Volume No. 1 Issue No. 1

Greater Mekong Subregion–Phnom Penh Plan for Development Management

Research Report Series

Factors Affecting Firm-Level Investment and Performance in Border Economic Zones and Implications for Developing Cross-Border Economic Zones between the People's Republic of China and its Neighboring GMS Countries

Xianming Yang, Zanxin Wang, Ying Chen, and Fan Yuan

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ISBN 978-92-9092-454-8
Publication Stock No. RPT114047

Note: In this report, "$" refers to US dollars.

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Printed on recycled paper.

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Acknowledgments

The research team would like to acknowledge with thanks, the financial and technical support provided to this research project by the Asian Development Bank (ADB) under the Phnom Penh Plan for Development Management (PPP) Project.

The authors wish to express their special thanks to Aradhna Aggarwal, research advisor, for her valuable contribution to the development of the research methods and instruments, and in the overall analysis of the research findings; and to Steven Lim and Guangwen Meng, peer reviewers, for their insightful critique and appraisal of the final report. They also wish to thank Phung Xuan Nha and other reviewers for their comments and suggestions.

The authors appreciate the very useful comments provided by other research advisors as well as colleagues from other research teams during the many workshops held to discuss the research report.

Finally, our special thanks go to ADB's PPP team—to Alfredo Perdiguero and Carolina Guina for their overall guidance and management of the research program, to Jordana Queddeng for managing the business arrangements and the publications processes, to Caroline Ahmad and Leticia de Leon for editing the manuscripts, to Pamela Asis-Layugan for her continuing and solid support, and to Alona Mae Agustin for her assistance in the overall implementation of the program.

Abbreviations

ADB	-	Asian Development Bank
ASEAN	-	Association of Southeast Asian Nations
BEZ	-	border economic zone
BTZ	-	border trade zone
CBEZ	-	cross-border economic zone
CNY	-	yuan
D	-	dong
FDI	-	foreign direct investment
GDP	-	gross domestic product
GMS	-	Greater Mekong Subregion
MNC	-	multinational corporation
NETDZ	-	National Economic and Technological Development Zone
SEZ	-	special economic zone

Foreword

The Greater Mekong Subregion (GMS) Phnom Penh Plan for Development Management (PPP) was launched in 2002 to build a core of highly trained development managers in the GMS countries who would play a key role in shaping policy choices towards the vision of a more integrated, prosperous, and harmonious subregion. The PPP's programs for capacity building include (i) learning programs for GMS civil servants, (ii) short-term high impact programs for top and senior level officials, and (iii) dialogues on development issues. In 2004, the PPP initiated the publication of the *Journal of GMS Development Studies*—a multidisciplinary publication that seeks to promote better understanding of development issues in the GMS among planners, policy makers, academics, and researchers.

As GMS countries continue to face increasingly complex challenges of economic development, the knowledge base required to inform policy choices has become increasingly important. Learning courses provide the tools but not the empirical basis for designing policy. Moreover, the differential impacts of policies among various publics need to be better understood to assess the appropriate trade-offs. This policy-knowledge gap is more apparent in the less developed GMS countries where research institutions have limited capacities and resources to conduct policy-based research. Recognizing this, and in an effort to bring its capacity building goal to a higher plane, the PPP Research Program was launched in March 2009 to help promote a more effective link between knowledge generation and policy formulation.

The PPP Research Program aims to engage research institutions in the policy process by supporting scholarly works that would bring multifaceted perspectives on development issues and provide new knowledge on the impacts and consequences of policy choices. By providing resources and opportunities to the GMS research institutions, the PPP Research Program could be a potent and active partner in the development process.

To carry out these objectives, the PPP Research Program provides financial support (grants) and technical assistance to indigenous GMS research institutions and think tanks for conducting research on subregional development issues. The grants are directed to research projects that tackle subregional issues confronting the GMS; this subregional focus intends to ensure that the PPP Research Program's outputs would be useful to the GMS Program agenda, and would not overlap with other research support provided to the study of national development issues.

The PPP Research Report Series features the scholarly works that have been supported by the PPP Research Program. It is hoped that by disseminating the research results to a wide audience, the breadth and depth of the GMS development challenges can be better appreciated and understood by policy makers, implementers, and other stakeholders in the subregion. Through this, the PPP Research Program would have made a modest contribution in responding to the opportunities and challenges brought about by greater economic integration in the subregion.

Alfredo Perdiguero
PPP Program Manager

Abstract

The establishment of cross-border economic zones (CBEZs) in the border areas of the People's Republic of China (PRC) and its neighboring Greater Mekong Subregion (GMS) countries has recently emerged as a strategy for further promoting trade and investments in the subregion. Unlike a border economic zone (BEZ), which is confined within the national territory, a CBEZ is an economic zone traversing a transnational area and requiring a unified set of policies and incentives in such areas as finance, taxation, investment, trade, and customs regulation. While no CBEZ currently exists in the GMS, the establishment of this type of zone has recently been initiated for Hekou–Lao Cai along the North–South Economic Corridor border involving Yunnan Province in the PRC, and Lao Cai Province in Viet Nam. The design of incentive packages to be implemented in the CBEZ is thus a major challenge for policy makers. To help inform the design of incentive policies in CBEZs, this research studied BEZs in selected border areas in Yunnan Province, and in Lao Cai Province, with the objective of assessing (i) the factors that attract investments to the zones, and (ii) the effects of investment incentive policies on the performance of firms locating in these zones. Using three types of investment motives (market-seeking, resource-seeking, and efficiency-seeking) as dependent variables, and applying parametric and nonparametric analysis, the study identified significant variables that affect the firms' locational decisions and investment performance. The implications of these variables on the design of incentive policies were subsequently analyzed.

1. Introduction

1.1 Background

Despite its vast land area, western People's Republic of China (PRC) is economically underdeveloped, far behind eastern PRC in terms of gross domestic product (GDP) and income per capita. To narrow the gap between eastern and western PRC, the Government of the PRC enacted policy measures for the development of Western PRC in 2000. The policy measures signaled the start of the Western Development Program.

Although much improvements have been made since the implementation of the program, the economic gap between eastern and western PRC is still large (Table 1). This situation is inconsistent with the central government's objective of developing the PRC into a society in which the income gap is small and all citizens are prosperous and developing together.

Table 1 Comparison of the Economic Development between Eastern and Western People's Republic of China

	GDP (CNY billion)		**Share of National GDP** (%)		**Annual Growth Rate of Nominal GDP between 2000 and 2008** (%)	**GDP per Capita** (CNY)	
Region	**2000**	**2008**	**2000**	**2008**		**2000**	**2008**
Eastern PRC	5,102.1	17,726.7	51.42	58.96	16.84	11,364	36,958
Western PRC	1,665.5	5,825.7	16.79	19.38	16.94	4,687	16,179
PRC	9,921.5	30,067.0			14.96	7,078	22,640

GDP = gross domestic product, PRC = People's Republic of China.
Note: Eastern PRC covers the municipalities directly under the central government including Beijing, Tianjin, and Shanghai; and the provices of Hebei, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan; while western PRC includes the Autonomous Regions of Guangxi, Xinjiang, Tibet, and Inner Mongolia; and the provices of Yunnan, Guizhou, Sichuan, Qinghai, Gansu, Shănxi, and Shānxi, and Chongqing municipality directly under the central government.
Sources: National Bureau of Statistics (NBSC), 2001 and 2009. China Statistical Yearbook. China Statistics Press. Beijing, PRC.

In January 2010, the 10-year-anniversary of western PRC's development program was observed. The Government of the PRC is now formulating new policies to promote the further development of western PRC. One of the priorities to facilitate its development is by opening up the border areas, increasing border trade, and encouraging economic and technical cooperation with circumjacent countries.

The opening up of the PRC's border area has a sound foundation in international cooperation with neighboring countries, in particular with members of the Association of Southeast Asian Nations (ASEAN). Two important initiatives are the Greater Mekong Subregion (GMS) Economic Cooperation Program and the "10+3" (10 ASEAN member states and the PRC, Japan, and the Republic of Korea) cooperation mechanism.

The GMS Economic Cooperation Program was launched in 1992 by six countries that share the Mekong River—Cambodia, the PRC, the Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Viet Nam—with the support of the Asian Development Bank (ADB). The GMS Program set out to promote economic and social development by strengthening economic ties among its members. The program seeks to facilitate (i) subregional trade and investment, (ii) subregional development opportunities, (iii) the resolution of transborder issues, and (iv) the fulfillment of common resources or other needs (ADB, 1999).

The ASEAN "10+3" mechanism was created to facilitate financial cooperation among member countries after the Asian financial crisis in 1997. To deal with the financial crisis, the finance ministers of the 13 countries reached the Chiang Mai Agreement in 2000. Although the mechanism initially targeted cooperation in finance, it has been expanded to cover political, economic, and technical cooperation.

The ASEAN–China Free Trade Area came into force on 1 January 2010. It is a landmark cooperation agreement between the PRC and ASEAN.

Bordering three ASEAN and GMS countries—the Lao PDR, Myanmar, and Viet Nam—Yunnan Province of the PRC has a geographic advantage for cooperation with neighboring countries on economic development, trade, and investment, especially against the background of the PRC's policy for the development of western PRC, and the 10+3 and GMS cooperation mechanisms. However, like many other economies in the GMS, the economy of Yunnan Province is underdeveloped, and is characterized by low GDP and income per capita and a high rate of poverty.

To facilitate the development of the provincial economy in response to the central government's policy, the Yunnan provincial government has planned to set up three cross-border economic zones (CBEZs) in cooperation with neighboring countries, based on its existing border economic zones (BEZs). The plan will be implemented in two steps: First, Hekou–Lao Cai CBEZ will be constructed on the PRC–Viet Nam border, Ruili–Muse CBEZ on the PRC–Myanmar border, and Mohan–Moding CBEZ on the PRC–Lao PDR border. Second, the three CBEZs will be expanded through cooperation of special economic zones (SEZs) in Yunnan Province with those in the border provinces of the Lao PDR, Myanmar, and Viet Nam. At the 15th GMS Ministerial Meeting held in Cha-Am, Thailand, on 19 June 2009, one of the key recommendations of the GMS North−South Economic Corridor Strategy and Action Plan was to create CBEZs along the economic corridors. The planned CBEZs will allow freer flows of capital, people, and cargo; and will play an important role in facilitating trade between pairs of countries traversed by the corridor, boosting economic ties and enhancing PRC–ASEAN cooperation. The application to set up the three CBEZs has been submitted to the State Council of the PRC for approval; and, on 8 June 2010, the Yunnan provincial government entered into an agreement—the Framework Agreement on the Further Construction of China Hekou–Viet Nam Lao Cai Cross-Border Economic Zone—with the provincial government of Lao Cai, Viet Nam.

It is the common aspiration of the governments of the PRC and its neighboring countries in Southeast Asia to introduce domestic capital and foreign direct investment (FDI) into the CBEZs to exploit the rich local resources, promote the development of trade and manufacturing, expand trade and job opportunities, and increase the revenues of the local government and the people. Thus, various forms of economic development and economic and trade cooperation zones have been established in border areas by the governments of the PRC and neighboring countries. With improvements in infrastructure, effective policies for introducing investments are also needed to attract FDI and domestic industrial capital to the border economic development zones.

Since the 1990s, the PRC has adjusted its investment incentive policies to attract FDI. Different investment incentive policies have come into force to speed up industrial development. In the process, the establishment of economic development zones in the border areas has played an important role in facilitating trade and the development of manufacturing. However, it is still far from achieving the goal of transforming the southwestern border areas of the PRC into a subregional industrial base centered on processing trade. The expected goal of developing industries based on local resources has not been met yet, and so far only few relatively small-scale industrial projects have been introduced into the economic development zone along the border of Yunnan Province.

It is necessary to assess the effects of current investment incentive policies in border areas. Although there are diverse and multilevel investment incentive policies, they play a limited role in attracting investments to the region. It is also generally the case that neither administrative authorities nor policy researchers assess the effects and, especially, the suitability of investment incentive policies. Thus, it is difficult to know how to improve these policies. The 2008 financial crisis has attached greater importance to subregional international economic cooperation; and the PRC government's great efforts in building CBEZs, under the policy of opening up to border countries, further highlighting the strategic significance of studying and redesigning existing policies to stimulate investments.

A CBEZ is a transnational economic zone in a border area, supported with special policies on finance, taxation, investment, trade, customs regulation, and industrial development; and where the flows of persons, goods, funds, and technology are concentrated and interactive. The establishment of CBEZs has emerged as a growth strategy of transitional regions. Their objective is to exploit the locational advantages of border areas and boost economic and trade cooperation and development in the area. These economic zones derive their competitiveness from complementary factor endowments, cross-border infrastructure services, and reduced border barriers. They are an upgraded version of the BEZ, which is an economic zone confined to the border area of a country.

It is recognized that the development of industries is critical for CBEZs to operate successfully. Thus, a major objective of CBEZ is to attract investments both from home and abroad (Li 2009). The potential of a region for attracting investment is determined by its locational advantage. By surveying firms in BEZs, the main factors attracting investment to the BEZs, and the effects of current investment incentive policies on investment decisions can inform the design of effective investment incentives for CBEZs. In the PRC–Viet Nam border area, the BEZs are relatively mature. In the PRC–Lao PDR and PRC–Myanmar border areas, some BEZs on the PRC side are well established; while BEZs on the Lao PDR and Myanmar side of the border are still under construction. Thus, the study focused on BEZs in Yunnan Province, PRC, and in Lao Cai Province, Viet Nam.The BEZs in these regions have a relatively long history and reveal the problems associated with current investment incentive policies, thus providing valuable insights for the development of CBEZs.

1.2 Objectives of the Study

The analysis will be based on the investment climate of BEZs, as none of the CBEZs is yet operational. Thus, policy implications for CBEZs will be drawn from the study of BEZs. The primary objectives of the study are to assess the investment climate, especially the incentive policies, and geographic location for investments in CBEZs in the PRC–GMS border areas; and to analyze their impact on regional production networks and economic diversification.

More specifically, the study will

i. assess the impacts of the investment climate in terms of infrastructure, factor endowments, governance, and incentive policies on firms' decisions to invest in BEZs;
ii. draw policy implications for CBEZs; and
iii. analyze the possible impacts of cross-border investment on the local and regional economy.

1.3 Scope and Significance of the Study

The study covers the PRC, the Lao PDR, Myanmar, and Viet Nam. The major survey areas include Yunnan Province, the major cities on both sides of the borders of the PRC and its neighboring GMS countries, and some major industrial areas in Yunnan Province and neighboring GMS countries.

The effectiveness of incentive policies can be assessed at various levels, including its effects on (i) a firm's decision to invest; (ii) the volume and quality of investments; and (iii) the macro economy, i.e., whether incentives created distortions in factor prices and markets. The study will focus on the effects of the incentive policies on the firm.

The study has the following significance:

First, the study of the effects of incentive policies on firms' decisions to invest in SEZs will provide a basis for establishing the economic rationale for FDI incentives and SEZs, especially those at the border areas in the GMS. Establishing the economic rationale for SEZs is particularly important because in the PRC, SEZs were established to perform a special role in FDI promotion when the country opened up its economy. The SEZs function not only as vehicles for expanding exports, but also as laboratories where economic policy experiments are carried out in a geographically restricted area. The SEZs also function as government units, unlike other processing zones in Asia that are run by management boards. Given this particular context in the PRC, the research should be able to yield significant inputs for policy making.

Second, the project is of great strategic value to policy making. The study will identify obstacles to the implementation of incentive policies, and gather firms' perceptions of existing policies and expectations for new policies. The results will provide a justification for policy improvement or new policy design, as well as for measures to be taken to overcome difficulties that are barriers to the implementation of existing policies.

Third, the study will identify elements of different countries' policies that are in conflict with each other, if any, and compare the effects of incentive polices in different countries. The results will provide inputs for the promotion of economic cooperation between the PRC and its neighboring GMS countries, in particular, for the development of CBEZs.

2. Literature Review

2.1 Factors Affecting Investment

FDI is not only one means of affecting service trade, but it is also important in the production of goods. Under appropriate conditions, FDI can generate employment directly and indirectly, promote competition, improve the efficiency of host country workers, and transfer technology from one country to another (Goldin and Reinert 2007). FDI is usually associated with new job opportunities and enhancement of technology transfer, and it boosts overall economic growth in host countries (Chowdhury and Mavrotas 2006).

The theoretical foundation of FDI is rather fragmented, comprising bits and pieces from different fields of economics to elucidate the location pattern of firms (Sun 2002). Several theories have been put forward to explain FDI. Hymer (1960) views multinational corporations (MNCs) as oligopolist. FDI is considered to be the outcome of broad corporate strategies and investment decisions of profit-maximizing firms facing worldwide competition. Dunning (1977) and Rugman (1981) invoke transaction costs to explain firms' internationalization, putting emphasis on the intangible assets that firms have acquired. Bhagwati and Srinavasan (1983) and Grossman and Helpman (1991) use the international trade theory to explain the allocative aspects of FDI. Dunning (1996) identifies four types of MNC activity: resource-seeking, market-seeking, efficiency-seeking, and strategic asset or capability-seeking.

