 2011.)

Vo, T. T. L. (2001). The AFTA Impact on Vietnam's Economy. *Center for ASEAN Studies - CAS Discussion Paper No. 35*.

Vu, M. K. (2009) Economic Reform and Performance: A Comparative Study of China and Vietnam. *China: An International Journal 7*(2), 189-226.

Wei, S. (1996). How reluctant are nations in global integration. *National Bureau of Economic Research - Working Paper*, 5531.

Wiemer, C. (2009). Economic Corridors for the Greater Mekong Subregion. *EAI Background Brief No. 479*.

Wilson, J. F. & Takacs, W. E. (1979).Differential Response to Price and Exchange Rate Influences in the Foreign Trade of Selected Industrial Countries. *Review of Economics and Statistics 61* (2), 267-279.

Winter, G. (2000) A Comparative Discussion of the Notion of Validity in Qualitative and Quantitative Research. *The Qualitative Report 4* (3,4).

Wolf, H. C. (2000). Intra-national Home Bias in Trade. *Review of Economic and Statistics 82*(4), 555-563

World Bank (2007) Cross-Border Trade within the Central Asia Regional Economic Cooperation. *CAREC Institute. World Bank*.

YFAO (2007) Key Fields in Which Labour Intensive Industries Are Encouraged in Yunnan. *Foreign Affairs Office of The People's Government of Yunnan Province*. http://www.yfao.gov.cn/Enshow2.aspx?id=124 (Accessed on May 5, 2011)

Yunnan Bureau of Statistics (2010). Yunnan Statistical Yearbooks 2000-2010.

Zhao, M.L (2010) Development of China's Transportation Infrastructure and International Connectivity. *ERIA Research Project Report 2009, No.7-5*. Chapter 2: the Development of Transportation Infrastructure and International Links in China's Southeast Region. http://www.eria.org/research/y2009-no7-5.html (Accessed on April 16, 2011)

Zhu, Z. M. (2010) Mekong Development and China's (Yunnan) Participation in the Greater Mekong Subregion Cooperation. *Ritsumeikan International Affairs 8*, 1-16.

Zhu, Zh.M. (2011). Yunnan's Industrial Development Policy and Intermediate Goods Trade with MRBCs. *International Goods Trade in East Asia: Economic Deepening Through FTAs/EPAs, BRC Research Report No.5*. Bangkok Research Center, Thailand.