In the early 1980s, no large FDI inflows to the PRC occurred because of poor infrastructure (OECD 2000); while during 1983–1991, a steady growth and relatively large inflows could be seen as the SEZs expanded from 4 to 14 cities, and FDI incentives were introduced in 1986 (Ali and Guo 2005). FDI began to pour in the PRC after 1992, and annual flows have been over $50 billion since 2002 (Yin 2008). A study by the World Bank (Broadman and Sun 1997) indicates market size and preferential policy as the two most important determinants of the location of FDI in the PRC (Hu and Wang 1999). Some other studies give more specific determinants, such as preferential tax status to foreign investors, lower tariffs, better infrastructure, more flexible labor markets, and less bureaucratic control (Panagariya 1993).

Sun (2002) identifies eight potentially important determinants of FDI distribution across provinces in the PRC. These are (i) market demand and market size; (ii) agglomeration, which refers to the concentration and co-location of economic activities that give rise to economies of scale and positive externalities; (iii) labor quality; (iv) labor cost; (v) level of scientific research; (vi) degree of openness; (vii) political risk; and (viii) FDI substitutes. Swain and Wang (1995), Liu et al (1997), Zhang (2000), Wei and Liu (2001), Zhang (2002), and others argue that the determinants of FDI inflows into the PRC, as identified by FDI theories, can be classified into three categories: micro, macro, and strategic determinants. Micro factors concern firm-ownership specific advantages, such as product differentiation and the size of the firm. Macro determinants of FDI emphasize the market size and the growth of the host country, which is measured by gross domestic product (GDP) and GDP per capita, since rapid economic growth may create large domestic markets and business opportunities. Other macro factors include taxes, political risk, and exchange rates. Strategic determinants refer to long-term factors, such as to defend existing foreign markets, to diversify firms' activities, to gain or maintain a foothold in the host country, and to complement another type of investment.

Incentive policies are an important factor to consider, especially in developing countries (Sun et al 2002). FDI incentives include tax and other fiscal inducements, financial subsidies, and derogations from regulations offered to foreign-owned enterprises with the purpose of making them invest. More completely, the incentives may include duty-free privileges; concessionary tax rates, breaks, and exemptions; preferential fees for land or facility use; favorable arrangements on project duration, size, sector invested in, location, and type of ownership; flexible treatments regarding business management, employment, and wage schemes; and so on. The aim of policies for attracting FDI must necessarily be to provide investors with an environment in which they can conduct their business profitably and without incurring unnecessary risks. Experience shows that some of the most important factors considered by investors, as they decide on investment location, are (OECD 2003):

i. a predictable and non-discriminatory regulatory environment and the absence of undue administrative impediments to business more generally;
ii. a stable macroeconomic environment, including access to engaging in international trade; and
iii. sufficient and accessible resources, including the presence of relevant infrastructure and human capital.

There are various methodologies to estimate the determinants of FDI. Discussing the potential interdependence of FDI decisions, Head et al (1995) and Head and Mayer (2004) use a discrete choice model which imposes significant restrictions on the data. Ledyaeva and Linden (2006) use the gravity model to determine the sources of uneven distribution of FDI, such as the agglomeration effect, natural resources abundance, skilled labor abundance, capital city advantages, dummy variable for cultural closeness, and common language. Xu (2004) discusses the determinants of entry model of inward FDI to the PRC using logit models, and the result shows that location, resource, project operating period, and investment scale all influence the entry mode significantly.

2.2 Incentive Policies

Jensen (2003) thinks investment incentives take a variety of forms. There are the positive financial incentives that developed countries generally offer, such as payments for each job created, access to cheap finance, loan guarantees, and subsidized utilities. Among these kinds of incentives, tax breaks are the most common form. Many countries offer duty-free access to imports of inputs, and tax holidays or reduced rates of corporation tax to investors, often confined to a distinct geographic area known as an export processing zone. There may also be exemptions from different kinds of local taxes as provided for in the investment policy of local governments. Another type of incentive is lowering labor and environmental standards, which looks like a cheap way to attract investment in the short run. But there is no evidence to suggest that lowering standards is an effective way to attract investment. On the contrary, developed countries, which on the whole maintain more rigorous standards, receive more investment than developing countries. The incentive may become relevant as a bargaining chip to be used by investors who have already decided on their investment location.

Regarding the success of incentive policies, in contrast to Jensen's idea that tax incentives should be emphasized, Chen (2007) argues that tax incentives neither make up for serious deficiencies in a country's investment environment nor generate the desired externalities. But when other factors, such as infrastructure, transport costs, and political and economic stability, are more or less equal, the taxes in one location may have a significant effect on investors' choices. With an increasing number of governments competing to attract MNCs, fiscal incentives have become a global trend that has grown considerably since the 1990s.

The PRC is likely to maintain its economic growth policy and investment promotion (OECD 2000). It has provided foreign investors with special favorable policies on taxation, land use, and foreign currency exchange in coastal regions, particularly in 4 special economic zones and 14 open cities. Preferential FDI policies might be one important factor in the country's overwhelming performance of attracting FDI so far (Zhang 2002). Respondents from a number of manufacturing sectors, such as automotive, electronics, and telecommunications, also strongly agree that incentive policies encouraged their investment. The Government of the PRC has already played a nimble game to attract FDI into the country, being the largest host country for FDI among developing countries; and it supports the success of its incentive policies.

2.3 Developing Cross-Border Economic Zones in the Greater Mekong Subregion

The GMS countries welcome FDI, and have done so for a number of years. FDI inflows are seen as one method of boosting economic development and growth, and assisting in the transition process—consisting of both economic reforms and business liberalization measures—underway in these countries. As such, GMS governments are strongly pursuing FDI by undertaking reforms in the legal and regulatory environments, and implementing competitive and market-oriented investment policies and incentives. While adopting different approaches to the reform process, GMS governments' reform agendas are commonly focused on improving physical infrastructure, reducing the cost of doing business, and promoting political stability and credibility, as well as transparency and predictability of the legal and regulatory frameworks. These relate to the macroeconomic conditions of the countries, such as current and future inflation rates, expected GDP growth rates, degrees of foreign indebtedness, and exchange rate risks (ADB 2005).

A lot of scholars believe that developing CBEZs and transport networks may improve mutual understanding and cooperation among GMS countries. This could also help to develop regional integration, which would reduce the cost of transport and trade, and therefore increase the volume of trade, improve economic

growth, and reduce poverty. As a result, the reduction of business costs and the increase in trade would help to attract more FDI (Bi 2008). To implement the goal, the GMS countries have adopted an economic corridor approach. But, as Zhang (2009) points out, nodal points within economic corridors, particularly key border cities or towns, have strategic importance as centers for economic activity, including business development, trade expansion, and investment. However, the development of most border crossing points is still hampered by both physical infrastructure and the policy environment. If the constraints are not addressed, the economic corridors will not realize their full potential. At the present situation, private sector participation in the cross-border zones is still limited because of a number of factors, especially

i. lack of information for the private sector on related initiatives;
ii. inadequate investment in cross-border trade logistics facilities and services;
iii. poor access to financing, particularly for cross-border investments; and
iv. the absence of a forum for dialogue between the public and private sector stakeholders.

Zhang (2009) argues that these factors must be addressed to improve the environment for cross-border trade and business development.

Ishida (2009) notes that economic corridors have been developed under the GMS Economic Cooperation Program, where the Cross-Border Transport Agreement is a measure for cross-border economic cooperation. He thinks the types of SEZs in the GMS can be classified as metropolitan areas, ports and harbors, border areas, and junctions or crossroads, based on the experiences of the first ASEAN member states and the PRC, and the possibilities provided by GMS economic corridors.

3. Theoretical Framework

3.1 Theoretical Rationale

The GMS covers most of the relatively underdeveloped parts of the PRC and member states of the ASEAN. CBEZs are expected to facilitate the economic growth of GMS countries by setting up growth poles. Theoretically, the CBEZs will generate several benefits.

First, CBEZs can make full use of the comparative advantages of the GMS. The GMS countries are bestowed with rich labor force, and mineral and biological resources. However, these countries differ in terms of factor prices and technological capabilities. The construction of CBEZs will provide platforms for subregional economic cooperation by integrating regional comparative advantages in terms of complementary factor endowment. The integration would further strengthen the comparative advantages of the GMS and improve its attractiveness to FDI and domestic investment.

Second, CBEZs can strengthen industrial links in the GMS. They will promote the optimization of industrial structures and avoid chaotic competition in industrial development among GMS countries. Consequently, the international division among GMS countries will be rationalized and deepened. Industrial clusters will be formed centering on CBEZs; these can strengthen industrial linkages by attracting more local industries and eventually improve the competitiveness of industries in the GMS.

Third, CBEZs can generate spillover effects for the economic development of neighboring areas. Through coordination, preferential policies can be implemented in the CBEZs to remove barriers to the flows of goods and factors. The spillover effects of economic growth poles in the PRC–GMS border areas will facilitate the economic growth of neighboring areas.

Despite abundant natural resources and labor force, GMS countries are short of capital and technologies. Thus, the inflow of investment, especially FDI, will facilitate the development of CBEZs.

According to the theory of locational advantage, the investment decisions of MNCs are mainly influenced by locational factors. That is, an MNC will only invest in host countries that offer distinct locational advantages. Besides the investment orientation, locational advantage is also a decisive factor for the industrial structure of FDI. Thus, locational advantage determines not only the MNC's decision to invest, but also the type of industry it will invest in.

Locational advantages are mainly composed of (i) natural or inherent locational advantages, including proximity to major markets, abundance in natural resources, and cheap and high-quality production factors; (ii) acquired locational advantages, including transport infrastructure, communication infrastructure, and public service infrastructure, such as education, training, and medical services; (iii) institutional locational advantages, including preferential tax policies, land acquisition policies, government regulation and adjustments, and financial climate and system; and (iv) other locational advantages, such as similarities in culture, language, and business modes (Dunning and Lundan 2008).

In summary, locational advantages refer to favorable conditions provided by the host countries which are attractive for investment. However, these advantages are closely associated with MNCs' investment motivations. MNCs' expectations for locational advantages vary as their strategic goals change. The locational advantages reflect the attractiveness of an SEZ to MNCs, since MNCs will invest in the SEZ only if its locational advantages meet the needs of the company's strategy. Therefore, any analysis of an SEZ's attractiveness to investment should focus on the degree by which its locational advantages match the MNC's investment strategies.

3.2 Research Framework

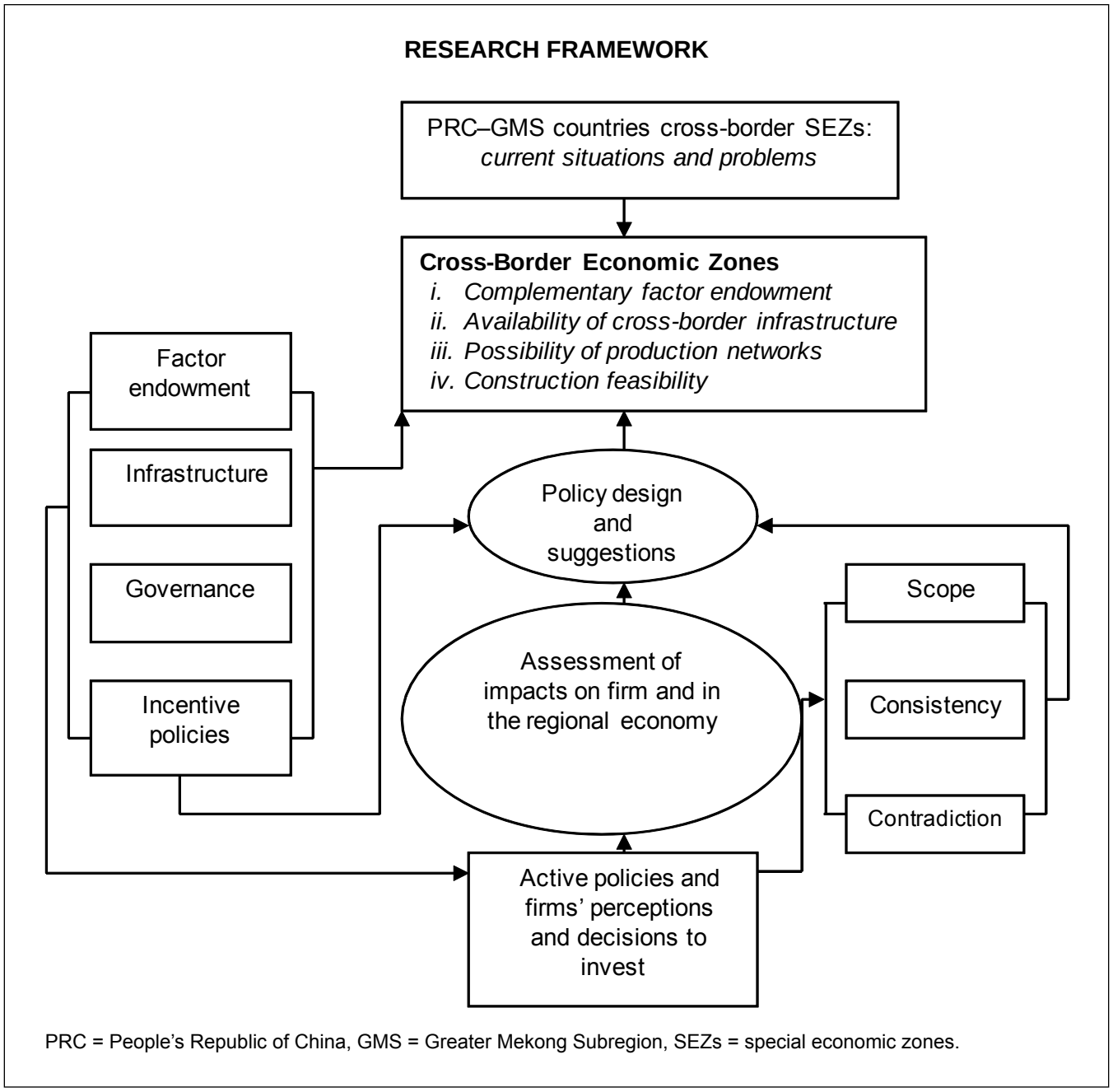
Based on the theory of locational advantage, the study will focus on analyzing the locational advantages of the PRC and its neighboring GMS countries to explore the potential of building CBEZs and suggest favorable policies. A well-designed policy set will attract more investment flows to the CBEZs and thus promote subregional economic development by setting up growth poles. This study aims to analyze how firms in BEZs perform in the border areas and how they feed back to the chain in turn. Figure 1 illustrates the research framework.

The study will start from the analysis of economic status and issues, especially of SEZs, in the border areas of the PRC and other GMS countries. The economic status and issues will be analyzed in detail in terms of economic development, regional economic cooperation, trade and industry association, and industrial linkage. The justifications for setting up CBEZs include complementary factor endowment, availability of cross-border infrastructure, and the possibility of production networks. Thus, factor endowment, infrastructure, and governance will be analyzed to determine the strengths and weaknesses of the area. Policies associated with resource use, governance, and infrastructure will also be analyzed. Firms' perceptions of factor endowment, infrastructure, and governance will be explored during the survey. Policies required to overcome the weaknesses will be identified and then designed for the setting up of CBEZs.

Since there are active incentive policies in the PRC and its GMS neighboring countries, the impacts of existing policies on firms' performance are to be assessed so as to identify policies which are effective or ineffective for attracting investment. The assessment will be conducted through questionnaire surveys. The analysis will include (i) firms' perceptions on existing incentives, and (ii) firms' requirements for policies.

It is possible that active incentive policies in the countries are different, or even in conflict with each other. It is necessary to analyze the scope, consistency, and conflicting areas of the existing incentive polices on both sides of the border. In particular, conflicting policies require coordination so as to avoid internal competition. Although policy coordination requires governments on both sides of the border to negotiate, the study is expected to provide ways on how to coordinate policies, based on industrial situation and locational advantages.

Based on the findings obtained in the previous analysis, policies for setting up the CBEZs will be designed or redesigned and suggested to policy makers.



PRC = People's Republic of China, GMS = Greater Mekong Subregion, SEZs = special economic zones.

3.3 Methodology

3.3.1 Secondary Data Collection

The data on the profiles of BEZs and industries in the border areas of the PRC and other GMS countries were sourced from national and regional statistical departments and from international organizations, such as the Asian Development Bank, ASEAN, and the World Bank. A descriptive statistical analysis was used to study the following aspects of the GMS: current integration progress and development of the economy and society, economic and trade cooperation as well as investment introduction, and the impacts of the financial crisis on industries and FDI. In particular, information on existing incentive policies for investment in Yunnan Province, the Lao PDR, Myanmar, and Viet Nam was collected from secondary sources and analyzed.

3.3.2 Questionnaire Design

To study the effects of incentive policies on firms' investments and their expectations for policy improvement or new policies, a questionnaire was designed for the survey of firms in BEZs based on existing literature and experience of previous studies. The main contents of the questionnaire for the survey of firms inside BEZs are as follows:

i. **General information on the firm.** This part collected information from firms about their origin, sales, number of employees, foreign participation, capital factor endowment, motives of investment, and perceived benefits.

ii. **Effects of incentive policies on the firm's decision to invest and their performance.** The package of policies gathered by the survey included policies on taxes, land use, financial, administrative, subsidy, and labor use.

iii. **Effects of BEZs on local firms and regional integration.** Information on the firm's export performance, regional procurement of resources, mobility of labor, and labor use was collected to analyze regional integration at the level of the firm.

iv. **Perceptions of factor endowment, infrastructure, and governance.** This part collected information on the firm's access to sources of factors of production and its ease or difficulty, as well as the firm's expectation for overcoming difficulties. Infrastructure was assessed in terms of the firm's evaluation of social utility and its impact on the firm's performance. Governance was assessed in terms of the firm's perception of the regulatory environment and the stability of macroeconomic policy in the host country.

v. **Firm's viewpoints on policy consistency and suggestions for policy improvement.** This consists of a general evaluation of investment incentive policies, governance, infrastructure and factor endowment, and open questions concerning policy consistency and suggestions for policy improvement.

3.3.3 Primary Data Collection

Primary data collection consisted of focus group discussions, pilot survey, and field survey.

i. Focus group discussions were held to understand the background information of BEZs and general information about firms in BEZs, such as ownership, investment volume and industries,

policy package for the BEZs, difficulties in executing policies for BEZs, and firms' reactions to the policy package for BEZs. The participants in the focus group discussions included managers of firms, officials from concerned government authorities, university professors, and others.

ii. A pilot survey was conducted to assess the quality and validity of the measurement items in the questionnaires, which were drafted based on literature review and previous research. The questionnaires were first administered to some experts with knowledge or working experience of SEZs. They were asked to complete the questionnaires and point out any questions that were ambiguous or difficult to answer. After revising the questionnaires based on the experts' comments, these were administered to 18 firms in different SEZs to determine whether the respondents understood the questionnaires. Based on the results of the pre-test, the questionnaires were revised or modified.

iii. The field survey covers the major economic development zones and processing trade zones in the border areas of Yunnan Province, PRC, which include Honghe, Xishuangbanna, and Dehong. BEZs and firms on the borders of the Lao PDR, Myanmar, and Viet Nam were also surveyed. The survey aimed to collect general information on investments in the study areas, including economic development, trade growth caused by investment, the policies and economic system for investment, infrastructure construction, and investors' evaluation of these policies. Special attention was paid to differences in incentive polices on the two sides of the borders.

SEZs were sampled for the survey based on the following criteria:

i. **Size**. The priorities of sampling were focused on the large, relatively well-developed SEZs, where there are usually a large number of firms.
ii. **Sector or industry**. SEZs with many firms belonging to sectors or industries that are designated for priority development were sampled.
iii. **Location**. Surveys were mainly conducted in Honghe, Xishuangbanna, Dehong, and Lao Cai.
iv. **Origin of investments**.

The sample distribution is shown in Table 2.

Table 2 Distribution of Samples

Border Area	Sample Size	Distribution
Honghe, PRC	51	38.1%
Xishuangbanna, PRC	17	12.7%
Dehong, PRC	35	26.1%
Lao Cai, Viet Nam	31	23.1%
Total	**134**	**100.0%**

PRC = People's Republic of China.

3.3.4 Data Analysis

The completed questionnaires were checked for validity. This was determined by checking for completeness and consistency. Valid questionnaires were those that the respondents had answered more than 80% of close-ended questions and where there were no logical contradictions in the answers that the respondents gave.

Both close-ended and open-ended questions were included in the questionnaires. The responses to close-ended questions were coded, sorted, categorized, and tabulated. The answers to open-ended questions were summarized.

The data were analyzed using both qualitative and quantitative methods. Apart from descriptive explanation of the samples of BEZs and firms, correlation of variables, and ANOVA, the study focused on the analysis of the following aspects:

i. **Firms' decision to invest in BEZs**. It is assumed that a firm will choose to invest in a particular SEZ if doing so will maximize expected profits. Profits depend on the availability of inputs that enter the firm's production function, the incentive policies that target inducing investment to the SEZs where the firm is located, and the BEZs' characteristics. The proposed hypothesis is that incentive policy is a significant determinant affecting investors' decisions to invest in BEZs. Thus, the roles of existing policies in firms' decisions to invest were analyzed using a multinomial Logit model using data collected from the survey.

ii. **Effects of incentive policies on firms' performance**. By combining data from the survey of firms and BEZs, the effects of incentive policies on investment volume and quality were qualitatively analyzed through descriptive statistics. In particular, the impact of the incentive on firms' performance was investigated by asking whether the incentives resulted in increased business scale, increased output, increased use of labor, or increased use of machinery. The effects of incentive policies and investment climate were tested using an ordered Logit model.

iii. **Consistency of incentive policies**. Based on secondary data, incentive policies for BEZs on both sides of the borders were comparatively analyzed to identify any contradictory provisions that would require coordination.

a. Nonparametric Analysis

Nonparametric analysis was conducted to identify important factors and to test the effects of variables. Based on a 5-point scale data, important factors were identified using an assessment score (I_{ij}) of variables, while the effects of variables were tested through cross-tabulation and use of Chi-square statistics.

An assessment score of the variable is constructed as

$$I_{ij} = 10 \times \frac{1}{n} \sum_{i=1}^{n} \frac{V_{ij} - V_{\min}}{V_{\max} - V_{\min}} \qquad \text{(Equation 1)}$$

where I_{ij} is the assessment score of firm i to item j; n is the number of firms answering item j; V_{min} and V_{max} are the minimum and maximum points of item $_j$ from a 5-point scale. The multiplication of 10 is to enhance the scale of the index. It is clear that a higher index value means the assessment is better.

Except for a few items, a high index means a good assessment. An example of an exception is the score for the question, "Were there extra expenditures except normal charge in administrative procedure?" For comparison purposes, we first reversed the original data of this kind before calculating the index.

Cross-tabulation is a tool for examining the relationship between two discrete variables. The independence can be tested using Chi-square statistics. The null hypothesis is that two variables are statistically independent while the alternate hypothesis is that the variables are related. It is based on

comparing the observed cell values with the expected values. The value in a cell in a table is referred to as a frequency. The expected value in a cell is calculated as

$$f_e = \frac{f_i \times f_j}{n} \quad \text{(Equation 2)}$$

where f_i and f_j are the row and column marginals, n is the total sample size.

The Chi-square test is calculated as

$$\chi_{calculated} = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) \quad \text{(Equation 3)}$$

where f_o is the observed frequencies in each cell and f_e is the expected frequencies in each cell given the assumption that the two measures are independent.

The degree of freedom is calculated as

$$df = (r-1)(c-1) \quad \text{(Equation 4)}$$

where r is the total number of rows in the table; c is the total number of columns in the table.

If the calculated Chi-square value is greater that the critical Chi-square value, the null hypothesis is rejected; otherwise it is accepted.

b. Parametric Analysis

Parametric analysis was conducted to test the following hypotheses:

Hypothesis 1: Incentive policies play a positive role in attracting investment to BEZs.

According to investment theory, a firm's motives to invest can be categorized in three groups: market-seeking, resource-seeking, and efficiency-seeking (Dunning and Lundun 2008). The key factors affecting investment include production costs, transaction costs, and the availability of resources. Moreover, effective incentive policies can facilitate firms to achieve the objective of their investment.

The investment incentives can be categorized into fiscal policy, which mainly refers to tax policy; and non-fiscal policy, which involves financial support policy and investment facilitation policy. Firms' decisions on investment are also affected by their characteristics and stage of development. Firms at an early stage of development prefer incentive policies that reduce the costs of investment expenditure, while firms at an expansion stage prefer incentives associated with profit and tax. Compared with firms engaged in services, manufacturing firms may prefer to value incentives that relate to asset depreciation, because large-scale investment is required for fixed assets. Investors without local investment resources would prefer start-up grants given by local government and financial support rather than tax holidays. Thus, different incentives will affect firms' decisions on investment differently.

Hypothesis 2: Investment climate can affect a firm's decision to invest.

The investment climate is an important factor to be considered in making investment decisions. It is a combination of factors, such as the economic system, policy, social and legal stability, governance,

natural resource endowment, and infrastructure. A favorable investment climate can encourage staff to learn skills, and help firms accumulate capital and increase output. According to Hall and Jones (1999), the difference in capital accumulation is in essence the difference in investment climate between countries, which affects firms' efficiency of investment by influencing their transaction costs.

Based on the definition of investment climate, the study considered the following factors: geography, availability of resources, market potential, political and legal stability, governance, and infrastructure. By analyzing these investment climate factors, we can explain how sensitive investment decisions are to the investment climate and identify what factors influence the decision to invest.

Hypothesis 3: Incentives have a positive impact on a firm's performance.

Besides natural resources, management, and other factors, a firm's performance is affected by incentive policies. The lack of incentive policies will inhibit the fulfillment of resource and locational advantages, and thereby affect the firm's performance. However, for firms from different industries and at different development stages, the effects of incentive policies will be different. Thus, to improve firm's performance, incentive policies need to be specifically designed according to the industry in which the firm is engaged and the firm's stage of development.

Hypothesis 4: A good investment climate has a positive impact on the performance of firms.

Besides incentive packages, firms' performance is affected by the investment climate that includes transport facilities; advanced logistics system; and other infrastructure, which are crucial to firms' production and operation. Furthermore, good governance and stable political and legal environments can reduce the transaction costs of production and operation. In the short run, location, resource availability, and market potential are usually stable but will affect firms' performance significantly once they are changed.

Hypotheses 1 and 2 were tested using multinomial Logit model while hypotheses 3 and 4 were tested using the ordered Logit model.

4. Profiles of Border Economic Zones and Industries

4.1 Border Economic Zones in the People's Republic of China

It is well recognized that SEZs play an important role in promoting economic development. While the fundamental objective of SEZs is to invite foreign investment in various industries with preferential measures (Ota 2003), SEZs have brought great change in the PRC. These changes include strong economic growth accompanied by structural transformation since 1980, a rapid increase of overall employment in the SEZs, large productivity gains, and the highest foreign trade expansion in the country (Ge 1999). All in all, SEZs have served as a major driving force for the PRC's economic development.

However, although the PRC has a 22,000-kilometer-long border with 14 countries, border trade only accounts for 5% of its total trade. Most of the PRC's foreign trade takes place in the costal areas. To address this imbalance, the Government of the PRC has significantly increased its engagement with partners in Asia, embracing cross-border economic cooperation as one element of its strategy. Under this cooperation, CBEZs are regarded as a special kind of SEZs. With this new cross-border dimension, the PRC seeks to achieve a better geographic and socioeconomic distribution of the benefits of trade liberalization and economic growth in related domestic regions, as well as throughout the country.

Policies for developing CBEZs to concentrate investment and attention at the borders, could stimulate the PRC's investment and commercial relationship with its neighbors. In turn, this could help to stimulate related domestic regions, such as Yunnan Province and Guangxi Zhuang Autonomous Region, to engage in international trade and economic integration, and thereby promote socioeconomic growth and human development in the regions. The potential for CBEZs to catalyze investment, trade, production, and tourism between the PRC and the rest of the GMS, and to stimulate greater outward orientation in the region, is therefore significant (Wang and Nandy 2007).

To promote the development of its border regions, the PRC has been building national BEZs in border areas since 1992. There are 14 BEZs located in northeast, northwest, and southwest PRC. BEZs, in which special policy packages are implemented, are the zones established in the open cities along the border regions to develop border trade and processing export. Since their establishment, BEZs have played an active role in developing trade and friendly relations with neighboring countries, as well as the blossoming economy in minority regions.

Between 1990 and 2008, the PRC central and local governments have invested a total of about CNY14 billion (approximately $2.1 billion) in infrastructure construction, with a total construction area of 92 square kilometers (km^2) in 14 BEZs. The investments have contributed to improvements in some major economic indicators, such as an average annual growth rate of 20%–30%. On average, investing CNY150 million (approximately $22 million) in infrastructure yielded tax output twice of the input, GDP 15 times of the input, industry valued 10 times of the input, and a total export value 32 times of the input. Per capita disposable income has grown 5–8 times since 1992. Thus, infrastructure construction in the BEZs has become a major growth point and contributed to rapid development of the local economy and community.

There are 5 BEZs located in the border areas with GMS countries seeking to promote trade between the PRC and those countries. Hekou BEZ was established to promote economic development between the PRC and Viet Nam. There are 184 firms in this BEZ, and the volume of import and export was $633 million in 2008. Ruili BEZ was set up to promote trade between the PRC and Myanmar. About 114 projects have so far been implemented in the zone and attracted $5 million FDI into the zone. The volume of imports and exports in 2008 was $785 million. Mohan economic development zone lies on the border with the Lao PDR. Firms that enter this zone are engaged in foreign trade and commerce. In 2008, the volume of import and export was $183 million. Pingxiang and Dongxing border economic cooperation zones, which are both located in Guangxi Zhuang Autonomous Region, were set up to promote trade and economic cooperation with Viet Nam. Pingxiang is known as the "South Gate of PRC". An international railway and highway run through this 7.2-square kilometer zone. Customs, export specialists, and transport companies are prominent in the zone. Recent figures show the city has witnessed more than CNY4 billion (about $493 million) in trade per year with its neighbor, making up 10% of the Sino–Vietnamese total trade. The other zone, Dongxing, was approved by the State Council in September 1992 also to develop border trade with Viet Nam. Since then, the government has consistently encouraged investment in the province and is finally seeing the results of this drive. The zone's industrial value added totaled CNY126.3 billion in 2005 (up 18.9% from 2004) and the import and export volume reached more than $5.1 billion (up 20% from 2004).

Despite all their achievements, BEZs have not successfully become engines of economic development in border regions because of a variety of reasons. In 2008, the total GDP of the 14 national BEZs was only 1.3% of that of national economic and technological development Zones (NETDZs), and 15% of that of the western development zones. Inward FDI to BEZs was less than 1% of NETDZs, and the cumulative infrastructure investment was less than 10% of that of the eastern economic and technological development zones. So it is of vital importance to expand border region development

and strengthen economic cooperation with neighboring countries. Transforming the BEZs into CBEZs is regarded as a good strategy for development.

Industrial parks of different types are the main form of SEZ in Yunnan Province. At the end of 2008, there were 40 industrial parks designated for priority development. Their gross industrial output was CNY186.2 billion, accounting for 19.5% of the provincial total output volume. By the end of 2012, the gross outputs of industrial parks are expected to grow at 25% per year, and account for 40% of provincial gross output; and some industrial clusters of different scales have been established.

4.2 Profiles of Border Economic Zones in the People's Republic of China–Viet Nam Border Area

The PRC–Viet Nam CBEZ will center on Honghe (PRC)–Lao Cai (Viet Nam). The economic zone will cover a land area of 65 km^2, centered on Mengzi, the capital of Honghe Prefecture, Yunnan Province, in the PRC, and Lao Cai City in Viet Nam.

In 2005, a cooperation document, Scheme for Setting Up Honghe (PRC)–Lao Cai (Viet Nam) Cross-Border Economic Zone, was signed by the governments of the two border areas—Honghe Prefecture and Lao Cai Province. The economic zone was set up along the Kunming–Ha Noi economic corridor, covering a total area of 129.85 km^2. The urban economies, especially the industrial parks of Kunming, Honghe, Yuxi, and Wenshan on the PRC side and Ha Noi, Phong, Quang Ninh, Hải Ương, Phu Tho, and Lao Cai on Viet Nam side, will serve as the supporting framework of the economic zone.

4.2.1 Profile of Border Economic Zones in Honghe, People's Republic of China

Honghe Prefecture in Yunnan Province is a region with relatively well-developed industries. It has two important BEZs: Honghe Industrial Park and Hekou Economic and Technological Development Zone. Honghe Industrial Park is situated in Honghe, Yunnan Province, straddling Gejiu, Kaiyuan, and Mengzi counties. It has a planned area of 65 km^2 through which the Kunhe road and Yunnan–Viet Nam railways pass. The general goal is to develop the park into an integrated base for large-scale industrial development, an economic growth pole in the south of Yunnan. The park is divided into functional zones for metallurgical material processing, chemical product processing, biological resources processing, high-tech industry, and export processing.

Hekou Economic and Technological Development Zone is located in Hekou County on the border between the PRC (Yunnan) and Viet Nam and is separated from Lao Cai City by the Red River. The Yunnan–Viet Nam railway passes through its border gate. Hekou was designated as a border gate by the PRC State Council in 1992. The Hekou–Lao Cai border gate was opened in 1993, followed by the Kunming–Ha Noi railway in 1996, and a bridge was built for road transport between the PRC and Viet Nam.

Hekou BEZ covers an area of 4.02 km^2. The planned area for the zone has been expanded to 24.1 km^2 and the current construction area is 9 km^2. The Honghe Prefecture government has invested CNY1.2 billion in the zone and the provincial government has invested CNY20.0 million. Both investments have greatly improved the infrastructure. In 2003–2008, the total industrial product of the economic zone was valued at more than CNY24.3 billion, with an average annual growth rate of 39.6%, and the total import and export volume was $0.55 billion. By the end of 2008, industrial investment in the zone had reached CNY5.74 billion, with about CNY1.0 billion in new investment added every year. The zone has become a full-fledged platform for industrial development and some pillar industries in the zone are already well developed.

4.2.2 Profile of Border Economic Zones in Lao Cai Province, Viet Nam

Lao Cai City is the capital and political, economic, and cultural center of Lao Cai Province in Viet Nam. It was designated an important economic center of northern Viet Nam. As stated in the Prime Minister's Decision No.44/2008/Qd-TTG on the operational regulations of Lao Cai BEZ, dated 26 March 2008, the Lao Cai border economic area was set as a major economic area; and targeted urban development, industry, trade, and services that are located in the Hai Phong–Ha Noi–Lao Cai economic corridor, according to the construction planning of Viet Nam–PRC border area by 2020. Lao Cai border economic area contains commercial–industrial, industrial, urban and residential, and border control and management zones.

The Lao Cai BEZ is composed of many industrial clusters, including Kim Thanh Commercial–Industrial Park, North Duyen Hai industrial clusters (80 hectares [ha]), East Pho Moi Industrial Cluster (100 ha), and Tang Loong Industrial Cluster (2,000 ha). These areas are occupied by about 100 domestic and foreign firms, with registered investment of D2 trillion. Tang Loong Industrial Zone is a national-level industrial zone and its construction will be extended to 2015.

Between 2001 and 2005, the industrial production of Lao Cai BEZ grew at an annual rate of 13.8%, with 33 FDI projects induced with a total investment of $41 million. By the end of 2007, a total of 38 FDI projects had been developed in Lao Cai, among which were 18 projects from Yunnan Province, PRC. In 2009, the Lao Cai BEZ generated total revenue of about $450 billion and had created more than 3,000 jobs.

4.3 Profiles of Border Economic Zones in the People's Republic of China–Lao People's Democratic Republic Border Area

4.3.1 Profile of Border Economic Zone in Mohan, People's Republic of China

In 1992, Mohan was approved to be a first category of border gate by the Government of the PRC. Since then, about CNY120 million has been invested in the zone to improve the infrastructure of the area. In particular, about CNY530 million has been invested in Mohan Export Processing Zone. In 2001, Mohan Border Trade Zone (BTZ) was set up; and in 2006, Mohan Economic Zone was approved by the government.

In 2004, the fixed capital investment in Mohan Economic Zone reached CNY36.9 million; this had risen to CNY77.3 million in 2005, CNY80 million in 2006, CNY86.6 million in 2007; and CNY144.1 million in 2008.

From 1995 to 2008, the total volume of investment from Yunnan Province in the PRC to the Lao PDR was more than $160 million.

4.3.2 Profile of Border Economic Zones in Boten, Lao People's Democratic Republic

The Boten border crossing (Luangnamtha Province in the Lao PDR) is 57 kilometers (km) northeast of the center of Luangnamtha City.

Mohan BTZ was built in 2004 and is now in operation, while the Boten BTZ is under construction. Increasing investment is flowing from the PRC into Luangnamtha Province and Thon Pheung and Huai Xai in Bokeo Province. Luangnamtha Province, located between the PRC and Thailand, is expected to become a land transport hub.

Although there is a special zone named "Gold Boten Special Zone" in Boten, no official SEZ has been established in Boten so far. In addition, very few manufacturing and assembly industries have been developed, and only service industries, such as hotels and entertainment facilities, have been established. The major sector is agriculture. However, Prime Minister's Decree No. 089 issued on 2 April 2010 laid an important legal framework for the development of Boten SEZ, specifically citing the principles and rules of organization, administration, and supporting investment policy in the SEZ.

There are a number of economic zones and industrial parks in the Lao PDR. The best-known is Savan–Seno Economic Zone, which was established by three prime ministers. The categories of business activities encouraged in the SEZ include export processing, free trade, and logistics. Vientiane Industrial Park is 18 km from the center of Vientiane along the national road. It is only 15 km from the second Mekong International Bridge.

Investment from Thailand in 2006 amounted to $655.23 million (covering 27 projects). This placed Thailand first among foreign investors in the Lao PDR, accounting for 24.3% of total investment. The second largest investor was the PRC, with an investment of $423.23 million (45 projects), or 15.7% of total investment in the Lao PDR.

4.4 Profiles of Border Economic Zones in the People's Republic of China–Myanmar Border Area

The PRC–Myanmar CBEZ will center on Ruili (PRC)–Muse (Myanmar). The PRC and Myanmar concluded a border trade agreement in 1988 when the border trade was growing steadily. In 2005, the border trade of both countries accounted for 57.8% of Myanmar's total imports from the PRC and 81.5% of its total exports to the PRC. The trade volume between Yunnan Province and Myanmar grew by 26.2% between 2006 and 2007, with a total volume of $873.6 million. The trade volume with Myanmar accounted for 9.9% of the total trade of Yunnan Province.

4.4.1 Profile of Border Economic Zones in Dehong, People's Republic of China

At present, there are two key industrial parks—Luxi Industrial Park and Ruili Industrial Park—and one BTZ, the Jiegao BTZ, in Dehong Prefecture, Yunnan Province.

a. Luxi Industrial Park

The main industries in the park include in-depth processing of agricultural products, innovative utilization of biological resources, and processing of products for export. The new construction materials industry and pulp and paper industry are subsidiary industries. In addition, mining and modern logistics are developing.

The park is composed of four districts: (i) Padi District, for biological resources processing, green agricultural products processing, and innovation industry; (ii) Zhefang District, for machinery, export processing, and logistics; (iii) Beituo District, for silicon processing; and (iv) Longjiang District, for pulp and paper making, food processing, and the production of tourism products.

The total planned area of the industrial park is 26.75 km^2, of which 0.87 km^2 have been developed. By the end of 2008, there were 19 firms located in the park, 6 of which had output valued at more than CNY5 million. The gross industrial output of the park reached CNY335 million in 2008; its sales income was CNY290 million; its tax revenue was CNY60 million; and it had 2,200 people employed.

b. Ruili Industrial Park

There are two national-level border gates in Ruili City: Ruili, which opened in 1987; and Wanding, which opened in 1952. In 1992, Wanding BEZ and Ruili BEZ were set up. By the end of 2008, the total capital invested in infrastructure had reached CNY66 million in Ruili and CNY1.15 billion in Wanding (Table 3).

Table 3 Profile of Border Economic Zones in Ruili City

SEZ	Investment in Infrastructure (CNY million)	Number of Introduced Projects	Number of Firms	Introduced Capital (CNY billion)	Industries
Ruili	66	355	66	2.33	Construction, agriculture, mining and processing, foodstuffs, furniture making, pharmacy, warehousing, machinery, etc.
Wanding	115	...	96	0.20	

... = data not available, CNY = yuan.
Source: Yunnan Development and Reform Commission.

The park focuses on industries that use specific resources, such as jewelry and jadeite processing, and bamboo and wood processing. In addition, it strives to develop other industries, like sugar processing, in-depth processing of lemon, biological resources processing, mineral processing, medicine, information, building materials, chemical industry, agricultural products processing, and paper making.

The total planned area of the park is 20.06 km^2, of which the developed area is 3.86 km^2. By the end of 2008, the park's gross industrial output reached CNY1,367 million; its industrial value added was CNY572 million; its sales income was CNY437 million; its tax revenue was CNY65 million; and had 9,000 people employed.

c. Jiegao Border Trade Zone

Jiegao BTZ was set up in 2000. By the end of 2007, 109 firms had located in the zone—79 private firms, 10 foreign-owned, and 20 state- or collective-owned. Jiegao has become the largest border gate between the PRC and Myanmar.

The trade zone borders Muse County in Myanmar and covers an area of 1.92 km^2. Its planned functions are trade, processing, warehousing, and tourism.

According to the general plan for the BTZ, it will be composed of four functional districts: (i) a business district, centered at Dongjinyi avenue with an area of 1,065 mu (1 ha is equal to 15 mu); (ii) a processing district, centered on Beishangyi avenue with an area of 990 mu; (iii) a storage district, centered on Jiegao border fair with an area of 885 mu; and (iv) a tourism district, centered at Yueliang Island in Ruilijiang River with an area of 660 mu.

Jiegao BTZ's infrastructure is relatively sound. The total land area of public roads, municipal facilities, and administrative offices is about 1106.21 mu. The total area of transferable land is 1,810.06 mu, including Yueliang Island (187.3 mu) and Nanbahe River (23 mu), of which 127.41 mu is available so far. By the end of 2007, 1,400 firms, large and small, with a total capital of CNY298.23 million, had registered in the trade area.

Between 2000 and 2007, the average value of imports and exports was CNY2.71 billion, and the average annual growth rate was 22%. The total value of trade through Jiegao gate accounted for 64% of the total volume of Yunnan–Myanmar trade and 26% of the PRC–Myanmar trade. An average of 5.24 million people and 0.85 million vehicles passed through the gate each year during the same period.

In the three border economic zones described, with the exception of Jiegao BEZ, the total investment is far from huge and the land has not been fully used. In the future, investment should be strengthened and suitable and more preferential investment incentive policies implemented to promote the development of the economic zones.

Besides the above-mentioned BTZs, the PRC–Myanmar BTZs will be expanded to cover the nearby economic zones or industrial parks, including Luxi and Yingjiang industrial parks. Between January and June 2009, about CNY1.78 billion of industrial capital was invested in the border area, representing a 32% increase over the same period in 2008.

4.4.2 Profile of Border Economic Zone in Muse, Myanmar

Muse was one of Myanmar's first gates for border trade, opened in 1988 with an industry zone in Muse town and a commerce and trade zone in White Elephant Street. Behind the commerce and trade zone, a heavy industry zone with about 30 ha of land and a light industry zone of 10 ha were planned in 1994. As important as Yangon gate, Muse border gate became a first category of border gate in Myanmar in 2004, with a 300-square kilometer special economic and trade zone—the "105-miles special economic zone."

Following the example of Jiegao in the PRC, the Government of Myanmar set up the 150-hectare Muse Special Economic Zone in 2004, the first and the largest of its kind in the country; and the normal border trade with the PRC has been underway since early 2005. It is also called Muse 105th Mile Border Trade Zone. Muse is now the Myanmar border gate with the best infrastructure, the largest amount of construction, the most preferential policy, and the fastest growth rate.

Among the main export commodities from Muse 105th Mile Border Trade Zone are agricultural, marine, forestry, and mining products; and industrial finished goods. The main import commodities are capital goods, raw materials, and daily use products. The main border trade point between Myanmar and the PRC (Muse and Ruili) alone accounted for 70% of Yunnan's total trade volume with Myanmar. Since 2001, the PRC–Myanmar border trade exhibitions have been held annually, alternating between the two border towns of Ruili and Muse.

Investment in Myanmar expanded rapidly by 174% during 2000–2005 despite large fluctuations in some years. The growth rate declined in 2006–2007, and the average annual growth rate during 2000–2007 was –15.0%. Thailand was the country with the highest investment, accounting for 53.4% of the total investment in Myanmar from 1988 to June 2006. In March 2007, there were 265 foreign corporations operating in Myanmar, of which 49 were from Singapore and 37 were from Thailand. In 2008, the PRC became the fourth-largest investor in Myanmar, after Thailand, Singapore, and Malaysia.

4.5 Profiles of Industries

4.5.1 Profiles of Industries in Yunnan Province, People's Republic of China

Yunnan's economy has been maintained on a steady course and with strong momentum in 2005–2008. In 2008, the provincial GDP amounted to CNY570.01 billion. The province's GDP growth rate was 2 percentage points higher than the average GDP growth rate of the PRC, and it ranked 19th among

provinces in the PRC. The value added of primary industry reached CNY102.1 billion in 2008, increasing at a rate of 7.6% compared to 2007; the value added of secondary industry was CNY245.11 billion, 11.4% higher than 2007; and the value added of tertiary industry amounted to CNY222.81 billion, with a year-on-year growth rate of 12.1%. The ratios of primary, secondary, and tertiary industrial products to GDP were, respectively, 17.7%, 43.2%, and 39.1% in 2007; and 17.9%, 43.0%, and 39.1% in 2008. GDP per capita in 2008 reached CNY12,587, about $1,842 based on the year-end exchange rate, and was 10.3% higher than in 2007.

Since 2006, Yunnan Province has fostered the development of five pillar industries: tobacco, tourism, electrical power, biological resources, and minerals. These industries account for a majority of the province's GDP, serving as the drivers of economic growth. In 2007, the output of the tobacco industry reached CNY51.87 billion, with a value added of CNY41.35 billion, and accounted for 14.9% of Yunnan Province GDP. More than 10 brands of cigarettes are exported to the Commonwealth of Independent States, Japan, and Viet Nam, as well as to more than 20 countries and regions of Europe, the Middle East, and Southeast Asia. Yunnan's hydroelectric resources are abundant and concentrated, making it competitive to supply power to central and southern PRC. Moreover, the Yunnan Power Grid has initiated cooperation with the power departments of neighboring countries, such as the Lao PDR, Myanmar, Thailand, and Viet Nam, with positive results. In 2007, Yunnan Province's power output reached 90.5 billion kilowatts (kW), of which 69.5 billion kW was sold. About 13.8 billion kW was sold to eastern PRC and 2.6 billion kW to Viet Nam.

Bestowed with abundant and rich biological resources, Yunnan Province has developed a large biological industry covering the production of green food, medicines, special forest products, biological energy and bio-chemicals, poultry, natural rubber and hemp, flowers, and horticultural products. In 2007, the total value added of these products amounted to CNY106.3 billion. The province also has rich mineral resources, including nonferrous metals, ferrous metals, and nonmetallic minerals. In 2007, the output of 10 nonferrous metals reached 2.34 million tons, and accounted for 9.9% of the nonferrous metal output of the PRC. The province ranked second in nonferrous metals output in the PRC. The value added of the nonferrous metal industry reached CNY26.8 billion, accounting for 18% of Yunnan Province's industrial value added. Phosphate and phosphorous-derived products had the highest outputs in the PRC. Moreover, new technical achievements in the fields of precious metal materials, copper matrix materials, tin matrix materials, semiconductor materials, nonmetal inorganic materials, organic materials, and materials compounding and processing are driving rapid industrialization of the new materials industry.

a. Honghe Prefecture

Honghe Prefecture in Yunnan Province borders Lao Cai Province in Viet Nam. The Hekou–Lao Cai cross-border economic zone is under development through the efforts of the governments of the PRC and Viet Nam.

The GDP of Honghe Prefecture was CNY42.90 billion in 2007; and CNY51.47 billion in 2008, increasing by 10.1%. The value added of primary industry was CNY7.86 billion in 2007 and CNY9.64 billion in 2008, with an annual growth rate of 5%. The value added of secondary industry was CNY23.48 billion in 2007 and CNY27.40 billion in 2008, increasing by 16.2%; and the value added of tertiary industry was CNY11.61 in 2007 and CNY14.44 billion in 2008, or 10.3% higher.

In order to consolidate primary industry, strengthen and enlarge secondary industry, and enhance tertiary industry, the prefecture is making a great effort to optimize and upgrade the industry structure. The ratio

of the value added of the three industries to GDP was 18.7% (primary), 53.2% (secondary), and 28.1% (tertiary).

The leading industries in the prefecture include energy, chemicals, metallurgical industry, biological resources, and tourism. The energy and chemical industries have been well developed. In line with local conditions, the prefecture makes great efforts to develop phosphate chemical and coal chemical industries; and to accelerate the construction of chemical industries, such as methanol, ethylene, and fertilizer. The metallurgical sector has also developed vigorously. Iron ore in the prefecture and surrounding area has paved the way to the development of the steel sector; and to the further improvement of the production and processing of tin, lead, zinc, copper, and bauxite. The prefecture combines power with mines to exploit iron alloy, industrial silicon, titanium, and gold; and to develop in-depth processing and tin processing so as to further extend the industry chain. The annual average growth of the metallurgical industry is 20%. The exploitation of biological resources has developed steadily. In order to make the biological resources industry as the pillar industry and a growth engine, and to strengthen the economy, the prefecture, guided by the market, makes great efforts to improve and enhance this traditional pillar industry and to strengthen cooperation with foreign countries to introduce enterprises, capital, and technology. In 2007, the output of the biological industry reached 5,000 tons and its value was CNY46 million.

b. Dehong Prefecture

Dehong Prefecture of Yunnan Province borders Myanmar. The cross-border economic zone is to be set up in Ruili, Dehong Prefecture and Muse, Myanmar.

Tertiary industry contributed most to GDP of Dehong Prefecture between 2005 and 2009 (Table 4). However, the growth rate of secondary industry is much faster than that of primary and tertiary. Since 2005, secondary industry has grown rapidly. In 2009, its total value reached CNY3.54 billion—30.8% of Dehong Prefecture's GDP. The growth rate of the tertiary industry kept pace with that of the prefecture as a whole, while the growth rate of primary industry dropped slightly in 2009.

Table 4 Industrial Structure of Dehong Prefecture, 2005, 2007, and 2009

	2005		2007		2009	
Industry	**Value Added** (CNY billion)	**Growth Rate** (%)	**Value Added** (CNY billion)	**Growth Rate** (%)	**Value Added** (CNY billion)	**Growth Rate** (%)
Primary	1.90	9.4	2.59	8.0	3.22	6.4
Secondary	1.37	1.7	2.38	23.3	3.54	27.9
Tertiary	2.61	8.5	3.43	11.5	4.76	13.2
Total	**5.88**	**7.0**	**8.40**	**13.0**	**11.52**	**15.0**

CNY = yuan.
Source: Statistical data from the Dehong Prefecture Bureau of Statistics.

The prefecture's industry is composed of four categories. The first is based on Dehong Prefecture's abundant natural resources. Products include sugar, spice and pepper, tea, local and special food, rubber, tin, and electrometallurgical products. The second is also based on local resources, but the products are mainly consumed in Dehong Prefecture, such as cement. The third is the trade-oriented processing industry, covering the production of timber, jewelry and jade, and pharmaceuticals. The fourth is the fundamental industry, which provides the products and services fundamental to the development of local industries, including hydroelectricity, machinery, and coal.

The hydropower, nonferrous metal smelting, and sugar industries are the industry pillars of Dehong Prefecture. A large proportion of these products was exported to Myanmar. From 2007 to 2009, the share of these three sectors to the total value of output for secondary industry accounted for 55.1%, 57.3%, and 67.7%, respectively, and the proportion has been increasing. This shows that the scale of industry in Dehong Prefecture is increasing but it is not well diversified. Lack of diversification inhibits the sustainable and healthy development of industry in the prefecture.

c. Xishuangbanna Prefecture

Xishuangbanna Prefecture of Yunnan Province borders the Lao PDR. The Mohan–Boten cross-border economic zone is to be set up in the border area.

In 2008, the GDP of Xishuangbanna Prefecture amounted to CY12.28 billion, 10.1% higher than in 2007. The value added of the primary industry reached CNY3.68 billion, accounting for 30% of total GDP; the secondary industry, CNY3.64 billion and 30% of GDP; and the tertiary industry, CNY4.96 billion and 40% of GDP. The GDP per capita reached CNY11,504 in 2008.

The pillar industries in the prefecture are the production of forest products, hydropower, tea, hemp, and Dai traditional medicine. For example, the value added of tea processing industry reached CNY135 million in 2008.

4.5.2 Profiles of Industries in Lao Cai Province, Viet Nam

In Viet Nam, most heavy and medium industries are concentrated in the north, including the state-owned coal, tin, chrome, and other mining enterprises. The products include automobiles, air-conditioners, power engines, motorcycles and bicycles, washing machines, beer, shoes, electric fans, transformers, ceramic tiles, craft paper, sugar, electricity, chemical fertilizers, construction materials, steel, tires, refrigerators, seafood, glass, condensed milk, garments, television, cigarettes, diesel engines, crude oil, etc. The leading industries in Viet Nam are associated with food processing, garments, shoes, machine building, mining, cement, chemical fertilizers, glass, tires, oil, coal, steel, and paper.

Viet Nam's merchandise exports increased from $14.5 billion in 2000 to $39.6 billion in 2006, with the main commodities for exports comprising crude oil, marine products, rice, coffee, rubber, tea, garments, and shoes. These were mainly exported to the PRC, Germany, Japan, the Republic of Korea, Singapore, and the United States. The country's merchandise imports increased from $15.6 billion in 2000 to $44.4 billion in 2006. The main import commodities were machinery and equipment, petroleum products, fertilizer, steel products, raw cotton, grain, cement, and motorcycles, mainly from the PRC; France; Hong Kong, China; India; the Republic of Korea; and Singapore.

In Lao Cai BEZ, industry clusters are assigned to fulfill different functions. Tang Loong is an industrial cluster for the production of metallurgical, chemical, and associated products. So far, the plants producing pure copper, phosphorus, steel, and chemical fertilizers are relatively large scale. For example, the production capacity of copper is 10,000 tons per year, and that of phosphorous fertilizer is 200,000 tons per year.

East Pho Moi Industrial Cluster is near Lao Cai railway station and, thus, is mainly assigned to warehousing and logistics. Firms in this cluster are mostly involved in the installation of electrical and electronic equipment, packaging, and other services for production. Some of the important firms include parent companies of railway and marine navigation, and rubber and petroleum companies.

North Duyen Hai Industrial cluster is located in the coastal area of Lao Cai. It serves as a bridge between Lai Cai City and Kim Thanh Commercial–Industrial Park. Firms in this cluster mainly produce high quality construction materials, fine arts, and handicrafts; and install and repair machines. So far, 31 firms are in this cluster, of which 6 are from the PRC and 1 is a joint venture with a PRC firm.

Other plants in Lao Cai BEZ belong mainly to the primary sector; they include the production and processing of vegetables, flowers, fruits, tea, and other cash crops. A vitriol plant is under construction, and a PRC-invested plant for the production of potassium manganate is awaiting approval.

The Lao Cai government encourages investments in the following sectors: the manufacture of new materials and production of new energy; manufacture of high-tech products, biotechnology, information technology, and mechanical manufacturing; the breeding, rearing, growing, and processing of agricultural, forestry, and aquaculture products; the production of salt; the breeding of new plant and animal varieties; the use of high technology and advanced techniques; protection of the ecological environment; investment in research, development, and creation of high-technology; and labor intensive industries.

4.5.3 Industrial Profile of the Lao People's Democratic Republic

Most sectors of the Lao PDR economy are open to foreign investment, and the Government of the Lao PDR is particularly promoting foreign investment in energy, mining, agriculture, and manufacturing. The main activities encouraged by the local government include (i) products for export; (ii) agricultural and forestry activities, agroforestry, and handicraft processing activities; (iii) activities relating to industrial processing, industrial activities using modern technology, scientific study and analysis activities and development, and activities relating to protection of the environment and biodiversity; (iv) construction of infrastructure; (v) production of raw materials and equipment to be supplied to key industrial activities; and (vi) development of tourism and transit services.

However, the government prohibits foreign investors and foreign personnel from undertaking certain commercial activities in the Lao PDR. These prohibited activities include forest and wood exploitation, retail sales, accounting services, tour services, vehicle and machinery operation, and rice cultivation.

In the PRC–Lao PDR border area, there are few firms involved in industrial production activities on the Lao PDR side.

4.5.4 Industrial Profile of Myanmar

Myanmar is the second-largest country in Southeast Asia. Its GDP was about $17 billion in 2006, of which secondary industry accounted for 15.4%.

Myanmar's industries include the production of agricultural and forest products, marine products, arts, crafts, automotive, construction materials, chemicals, computers and communication, electrical power, fuels, rubber, beverages, tobacco, leather, tea, pulp and paper, and textiles and clothing. The major industries in Myanmar are associated with the processing of rubber, tea, coconut, tobacco, agricultural commodities, clothing, textiles, cement, and petroleum refining.

Myanmar's merchandise exports increased from $1.6 billion in 2000 to $4.5 billion in 2006. The main export commodities included gas, agricultural commodities, minerals, forest products, and aquatic products. These were mainly exported to the PRC; Hong Kong, China; India; Singapore; and Thailand. Merchandise imports amounted to $2.4 billion in 2000 and $2.1 billion in 2006. The main import

commodities were consumer products and capital goods, which were mainly from the PRC, Japan, Malaysia, Singapore, and Thailand.

The PRC was Myanmar's second-largest trading partner in 2006. The total trade volume between the PRC and Myanmar was $1.46 billion in 2006. In terms of trade volume in 2006, the PRC takes the third place as Myanmar's principal export destination and the second place as Myanmar's principal import source.

Economic activities allowed under Myanmar's Foreign Investment Law cover almost all sectors of the economy. The Myanmar Investment Commission encourages investment in agriculture, livestock and fishery, forestry, mining, manufacturing, building industry, transport and communications, and trade. Any economic activity not included in the notification can be considered individually.

5. Active Incentive Policies: A Comparative Analysis

This section aims to analyze the consistency of and differences in the active incentive policies of the PRC (Yunnan Province), Viet Nam (Lao Cai City), the Lao PDR (Boten), and Myanmar (Muse).

5.1 Comparison of Incentive Policies for Border Economic Zones in the People's Republic of China (Yunnan Province)–Viet Nam (Lao Cai City) Border Area

5.1.1 Incentive Policies for Border Economic Zones in Yunnan Province

BEZ investment incentive policies are set up in the central government's policy framework and managed by the local government and the BEZ. Yunnan is a western province of the PRC, and its BEZs formulate policies in accordance with preferential policies on investment in western PRC. The economy of the PRC's western region is relatively backward. After the development of eastern PRC, the government gave preferential policies to the western region to encourage enterprises to invest there. The most important is income tax. Since the PRC's 2007 tax law reform, the business income tax has become 25% for both foreign-funded and local enterprises, but the business income tax of the enterprise was 15%, for both foreign-funded and local enterprises until 2010. The central government had identified the types of companies which can continue to enjoy the income tax rate of 15% after 2010. Moreover, the western area has a lower entrance requirement for foreign-funded enterprise. Based on the preferential policies for the development of western PRC and the preferential tax policies of Yunnan Province, the advantages of preferential policies for BEZs mainly lie in the relaxation of the implementation requirements and the improvement of investment services.

5.1.2 Incentive Policies for Border Economic Zone in Lao Cai, Viet Nam

Viet Nam passed the new Investment Law on 1 July 2006, which enforced unified management for both domestic and foreign investors and canceled many of the restrictions of the previous Foreign Investment Law. Viet Nam encourages foreign investment in high-tech industries and gives tax preference policies to projects with investment in high-tech industry. For example, the income tax rate is 10% (15% for high-tech projects outside SEZs, and 20%–25% for other projects); and the period of preferential tax is 13 years, including a tax holiday for the first 4 years and payment of half of the regular tax rate for the following 9 years.

Besides preferential policies outlined in Viet Nam's new Investment Law, the preferential policies implemented in Lao Cai BEZ emphasize trade facilitation in terms of policies and measures.

5.1.3 Differences in Incentive Policies in the People's Republic of China (Yunnan)–Viet Nam (Lao Cai) Border Area

The scope of incentive policies in both countries covers three aspects: tax preferential policy, land use policy, and administration convenience. Regarding tax policy, the PRC provides more types of preferential tax, e.g., enterprise income tax, value-added tax, turnover tax, and resource tax. Furthermore, it has more detailed tax preferential regulations. Viet Nam, on the other hand, gives more specific range of tax favors and a relatively long-term tax holiday.

As far as land use policy is concerned, neither country has more incentive policies. But there is a difference in their policy regulations: the PRC's policy is grand and more policy-oriented, whereas Viet Nam's policy is more specific, more practical, and more operational in nature.

Both the PRC and Viet Nam provide investment services or administration convenience, but the coverage of their policies is very different. In Honghe, for example, service efficiency is given more attention and administrative fees are reduced to a great extent; while in Viet Nam's Lao Cai, the policy provides more convenience in terms of means of transport and allows border residents to cross the border freely.

In the two countries, there are few conflicts between policies of the same kind on both sides of the border, but differences in policies are observed in the following areas:

i. **Policy orientation**. The PRC's investment incentive policies have changed from foreign capital orientation to industry orientation, and their goals have shifted from attracting foreign capital investment to attracting specific industries. Foreign and local enterprises enjoy the same preferential policies. Viet Nam's investment incentive policy is foreign investment oriented.

ii. **Margin of tax preference**. Yunnan Province has a high threshold of investment incentives and tax policy, which generally limits the amount and composition of enterprises' registered capital. The preferential tax policy mainly includes an exemption from business income tax for 3 years and an exemption from resource tax for a specific period of time. Viet Nam's investment incentives and tax policies are more attractive than those of Yunnan Province in terms of the exemption rate on the threshold and the benefits, since Viet Nam does not limit the amount of registered capital and allows lengthy tax holidays.

iii. **Land use policy**. Yunnan Province provides a small amount of preferential policy related to land to some key supported projects and large-scale projects, though there is no preferential policy related to land for the majority of enterprises. In Lao Cai, Viet Nam, there are policies relating to reductions in land rent, and these reduce the costs of projects' construction and demolition work.

iv. **Administrative convenience**. Yunnan Province has provided more administrative convenience, many aspects of which are nonexistent in Viet Nam.

5.2 Comparison of Incentive Policies for Border Economic Zones in the People's Republic of China–Lao People's Democratic Republic Border Area

5.2.1 Investment Incentive Policies for Border Economic Zones in Xishuangbanna Prefecture

At the junction of Yunnan Province and the Lao PDR is Mohan economic development zone. In 2008, Xishuangbanna established the policy of "The Decision of Redoubling the Efforts of Foreign-Investment

Attraction" and a series of preferential policies aimed at prompting investment. The relevant policies are as follows:

i. **Tax incentives**. Industries prompted by national western development only pay 15% of enterprise income tax, while businesses specializing in agriculture, forestry, livestock breeding, and fishery are entitled to tax exemption and tax reduction according to relevant policies.

   Exemptions from enterprise income tax in the first 3 years and half-exemption in the next 2 years are provided to investment enterprises (i) engaged in major public infrastructure projects supported by the state, such as ports, airports, railroads, city public transport, electricity, and water conservation; (ii) specializing in public wastewater treatment, public garbage treatment, and marsh gas utility; and (iii) undertaking qualified environmental projects, such as reduction in energy and gas emissions, and energy and water conservation.

   High-tech enterprises pay only 85% of enterprise income tax. As far as the local portion of enterprise income tax is concerned, if approved by higher authorities, enterprises can enjoy a reduction of and exemption from enterprise income tax.

ii. **Land use**. High-tech investments worth more than CNY15 million per hectare are legally guaranteed land-use priority. The land use of foreign investment projects that qualify under the Catalog of Land Allocation can be operated by way of transferring land.

   The policy on refunding after taxing provides refunds to investors of 50% of land use tax applied to those investing in infrastructure construction and business tax in reconstruction.

   The business tax imposed on factory rent in the zone for the first 3 years will be fully refunded.

   The business tax imposed on the sale of a factory will be half-refunded. For non-profit projects, such as culture, education, scientific research, and social public good, taxes imposed are for the necessary cost of land expropriation.

iii. **Reduction in administrative fees**. All administrative fees charged to foreign investment enterprises, apart from the legal registration fees for excess discharge and enterprise establishment, follow the lower bound of the legal standard.

iv. **Facilitating foreign trade**. Foreign investment enterprises are entitled to regular foreign investment preferential policies established by the state and more flexible payment and settlement procedures in foreign trade. Foreign investment projects that are highly encouraged by the state, once registered in customs, are exempted from customs duties and import linked value-added tax on their imported in-house-use equipment within the total amount of reinvestment.

5.2.2 Investment Incentive Policies for Border Economic Zones in the Lao People's Democratic Republic

a. Tax Incentives

Investments in Zone 1 are entitled to a profit tax exemption for 7 years, and thereafter will be subject to profit tax at the rate of 10%. Investments in Zone 2 will be entitled to a profit tax exemption for 5 years, thereafter will be subject to a reduced profit tax rate of 7.5% for 3 years, and thereafter a profit tax rate of

15%. Investments in Zone 3 will be entitled to a profit tax exemption for 2 years, thereafter will be subject to a reduced profit tax rate of 10% for 2 years, and thereafter a profit tax rate of 20%.

In addition to the incentives mentioned, foreign investment enterprises are entitled to

i. exemption from profit tax during the accounting year of the profit used for the expansion of licensed business activities;
ii. exemption from import duties and taxes on equipment, spare parts, vehicles directly used for production, raw materials which do not exist domestically or do exist but are insufficient, and semi-finished products imported for manufacturing or for processing for the purpose of export;
iii. exemption of export duty on export products;
iv. exemption from import duties and taxes or subject to reduced rates of import duties and taxes on raw materials and semi-finished products imported for manufacturing or assembly for import substitution; and
v. import duty imposed at a uniform flat rate of 1% of the imported value of equipment, means of production, spare parts, and other materials used in the operation of foreign investors' projects or in their productive enterprises.

b. Land Use Policy

Investors in BTZs are entitled to an exemption from land rent for 7 years, and thereafter are subject to a rent rate stipulated by the BTZ.

c. Labor Use Policy

Foreign investors must give priority to Lao PDR citizens when recruiting and hiring their employees. Investors have an obligation to upgrade the skills of their Lao LDR employees, through training within the Lao PDR or abroad. However, such enterprises have the right to employ skilled and expert foreign personnel when necessary and with the approval of the Department of Domestic and Foreign Investment.

Foreign investors and their foreign personnel working within the Lao PDR are subject to personal income tax at a flat rate of 10% of their income. Foreign workers, who work and stay in the Lao PDR for more than 180 days in a fiscal year but receive salaries abroad, are liable to this income tax unless otherwise agreed with the Government of the Lao PDR. If the hiring of foreign laborers is necessary, it shall not exceed 10% of the enterprise's total number of employees.

5.2.3 Comparison of Investment Incentive Policies for Border Economic Zones in the People's Republic of China and the Lao People's Democratic Republic

We analyze seven aspects of incentive policies in both the PRC and the Lao PDR: entry approvals, operation requirements, fiscal policy, financial support, labor and social security, infrastructure policy, and industry-oriented policy. For each policy, the two countries do not always have the same provision or content, and they may even conflict.

Yunnan Province's policy on entry approvals focuses on the standardization and simplification of new firm sanction procedure to reduce enterprise operation costs and improve efficiency; while the Lao PDR attaches great importance to the registrant's capital adequacy, which is the key to the enterprise's healthy operation. There are no conflicts in the policies of Yunnan Province and the Lao PDR and their policies on entry approvals are compatible.

The operation requirements policy, financial situation, and foreign currency regulation are to be considered because they are related to the supervision of firms' normal and legitimate operations. As for financing, the Yunnan provincial government requires foreign enterprises to provide accounting report according to national law, while there are no specific requirements in the Lao PDR. On foreign currency regulation, the PRC adopts a flexible floating policy. Meanwhile, there is no such rule in the Lao PDR. Yunnan permits legal foreign currency transaction and transfer, and the Lao PDR's foreign currency control is not strict either. Therefore, both countries' foreign currency policies are compatible and there is no conflict.

In comparison with Yunnan Province, the Lao PDR executes more preferential tax policy to attract more investments which will be crucial in improving infrastructure and promoting local development. Yunnan Province not only encourages foreign investment, but, unlike the Lao PDR, also supports investment by domestic enterprises in other countries. The countries' fiscal policies are not in conflict.

As for financial support policy, Yunnan Province executes a national financial support policy and a local special support policy. But there is no similar policy in the Lao PDR.

The labor and social security laws in Yunnan Province prescribe that foreign firms can enjoy the same preferential polices as national firms; while in the Lao PDR, the number of foreign employees should not exceed 10% of the total employees of the foreign firm. However, the corresponding laws in the Lao PDR have a narrower scope. Neither country has a conflict in this aspect.

As for infrastructure investment support, Yunnan Province's policy has many forms, including turnover tax reduction, and refund and shorter period of tax payment. The Lao PDR's support is provided in the form of land rent reduction. There is no conflict in the countries' policies.

As for industrial development policy, in addition to the following national unification policies to encourage enterprises' outward investment, Yunnan Province has its own local industry-oriented investment support policy, such as preferential interest loans and a special fund for investment enterprises that meet the standards. The Lao PDR does not have a similar supporting policy that encourages outward investment. In Yunnan Province, the guiding industries that encourage outward investment are energy, transport, water conservation, environmental protection, agriculture, forestry, livestock raising, and mining. In the Lao PDR, the guiding industries are electricity development, agriculture and forestry processing, breeding of aquatic animals, machining, handicrafts, mining, and services. The key supporting industries are grain, video devices, and substitute products in the Lao PDR. Although both countries support some industries, there is no conflict in their policies in this area.

Other differences are as follows:

i. The duration of tax incentives in the Lao PDR is as long as 8 years, including 4 years of tax holiday and another 4 years of reduced payment at half of the regular tax rate.
ii. In terms of land rate policy, Xishuangbanna refunds building business tax and plant rental business tax, and provides preferential rate to investors in the zone. Investors in the Lao PDR zones also use land mainly in the form of rent and can enjoy free use of the land for 7 years.
iii. The Government of the Lao PDR gives investors preferential incentives on business tax, duties, and reinvestment.

5.3 Comparison of Incentive Policies for Border Economic Zones in the People's Republic of China–Myanmar Border Area

5.3.1 Investment Incentive Policies of Dehong Border Economic Zones

Jiegao BTZ, which lies in Ruili, Dehong, is a BEZ on the Yunnan Province–Myanmar border. The incentive policies of Jiegao BTZ, are based on both the PRC's Western Development and Yunnan Province's foreign investment policies. Besides these two existing preferential policies, the special preferential policies of Jiegao BTZ are as follows:

i. **Tax incentives**. For industrial projects set up in the BEZ, from the date of investment, 20% of value-added tax paid in the first 3 years and 10% of that paid in the second 2 years are collected and then returned after approval by the concerned financial and state taxation authorities. Enterprises established in the zone are exempt from local enterprise income tax in the first 3 years and they enjoy a 50% reduction in the second 2 years from the date of operation.

ii. **Duty policy**. Imported equipment for domestic projects or foreign-invested projects listed in the state-encouraged catalogue or supported by the state is exempt from import duties and import-linked value-added tax. Transport means, goods, and articles that enter and exit Jiegao BTZ from and to Myanmar are exempt from customs declaration, import duties, and import value-added tax.

iii. **Land use policy**. The Dehong preferential policies on investment provide the following:

   a. For projects that invest in energy, water conservation, public facilities, and social public interest, the government can offer land in the form of administrative transfer.
   b. Enterprises investing in innovative projects, such as high-tech and bio-resource development, can obtain land based on the requisitioned cost if the value of their fixed assets exceeds CNY3 million; or based on the total amount of land acquisition compensation, resettlement fee, and young crops fee if their fixed assets exceed CNY5 million.
   c. Projects investing in farming, forestry, livestock, and fisheries can rent collective land.
   d. Investment and building enterprises in Jiegao BTZ are directly registered, and the government implements one-stop window for projects that need to be approved. The government also relaxes the conditions for enterprise building and registered capital limits.

5.3.2 Investment Incentive Policies for Border Economic Zones in Myanmar

Myanmar's preferential tax policies are mainly embodied in the Union of Myanmar Foreign Investment Law, the Myanmar Income Tax Law, the Myanmar Customs Law, and the Myanmar Business Tax Law.

i. **Tax incentives**. Firstly, foreign enterprises investing in production and service industries enjoy an income-tax holiday for 3 years, and thereafter pay enterprise income tax at a fixed rate of 30%. For export processing enterprises, the rate of income tax can be reduced to 15%. Secondly, enterprises that accumulate profits to reinvest in 1 year can enjoy an income tax reduction or tax holiday. The Myanmar Income Tax Law provides the following: (a) The rate of personal income tax of foreign employees who participate in state-sponsored projects is 20%, and that of other employees is 30%. (b) The rate of enterprise income tax of foreign enterprises that participate in state-sponsored projects, and of companies incorporated in Myanmar and those whose period of tax holiday under the Foreign Investment Law has ended, is 30%, the same as that of Myanmar

domestic firms; and the rate of income tax for nonresident foreign organizations is 35%. (c) The rate of capital gains tax for residents is 10%, and 40% for non-residents.

ii. **Duty policy**. Imported raw materials; goods in the form of cutting, making, and packaging; and packaging materials for reexporting are tax free. Imported goods, which can be stored in appointed warehouses under supervision of the Customs Department, do not have to pay import duties and other taxes. Building materials, such as cement, steel, nails, and zinc tiles, used in the border construction of Muse in Northern Shan State, Nine Valley, Namkham, Tachilek in Eastern Shan State, and Miao in Karen State, are duty free.

iii. **Land use policy**. The Government of Myanmar forbids foreigners from purchasing real estate or buying land in the country. If needed, investors must rent land from the government and not from individuals. Foreign enterprises or individuals may rent land in Myanmar, and the use period can be as long as 30 years and may be extended. Foreign investors may apply for the use of open space, leisure land, and waste land in Myanmar for planting and livestock breeding.

iv. **Labor use policy**. Foreign enterprises must give preference to employing citizens of Myanmar, and should decide on the type, number, and service period of foreign experts and technical staff with the approval of the Foreign Investment Committee.

5.3.3 Comparison of Investment Incentive Policies for Border Economic Zones in the People's Republic of China–Myanmar Border Area

We also analyzed the incentive policies in both the PRC and Myanmar, covering fiscal, land use, labor use, social security, financial support, business administration, entry approval and immigration, and infrastructure. There is coordination as well as conflict among these policies.

Tax policy is the most important fiscal policies to be considered. The PRC has related provisions regarding preferential tax and tax holidays at three levels: preferential tax policies at the national level which is stipulated in the PRC's Western Development Strategy, preferential policies at the provincial level, and Yunnan Province's own tax policies combined with its policies involving the PRC–Myanmar border region. Myanmar's policies are mainly reflected in a number of national laws. Both the PRC and Myanmar have preferential tax policies, which allow tax-free cases and tax reduction. In terms of preferential taxes, there is a 5% gap in one project between the two countries. Myanmar imposes more income tax than the PRC on foreign employees. This is a conflict in tax-favor policy. Some problems should be resolved in the construction of the PRC–Myanmar CBEZ as follows:

i. Foreign materials and engineering equipment imported from abroad for infrastructure construction in the zone should be tax free, and domestic materials and equipment should enjoy export tax rebates. This will speed up construction.
ii. Raw materials, parts, and accessories purchased by export processing and assembly projects in the zone should enjoy export tax rebates because this will attract more investments.
iii. Materials imported by the PRC–Myanmar CBEZ processing projects should enjoy tax exemption.
iv. Newly established export processing firms should enjoy a 3-year tax holiday and an income tax rate of 7.5% for another 3 years; and a rate of 15% starting from the seventh year, because at the beginning of the zone building, there should be more preferential tax policies in the zone than that at the national level. This will improve the attractiveness and investment environment in the zone.
v. Domestic office equipment should enjoy tax rebates and foreign equipment should enjoy a tariff-free policy.
vi. The government may offer subsidies to newly established enterprises.

As for land use policy, the local governments in both countries have a limit authorization under the framework of their national land use policy. Therefore, the PRC–Myanmar CBEZ needs top-level cooperation to set up guidelines and standards for specific land use policy, for example, on preferential provisions, plant requirements, infrastructure, and building permits.

Regarding labor and social security, Myanmar has more protection and requirements on the employment of domestic labor. Employment restrictions on foreign firms in Myanmar are also stricter than those in the PRC. This is a source of conflict in labor policy between the PRC and Myanmar and, hence, the two countries should coordinate this issue.

Finance support services are important to the PRC–Myanmar CBEZ project. The PRC has a mature finance system and rich financial resources, but small and medium-sized enterprises in the PRC are unable to access loans and they lack funds. This funding problem is the bottleneck for many firms in Ruili, for example. The PRC's venture investment is in the early stages of development, and Myanmar lacks similar policies. Myanmar's banking system faces difficulty in financing the market because of high risks of exchange rate, lending, and inflation. The PRC–Myanmar CBEZ should enhance finance support services, reduce the financing difficulties of newly established enterprises, and reduce loan requirements.

As for business administration and entry approvals, there is no registration limit for foreign enterprises in the PRC. According to provisions of related PRC laws, foreign enterprises in the PRC must also follow industrial policies that are applicable to domestic enterprises, and there are no discriminatory provisions for registered foreign capital. Besides, the PRC has specific provisions listed in a number of laws to protect the interests of foreign enterprises. In contrast, Myanmar has more constraints than the PRC to foreign firms, and openly protects domestic industries. Therefore, measures should be taken to eliminate this conflict.

In Myanmar, seafood, rubber, sesame, and soybean should be traded subject to Muse customs procedures. Other products can be sold in border trade. As for immigration policy, Myanmar and the PRC have many similarities, and this can be the basis for strengthening their cooperation.

On foreign currency management, both parties have strict regulations. As a result, it limits the further development of some enterprises. Hence, in the construction of the PRC–Myanmar CBEZ, the administration should (i) relax foreign currency quota limits, reduce the approval process, and provide convenience for investors; and (ii) expand the pilot project of using the yuan as settlement currency in border trade and remove supervision of foreign exchange verification in using the yuan for border trade.

As for infrastructure policy, the Yunnan Foreign Investment Ordinance stipulates that foreign firms have the same rights on the use of water, electricity, gas, communication, and transport. Furthermore, the ordinance attaches great importance to the protection of intellectual property rights. Myanmar, in general, has less related laws, and its infrastructure is less developed. Thus, the two parties should take these factors into consideration during the building of the CBEZ.

Differences in the investment policies of the PRC and Myanmar are summarized below.

i. **Tax incentives**. The PRC does not take tax as a starting point and it significantly reduces the level of preferential tax policy when needed. Yunnan Province belongs to western PRC, so it may implement some local investment incentive tax policies besides preferential policies under the PRC's Western Development strategy. Myanmar has lower tax preferential rates, but the tax rate for nonresident firms is higher.

ii. **Land use policy**. Myanmar forbids foreigners to purchase real estate or buy land, and only allows them to rent land. Although the rental period could be 30 years or longer for investors, the policy is unstable and risky. By contrast, investors can rent or buy land in the PRC, hence, its policy is more flexible.

iii. **Immigration, foreign currency management, and provision of financial support services**. The PRC's policies are more flexible, have fewer management links, and are more convenient in terms of foreign currency use. Myanmar, on the other hand, has more limits to labor use and foreign currency use, both of which increase the transaction costs and business risks of foreign investors.

5.4 Summary

From the comparative analysis of investment incentive policies of the PRC–Viet Nam, PRC–Lao PDR, and PRC–Myanmar BEZs, we may conclude that investment incentive policies differ from country to country. The effects of the policies are also different, resulting in different stages of development of the BEZs, different types of markets, a soft investment climate, and differences in the costs of raw materials and labor in the four countries.

Compared with Viet Nam, the Lao PDR, and Myanmar, Yunnan Province has relatively lower investment incentives, and narrower in scope and fewer preferential policies. That is, the PRC attracts investors much more from the improvement of the investment climate than from the provision of incentive policies.

The tax incentives and land use policies in Viet Nam, the Lao PDR, and Myanmar not only are of longer duration, but also cover a broader range; therefore, the policies will be more attractive in the short run and will have a stronger effect. But in the long run, long-term tax cuts would harm a country's financial security, and free land policy cannot be continued because of land scarcity. Therefore, these countries should seek to introduce more efficient investment incentives other than single tax or land use preferential policies.

On the other hand, if CBEZs are to be set up and further developed between the PRC and Viet Nam, the PRC and the Lao PDR, and the PRC and Myanmar, consistent policies should be made for both sides of the border. Specifically, a choice should be made according to cooperation goals, market conditions, cooperation models, capital resources, and zone industries of CBEZs.

6. Nonparametric Analysis

6.1 General Profile of Firms Surveyed

In the border areas, FDI is insufficient. Most investments are from domestic firms. Investments from non-state-owned firms account for 83.6%, and state-owned firms account for 10.4%. Only 3.7% of total investment comes from multinational corporations.

The sector distribution of firms reveals that firms in the regions are mainly resource-based or resource-related (Table 5). Resource-related firms account for 48.1% of the total number of surveyed firms, and firms in service industry make up 22.9%. It is obvious that the industries in the regions depend heavily on natural resources, while capital and technology-intensive industries are few.

Table 5 Sector Distribution of Surveyed Firms

Sector		% of Surveyed Firms
Agriculture		5.34
Mining	Mining and processing of metal ores	3.82
	Mining and processing of nonmetal ores	1.53
Manufacturing	Primary processing of agricultural products	6.11
	Manufacture of foods and beverages	4.58
	Processing of wood and furniture making	12.21
	Garments	2.29
	Chemicals	3.05
	Plastics and rubber	1.53
	Nonmetallic mineral products	2.29
	Basic metals	7.63
	Fabricated metal products	3.05
	Machinery and equipment	3.05
	Others	6.11
Services	Retail and wholesale	15.27
	Hotel and restaurants	3.82
	Tourism	0.76
	Auto parts service	1.53
	Transport and logistics	1.53
Other sectors		14.50

Source: Authors.

6.2 Trade Relations among the Countries of the Greater Mekong Subregion

About 41.5% of the surveyed firms have export activities. Among the exporters, 14.4% export raw materials; 3.5%, parts, 69.6%, machinery; and 12.3%, final products and other products. The PRC is the export destination for 21.4% of surveyed firms; Myanmar, 20.2%; Viet Nam, 8.3%; the Lao PDR, 3.5%; and other countries, 46.4%.

About 48.5% of the surveyed firms have import activities. Almost 71% of importers are associated with agricultural products. On the source of imported goods, Myanmar accounts for 29.0%; the PRC, 24.4%; Viet Nam, 5.8%; the Lao PDR, 2.3%; and other countries, 38.4%.

As neither the number of exporters nor the number of importers exceeds 50% of the sample size, firms with investment in the study area have no distinct characteristics on export orientation. The main commodities for import are raw materials and the main exports are final products.

The economic linkages among the surveyed firms indicate that products are mainly exported to meet the needs of foreign consumers, while imports are mainly raw materials from foreign producers (Table 6). The situation is the same in the domestic market. Most firms have stronger linkages with the domestic market than with the foreign market. Business relations among firms mainly concern purchases of raw materials and sales of final products. There are few transactions of intermediate products, and, therefore, the linkages among firms are weak and the industrial chain is underdeveloped. Thus, the level of industrial

development is relatively low and the industrial chain is short. In particular, the cross-border industrial chain is weak and foreign trade is the main cross-border economic activity.

Table 6 Linkage of Firms with Domestic and Foreign Markets

Activities	% of Exporters	Activities	% of Importers
Export to foreign producer	14.9	Import materials from foreign producer	37.0
Export to foreign consumer	26.9	Import products from foreign producer	17.0
Sale to domestic producer	32.1	Buy materials from domestic producer	41.8
Sale to domestic consumer	55.2	Buy products from domestic producer	19.4

Source: Authors.

6.3 Investment Motives of Firms

Seven motives of investment by firms were tested through regional cross-tabulation. The Chi-square tests reveal that responses to the motives of "securing and/or maintaining a regional production base mainly to serve nearby foreign markets" and "securing and/or maintaining raw materials, parts, components for selling in the regional markets" were not statistically independent among regions. The calculated Chi-square tests of 6.874 and 4.218, respectively, are less than the critical Chi-square, $\chi^2_{(0.05,3)}$, which is 7.815.

However, as Table 7 shows, the reverse holds true with respect to the motives of "securing and/or maintaining raw materials, parts, components for production at home country" and "securing low cost production base for home markets."

Similar analyses were conducted for other motives. The calculated Chi-square tests are 9.292 for the motive of "securing and/or maintaining raw materials, parts, components for selling in other markets;" 69.254 for "securing low cost production base for regional markets"; and 16.359 for "capitalizing on know-how". They are greater than the critical Chi-square test, $\chi^2_{(0.05,\ 3)}$, which is 7.815, i.e., these motives are associated with the regions where the firms invested.

According to the frequencies for each motive, firms in Lao Cai are more inclined to secure and/or maintain raw materials, parts, components for production at home country, and secure low cost production base for export to regional markets. Firms in Honghe are more motivated by the objective to secure/maintain raw materials, parts, components for selling in other markets. Capitalizing on know-how is not a major motive for investment in the study area.

Table 7 Motives–Region Cross Tabulation

	Securing and/or maintaining raw materials, parts, components for production at home country		
Region	**Yes**	**Number**	**Total**
PRC (Xishuangbanna)	1	16	17
PRC (Honghe)	4	47	51
PRC (Dehong)	3	32	35
Viet Nam (Lao Cai)	10	21	31
Total	**18**	**116**	**134**
Statistical significance	$\chi^2 = 12.363$	$\chi^2_{(0.05,3)} = 7.815$	
	Securing low-cost production base for home markets		
PRC (Xishuangbanna)	1	16	17
PRC (Honghe)	3	48	51
PRC (Dehong)	2	33	35
Viet Nam (Lao Cai)	23	8	31
Total	**29**	**105**	**134**
Statistical significance	$\chi^2 = 65.679$	$\chi^2_{(0.05,3)} = 7.815$	

PRC = People's Republic of China.
Source: Authors.

6.4 Locational Advantages of Border Economic Zones

According to the assessment indices calculated from pooled data, firms are optimistic about the economic growth potential in the region (F1) and think highly of the local natural resources (F2) (Table 8). Generally speaking, incentive policies (F4), political and legal stability (F5), real estate cost (F6), and market potential (F7) are not as important as the first two factors. Least importance is attached to labor (F3). This reveals that cheap labor is not an essential factor for attracting investment to the study area. Furthermore, low labor costs do not necessarily mean a comparative advantage. Rather, comparative advantage in labor is a combination of labor quality, skills, and wages.

In regional comparative analysis, the factors viewed as important in making investment decisions vary. Based on the scores shown in Table 8, incentive policies (F4) and political and legal stability (F5) are relatively of low importance in Honghe, PRC, while incentive policies (F4) are of relatively high importance in Lao Cai, Viet Nam.

The analysis by type of industry shows that highest importance was attached to resource availability (F2) by resource-based industries; service industries placed a high value on political and legal stability (F5); and other industries attached high importance to economic growth potential (F1).

Table 8 Importance of Factors Affecting Investment Decisions

	Assessment Score							
		By Region				By Industry		
Factors	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
F1	6.16	6.48	6.07	5.00	6.94	5.95	6.50	5.91
F2	5.89	5.77	5.69	5.40	6.70	6.65	5.27	5.34
F3	3.91	3.98	4.60	4.13	4.56	4.40	3.10	4.29
F4	4.48	2.81	5.58	4.69	6.45	5.05	3.85	4.52
F5	4.50	3.24	6.39	5.04	5.93	4.66	4.30	6.07
F6	4.70	4.41	6.35	5.27	5.24	5.27	4.18	4.40
F7	4.96	5.41	5.50	4.32	6.21	4.68	5.60	4.20

PRC = People's Republic of China, F1 = Economic growth potential, F2 = Resource availability, F3 = Labor, F4 = Incentive policies, F5 = Political and legal stability, F6 = Real estate cost, F7 = Market potential.
Source: Authors.

Table 9 shows the impact of locational advantages on investment decisions. Calculated from pooled data, the score of locational advantages is relatively low, with highest importance attached to geographic location along trade routes (F2). This indicates that the most prominent locational advantage of the study region—the terrestrial junction of the PRC and other GMS countries—is its trade routes.

Table 9 Importance of Location Features in Investment Decisions

	Assessment Score							
		By Region				By Industry		
Factors	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
F1	3.79	1.11	4.72	3.87	6.25	3.86	3.04	3.68
F2	5.80	3.18	5.74	6.88	7.33	5.15	5.00	7.33
F3	3.89	2.14	2.71	3.33	9.00	2.08	2.93	5.00
F4	4.57	0.87	5.28	4.62	7.22	5.27	4.38	4.38
F5	4.43	1.25	6.11	6.17	4.56	3.70	2.71	6.50
F6	4.67	5.00	5.00	3.67	4.67	4.68	4.95	4.70
F7	3.62	0.91	6.67	4.24	2.99	2.71	2.97	4.85
F8	3.63	3.40	4.62	5.00	2.76	3.40	2.91	3.33
F9	3.18	3.95	4.38	3.84	2.93	2.29	1.90	2.95
F10	3.76	4.79	3.64	3.96	3.21	2.55	3.19	5.00

PRC = People's Republic of China
F1 = Proximity to big city, F2 = Geographic location of the zone on shipping and trade routes, F3 = Distance from the nearest airport, F4 = Distance from the railway station, F5 = Higher standard of living, F6 = Presence of industrial clusters, F7 = High rate of literacy, F8 = Recreation facilities, F9 =Education facilities, F10 = Lower cost of living.
Source: Authors.

Despite relatively low scores from pooled data, locational advantages vary from region to region. The scores for each region reveal their situations. Honghe and Xishuangbanna gain the highest score for presence of industrial clusters (F6). The result is consistent with the fact that Honghe is a relatively

developed industrial area in Yunnan Province. As a popular destination for tourists, Xishuangbanna has a higher standard of living (F5). As well as being a tourist destination, Dehong is an important route to Southeast Asia. With relatively good transport attributes (F2, F3, and F4), Lao Cai gains high scores in relation to transport.

According to the analysis by type of industry, there is no significant difference between resource-based industries and other industries. As for services industries, the most important features include strategic location of the zone on shipping and trade routes (F2), higher standard of living (F5), distance from the nearest airport (F3), and lower cost of living (F10).

Table 10 provides an estimate of the advantages of BEZs as viewed by the firms surveyed. In general, the firms consider geographical proximity to the investor's own country (Q10), connectivity to important export markets (Q9), government incentives (Q1), assistance provided by the government during establishment (Q2), and availability of cross-border raw materials (Q5) as important advantages of BEZs relative to other regions. This suggests that corporations are highly dependent on resources supplied by their host countries, and that they value the convenience of the supply of raw materials. Moreover, the appeal of BEZs also comes from government incentives and assistance. The comparison of different regions indicates that the BEZs in Honghe are less attractive than those in other regions.

Table 10 Perceived Benefits of Border Economic Zones

	Assessment Score							
		By Region				By Industry		
Benefits	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	5.63	4.01	7.17	5.59	7.42	6.03	5.36	6.96
Q2	5.52	5.14	7.94	5.83	6.33	6.03	4.79	5.80
Q3	4.15	3.70	5.94	6.87	7.42	5.49	3.70	6.97
Q4	4.86	3.59	7.66	6.47	7.20	4.82	4.80	5.11
Q5	5.47	5.87	5.96	5.63	5.33	5.71	5.54	5.95
Q6	4.13	2.45	7.86	6.36	6.99	4.17	5.24	5.94
Q7	3.61	3.05	7.56	4.29	5.40	3.73	4.35	5.45
Q8	3.11	4.36	5.58	5.15	2.90	2.43	3.96	5.30
Q9	6.07	5.94	5.89	6.46	7.00	6.01	6.33	5.38
Q10	6.28	6.84	5.25	8.33	7.89	5.75	6.90	7.67

PRC = People's Republic of China, Q1 = Better government incentives, Q2 = Assistance provided by the government during establishment, Q3 = Better infrastructure facilities, Q4 = Easier government rules, Q5 = Easy availability of cross-border raw materials, Q6 = Better law and order, Q7 = Loose environment rules, Q8 = Loose labor laws, Q9 = Better connectivity to important export markets, Q10 = Geographical proximity to investor's home country.

Source: Authors.

6.5 Importance of Investment Incentives

Although location, resources, and economic growth potential exert considerable influence on investment decisions, investment incentives are one of the most crucial factors affecting the inflow of investment. This is particularly true for BEZs. We will first analyze the effects of different types of incentive policies, and then analyze the impact of each type.

Cross-tabulations were constructed to test whether there are regional differences in the importance of policies. As Table 11 shows, the Chi-square test indicates that the importance of the policy on investment service is not statistically independent among regions.

Table 11 Policy–Region Cross-Tabulation

	Investment Service						
Region	**1**	**2**	**3**	**4**	**5**	**9**	**Total**
PRC (Xishuangbanna)	0	0	7	7	0	3	17
PRC (Honghe)	3	6	31	7	0	4	51
PRC (Dehong)	0	5	17	9	1	3	35
Viet Nam (Lao Cai)	0	1	24	5	0	1	31
Total	**3**	**12**	**79**	**28**	**1**	**11**	**134**
Statistical significance	$\chi^2 = 23.308$		$\chi^2_{(15,\ 0.05)} = 24.996$			$\alpha = 0.078$	
	Tax Policy						
PRC (Xishuangbanna)	0	1	9	3	1	3	17
PRC (Honghe)	5	6	18	3	2	17	51
PRC (Dehong)	0	9	11	10	1	4	35
Viet Nam (Lao Cai)	1	3	15	9	2	1	31
Total	**6**	**19**	**53**	**25**	**6**	**25**	134
Statistical significance	$\chi^2 = 32.153$		$\chi^2_{(15,\ 0.05)} = 24.996$				

PRC = People's Republic of China.
Note: 1 = Not important at all, 2 = Not important, 3 = Important, 4 = Very important, 5 = Most important, 9 = Not applicable.
Source: Authors.

However, the importance of tax policy is significantly related to regions. In addition to this, other policies are statistically significant, as shown by the calculated Chi-square tests of 27.8 for the policy on finance support service, 35.513 for land use policy, and 28.929 for labor use policy, which are greater than the critical Chi-square, $\chi^2_{(15,0.05)}$, of 24.996. Thus, the importance of most policies is region specific.

As Table 12 shows, firms in different regions have different assessments of the importance of policies. Based on assessment scores, firms in Xishuangbanna attach relatively high importance to all policies. Firms in Honghe highlight investment service (Q5), and consider the importance of other policies to be low. Firms in Dehong give low importance to labor use policy (Q4). Firms in Lao Cai attach importance to most policies except labor use policy (Q4), and have the highest level of concern, on average, on all policies. Resource-based industries regard tax policy (Q1) and labor use policy (Q4) as important. Other industries and services regard tax policy (Q1) and investment service (Q5) as important.

Table 12 Importance of Different Types of Policy

	Assessment Score							
		By Region				By Industry		
Policy	All	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	5.73	5.54	6.01	6.10	7.28	5.81	5.61	5.76
Q2	5.29	5.50	5.97	6.27	6.43	5.28	5.31	5.28
Q3	4.82	4.96	5.77	5.33	5.54	4.85	4.77	4.88
Q4	4.09	5.00	6.22	5.00	4.67	5.91	3.72	5.40
Q5	5.06	5.93	7.38	5.46	6.18	5.21	6.74	6.25

PRC = People's Republic of China, Q1 = Tax policy, Q2 = Land use policy, Q3 = Finance support service, Q4 = Labor use policy, Q5 = Investment Service.
Source: Authors.

6.5.1 Tax Policy

Table 13 shows the scores for the different types of tax (P1 to P5) and the different types of tax policy (P6 to P9). In general, tax policy is relatively important. With respect to the type of tax, customs duty (P1), value-added tax (P2), and turnover tax (P3) are the most important. Regional comparison suggests that there is no evident difference among the three regions in the PRC, which implement similar tax policies. The data from Lao Cai suggests that tax rate (P6) and tax preferential regulation (P7) are fairly salient. The industrial comparison shows that customs duty (P1) and export tax rebate (P8) are of importance for services, since a large number of firms specialize in import and export trade.

Furthermore, the questionnaire responses suggest that the impact of tax policy on corporate production and management is chiefly manifested in reduced initial costs of investment and management. However, the impact is not significant to the reduction in the cost of reinvestment.

Table 13 Importance of Tax Policy

	Assessment Score							
		By Region				By Industry		
Type of Tax and Policy	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
P1	6.52	7.23	4.75	6.61	6.21	6.01	7.18	8.18
P2	5.99	5.53	7.17	6.85	6.67	5.82	5.93	6.58
P3	5.95	6.13	6.91	6.52	5.93	6.09	5.92	5.63
P4	5.22	4.70	5.89	4.73	6.05	5.25	6.29	6.19
P5	5.78	5.49	6.25	5.58	6.13	6.10	5.28	6.02
P6	6.23	6.76	6.35	5.75	7.85	5.80	6.91	5.71
P7	6.56	7.39	7.05	5.69	8.00	6.09	7.39	5.75
P8	6.01	7.20	5.00	7.08	4.92	5.38	6.71	7.41
P9	6.36	6.39	7.73	6.60	5.60	6.25	6.56	6.25

PRC = People's Republic of China, P1 = Customs duty, P2 = Value-added tax, P3 = Turnover tax, P4 = Land use tax, P5 = Enterprise income tax, P6 = Tax rate, P7 = Tax preferential regulation, P8 = Export tax rebate, P9 = Tax exempt.
Source: Authors.

6.5.2 Land Use Policy

As far as land use policy is concerned, in general, the land use rate (Q1), policy stability (Q3), and land use life (Q2) are the most important factors in a firm's decision, followed by land use approval process (Q4) (Table 14). It can be seen that cost and land tenure are the biggest concerns of firms. Regional difference or industrial difference is far from salient in terms of land use policy; however, both are considered equally important by the firms.

Table 14 Importance of Land Use Policy

	Assessment Score							
		By Region				By Industry		
Land Use Policy	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	7.07	8.99	6.47	7.58	7.31	6.75	7.84	6.25
Q2	6.64	7.50	7.06	6.67	8.28	6.51	7.33	7.19
Q3	6.77	7.34	7.35	6.97	6.69	6.70	7.33	7.67
Q4	5.86	5.81	8.44	6.02	7.42	5.78	5.94	7.83
Q5	3.77	3.41	6.15	3.30	6.34	4.90	3.72	4.13

PRC = People's Republic of China, Q1 = Land use rate, Q2 = Land use life, Q3 = Land use policy stability, Q4 = Land use approval process, Q5 = Informal gift or payment expected or requested during application.

Source: Authors.

6.5.3 Investment Services

Firms value the efficiency of investment services most highly. This is reflected in the relatively high scores given to specific factors relevant to the efficiency of the government's service (Table 15). In general, the scores of policies on investment services are critical. Turning to regional comparison, delays in administrator decisions (Q4) and attitude of government officials (Q5) are conspicuous in Honghe. Pre-entry services (Q9), effectiveness of the authorities in providing single-window clearances at the time of entry (Q10), and post-establishment support services by the zonal authorities (Q11) are the three most important services in Xishuangbanna. Effectiveness of the authorities in providing single-window clearances (Q8) and single-window clearances at the time of entry (Q10) are the most important services in Dehong. Delays in administrator decisions (Q4) and effectiveness of the authorities in providing single-window clearance at the time of entry (Q10) are the top services perceived as most important in Lao Cai. Resource-based industries regard convenience of rules and procedures (Q2) and delays in administrator decisions (Q4) as important; other industries regard complexities of rules and procedures (Q1) and delays in administration decisions (Q4) as important; whereas services regard convenience of rules and procedures (Q2) and effectiveness of the authorities in providing single-window clearances (Q8) as important.

Table 15 Importance of Investment Services

	Assessment Score							
		By Region				By Industry		
Investment Service	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	5.69	5.58	6.04	6.10	6.99	5.75	8.00	6.67
Q2	5.67	5.63	6.59	5.91	6.88	6.18	7.17	6.67
Q3	5.41	4.76	6.14	5.66	5.73	5.75	5.30	4.78
Q4	5.99	7.50	5.91	6.59	7.85	6.25	7.35	6.30
Q5	5.21	7.78	5.91	6.67	5.32	5.24	4.83	5.87
Q6	5.86	5.76	6.56	6.83	5.32	6.10	6.04	5.76
Q7	4.31	4.58	6.07	6.94	5.78	5.68	4.08	6.49
Q8	5.26	5.41	6.39	7.14	6.24	5.42	5.06	7.04
Q9	4.55	5.14	7.62	6.67	5.33	4.57	4.57	5.93
Q10	5.29	6.13	7.22	7.35	8.50	5.06	5.59	6.94
Q11	5.38	5.97	7.05	6.56	4.84	5.34	5.30	5.65

PRC = People's Republic of China, Q1 = Complexities of rules and procedures, Q2 = Convenience of rules and procedures, Q3 = Transparency in the implementation of the rules, Q4 = Delays in administrator decisions, Q5 = Attitude of government officials, Q6 = Effectiveness of the zonal authorities in providing all custom-related facilities and facilitating export procedures, Q7 = Effectiveness of the border economic zone authorities in dealing with labor related problems, Q8 = Effectiveness of the authorities in providing single-window clearances, Q9 = Pre-entry services, Q10 = Effectiveness of the authorities in providing single-window clearances at the time of entry, Q11 = Post-establishment support services by the zonal authorities.

Source: Authors.

6.5.4 Finance Support Services

The overall score for finance support services, in general, is relatively low, although domestic finance regulation (Q1) and easier finance approval process (Q2) can be seen as relatively important (Table 16). Regional comparison shows that an easier finance approval process (Q2) is the most important finance support service. This suggests that many corporations have difficulty obtaining loan approval and would like BEZs to facilitate the process. Industry comparison shows that the finance regulation of the host country (Q1) and an easier finance approval process (Q2) are important to all industries, and resource-based industries give high importance to an easier finance approval process (Q2) and service industries to finance regulation by the host country (Q1).

Table 16 Importance of Finance Support Services

Finance Support Service	Assessment Score							
		By Region				By Industry		
	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	5.44	6.83	5.19	6.11	6.77	5.77	5.30	6.50
Q2	5.51	7.30	6.15	7.63	6.77	7.32	5.68	5.23
Q3	3.28	2.75	5.21	6.25	6.77	3.42	4.19	4.29
Q4	4.79	8.33	6.25	5.13	5.86	5.28	4.35	4.63
Q5	2.67	3.75	6.50	4.62	3.88	2.67	3.33	4.04

C = People's Republic of China, Q1 = Finance regulation of the host country, Q2 = Easier finance approval process, Q3 = Finance institutions in surrounding region, Q4 = Facilitation of border economic zones administrator, Q5 = Informal gift or payment expected or requested during application.

Source: Authors.

6.5.5 Labor Use Policy

Most firms consider labor use policy to be less important. The labor use policy of the regions is not very strict. The real problem lies in the quality of labor. The governments do not provide adequate help for training of the workforce.

6.6 Assessment of Infrastructure

Infrastructure was tested through regional cross-tabulations. As Table 17 shows, the Chi-square tests reveal that responses relating to water or gas and transport facilities were not statistically independent among regions.

However, the importance of other infrastructure facilities is highly region-specific. The other infrastructure facilities and their calculated Chi-square tests are: electricity, 39.441; warehousing facilities, 30.712; banking facilities, 29.006; high quality telecommunication facilities, 34.687; residential complex, 45.567; and social utilities, 30.649. The calculated Chi-square tests are greater than the critical Chi-square, $\chi^2_{(0.05,15)}$, which is 24.996. This indicates that there are regional differences in these infrastructure facilities.

As Table 18 shows, most firms give high score to electricity (Q1) and transport facilities (Q4). Firms in Honghe regard warehousing facilities (Q3) as most important. Firms in Xishuangbanna regard residential complex (Q7) as most important. Firms in Lao Cai and Dehong regard electricity (Q1) as most important. Industry-wise comparison shows that electricity (Q1) and transport facilities (Q4) are seen as important by resource-based industries, and electricity (Q1) and high quality telecommunication facilities (Q6) by service industries.

Most firms are satisfied with the infrastructure of BEZs, especially water facilities (Q1), electricity (Q2), internet connectivity (Q12), and telephone connectivity (Q13) (Table 19). The scores for transport facilities (Q5), warehouse capacities (Q3), and logistics (Q6) are the lowest. Regional comparison shows that the three surveyed areas in the PRC are satisfied with water facilities (Q1), electricity (Q2), and telephone connectivity (Q13). Firms in Honghe give container-handling facilities at the warehouse (Q4), transport facilities (Q5), and logistics (Q6) low scores. Firms in Xishuangbanna are satisfied

with most infrastructures, while firms in Dehong give transport facilities (Q5) and recreation facilities (Q7) low scores. Firms in Lao Cai are dissatisfied with electricity (Q2), warehouse capacities (Q3), hotel and restaurant (Q9), housing (Q10), and environmental quality (Q11). In addition, the industry comparison shows that different industries give similar evaluations of most infrastructures, and other industries give the highest score to electricity (Q2).

Table 17 Infrastructure–Region Cross-Tabulation

	Water or Gas						
Region	**1**	**2**	**3**	**4**	**5**	**9**	**Total**
PRC (Xishuangbanna)	0	0	8	7	2	0	17
PRC (Honghe)	3	11	25	7	2	3	51
PRC (Dehong)	2	5	14	8	2	4	35
Viet Nam (Lao Cai)	2	4	16	7	1	1	31
Total	**7**	**20**	**63**	**29**	**7**	**8**	**134**
Statistical significance	$\chi^2 = 15.853$			$\chi^2_{(0.05,15)} = 24.996$			
	Transport Facilities						
PRC (Xishuangbanna)	0	0	5	8	2	2	17
PRC (Honghe)	1	2	16	28	2	2	51
PRC (Dehong)	0	2	20	12	1	0	35
Viet Nam (Lao Cai)	0	1	17	12	1	0	31
Total	**1**	**5**	**58**	**60**	**6**	**4**	**134**
Statistical significance	$\chi^2 = 15.908$			$\chi^2_{(0.05,15)} = 24.996$			

PRC = People's Republic of China.
Note: 1 = Not important at all; 2 = Not important; 3 = Important; 4 = Very important; 5 = Most important; 9 = Don't know, can't say, or not applicable.
Source: Authors.

6.7 General Assessment of Border Economic Zones

Cross-tabulations were also constructed for regional comparison of the general situation of BEZs in Honghe, Dehong, Xishuangbanna, and Lao Cai. Five elements—incentive policy, governance, infrastructure, availability of production factors, and market potential—were assessed using a 5-point Likert scale (Table 20). The calculated Chi-square tests by element are all greater than the critical Chi-square test (16.919). Thus, the general situation is regionally different as far as each element is concerned.

According to the frequencies for each element, firms in Xishuangbanna give highest value to infrastructure and lowest value to market potential. Firms in Honghe give high value to all elements. Firms in Dehong give low value to availability of production factors and infrastructure, and high value to the other elements. Firms in Lao Cai give high value to all elements, except infrastructure.

Table 18 Importance of Infrastructure

	Assessment Score							
		By Region				By Industry		
Items	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	5.85	5.92	7.06	6.36	6.85	6.42	6.27	6.96
Q2	5.20	4.74	6.62	5.24	5.08	5.57	4.66	5.54
Q3	5.56	7.82	5.88	5.63	6.13	5.74	5.88	4.29
Q4	6.25	6.43	7.00	5.86	6.05	6.45	8.20	5.98
Q5	5.06	6.25	5.83	5.86	5.97	5.45	6.18	5.00
Q6	4.67	5.31	6.50	6.06	6.67	4.87	5.99	6.09
Q7	4.84	4.26	8.21	3.67	6.56	4.81	4.86	4.85
Q8	3.96	3.61	6.15	6.09	5.17	3.84	3.83	4.49

PRC = People's Republic of China, Q1 = Electricity, Q2 = Water or Gas, Q3 = Warehousing facilities, Q4 = Transport facilities, Q5 = Banking facilities, Q6 = High quality telecommunication facilities, Q7 = Residential complex, Q8 = Social utilities.

Source: Authors.

Table 19 Assessment of Infrastructure of Border Economic Zones

	Assessment Score							
		By Region				By Industry		
Infrastructure	Pooled	PRC (Honghe)	PRC (Xishuangbanna)	PRC (Dehong)	Viet Nam (Lao Cai)	Resource-Based	Other Industries	Services
Q1	8.11	9.20	7.50	7.33	6.77	7.73	8.90	7.27
Q2	7.17	9.00	8.54	7.42	3.06	6.13	9.15	5.95
Q3	5.92	6.35	10.00	6.36	4.63	5.57	6.49	5.59
Q4	6.17	5.52	9.00	6.30	6.94	5.89	6.75	5.56
Q5	5.57	5.41	8.23	5.91	5.32	5.00	6.83	4.55
Q6	5.94	5.00	10.00	6.85	6.45	5.74	6.15	6.00
Q7	6.06	7.14	6.76	5.37	5.16	6.04	6.38	5.50
Q8	6.25	6.94	0.00	6.11	5.32	5.63	7.13	6.00
Q9	6.71	7.14	7.56	6.92	1.29	6.15	7.32	3.68
Q10	6.57	6.73	6.73	7.04	1.61	6.43	6.88	6.32
Q11	6.26	6.63	7.56	8.33	3.55	5.59	6.75	7.00
Q12	8.36	6.73	6.73	8.59	8.06	8.27	8.38	8.57
Q13	8.17	8.37	9.00	8.23	7.74	7.69	8.63	8.50

PRC = People's Republic of China, Q1 = Water facilities, Q2 = Electricity, Q3 = Warehouse capacities, Q4 = Container-handling facilities at the warehouse, Q5 = Transport facilities, Q6 = Logistics, Q7 = Recreation facilities, Q8 = Health care, Q9 = Hotel and restaurant, Q10 = Housing, Q11 = Environmental quality, Q12 = Internet connectivity, Q13 = Telephone connectivity.

Source: Authors.

Table 20 General Evaluation of Locational Advantage

Element	Calculated χ^2	$\chi^2_{(0.05,9)}$
Incentive policy	24.542	
Governance	22.027	
Infrastructure	26.497	16.919
Availability of production factors	26.868	
Market potential	67.323	

Source: Authors.

7. Parametric Analysis

Despite abundant natural resources, Yunnan Province in the PRC and its neighboring countries have not excelled in industrial development, foreign trade, and attracting investments. This is a result of various factors, and is indicative of firms' investment, production, and management capacities at the micro level. From the perspective of regional development, institutions, policies, and infrastructure are the important factors affecting investment inflows and firms' efficiency in production and operation. The investment incentive policies influence the investment climate and firms' willingness to invest, the mode of investment, and performance of production and management, other things being equal. On one hand, an effective combination of investment policies will promote investment and improve firms' performance; on the other hand, an improved investment climate will reduce the costs of production and transaction. As a result of different incentive policies and varying investment climate for FDI, the countries of the GMS differ from each other in attracting FDI and improving firms' performance.

This section uses the parametric method to analyze the factors affecting investment and firms' performance in terms of incentive policies and investment climate. The result can provide important insights and inputs into policy making to promote the construction of the PRC–GMS cross-border economic zones.

7.1 Impact of Incentive Policies on Firms' Investment Motives

This study uses the Multinomial Logit method to assess the effects of different incentive policies on a firm's decision to invest (Hypothesis 1). Letting the explained variables be y = j (j = 1, 2, 3), which correspond to the three categories of investment motives (resource-seeking, market-seeking, and efficiency-seeking), the probabilities of surveyed firms belonging to any specific motive is estimated using the following formula:

(Equation 5)

$$P_{ij}(y = j \mid x_i) = \frac{\exp(x_i \beta_{ij})}{1 + \sum_{j=2}^{3} \exp(x_i \beta_{ij})} \quad j = 2, 3$$

$$P_{ij}(y = 1 \mid x_i) = \frac{1}{1 + \sum_{i=2}^{3} \exp(x_i \beta_{ij})} \qquad (reference\ category,\ j = 1)$$

where β_{ij} are the unknown parameter vectors to be estimated; and x_i matrices, the background characteristics included in the model.

Assuming that firms' investment decisions are independent of each other, Equation 5 was estimated using Stata software. Based on related data from the survey questionnaire, the study classifies firms' investment motives into three categories: market-seeking (M), resource-seeking (R), and efficiency-seeking (E). Quantitatively, the three categories of motives are respectively coded 1, 2, and 3.

Explanatory variables are processed before estimating the model. The incentive policies, which can reduce firm expenditures, are the key factors affecting the firm's motives for investment. The importance of incentives for making the decision on investment are assessed using a 5-point Likert scale (1 = not important, 2 = not very important, 3 = important, 4 = very important, 5 = most important). "Not applicable" is recorded when the interviewee has no idea about the assessment. The incentives assessed include tax type, preferential tax policy of each type, preferential land policy, and finance supporting policy. The recorded data was processed using the principal component method. Because it cannot pass the Kaiser-Meyer-Olkin test, the variable of tax type was quantified using the assessment score, as used in nonparametric analysis. The variable of land use policy was based on the land price difference within and outside the BEZs. The variable of finance support policy was generated from the survey data, from the assessment of the impact of financial services on firms' decisions to invest, using the principal component method. Control variables are included as explanatory ones, which include the firm's size, age, and the industry and region the firm belongs to. The size of firms is a binary variable, 0 for average annual revenue less than CNY5 million and 1 for those in excess of CNY5 million. The age of firms is categorized into four groups: less than 5 years, 5 to 10 years, 10 to 20 years, and above 20 years. Before estimating the model, the collinearity of explanatory variables was tested and found to be statistically insignificant.

Using the motive of market-seeking (M) as a reference group, the estimated results are shown in Table 21. Model 1 is estimated without controlling for the differences in regions and in industries; Model 2, with control of differences in industries; Model 3, with control of differences in regions; and Model 4, with control of differences in both regions and industries. The results show that the estimated coefficients of the variable on the industry to which the firms belong were not statistically significant. However, regional location significantly affects firms' decision to invest.

The marginal effects of each model are estimated using the motive of market-seeking (M) as a reference (Table 22). The coefficient for preferential tax policy is positive and significant, indicating that a firm is inclined to resource-seeking (R) and efficiency-seeking (E). This means that the more generous the preferential tax policy given by the government, the more benefit firms can obtain and the higher the probability that firms will seek resources or efficiency, other things being equal. According to the marginal effect (Table 22), the coefficients of variables M and R are negative and significant, while the coefficient of the variable efficiency-seeking (E) is positive and significant. Others being constant, the more preferential tax types are available, the higher the probability that firms will seek efficiency (E), and the lower the probability that they will seek market (M) and resource (R) advantages.

As shown in Table 21, the coefficients for the variables of lower land price and financial support are positive and statistically significant for the efficiency-seeking (E) motive in Model 1, but they become insignificant as the variable of region is included. For the resource-seeking (R) motive, the coefficients of the two policy variables are also insignificant. Thus, others being constant, lower land price and financial support tend to increase the probability that efficiency-seeking (E) firms will invest in the study areas. However, the effects of the policy variables tend to diminish as the investment region is specified.

The significance of the regional dummy variables requires us to pay more attention to regional differences of BEZs in the PRC–GMS border areas. As shown in Table 21, and referring to Lao Cai Province in Viet Nam, the coefficients of the three regional dummy variables are significant and negative, which means,

Table 21 Estimation Results of the Impacts of Incentive Policies on Investment Decisions

Variables	Model 1		Model 2		Model 3		Model 4	
	R	E	R	E	R	E	R	E
	Coefficient (Reference: Investment motivation is to expand market.)							
Tax type	1.370[a]	2.420[a]	1.435[a]	2.566[a]	1.476[a]	2.479[a]	1.453[a]	2.589[a]
	0.468	*0.672*	*0.473*	*0.698*	*0.513*	*0.758*	*0.514*	*0.770*
Land price: constant	Reference							
Land price: cheaper	0.172	1.356[b]	0.150	1.225[b]	0.011	0.452	0.025	0.281
	0.466	*0.584*	*0.483*	*0.607*	*0.580*	*0.694*	*0.604*	*0.729*
Land price: expensive	0.420	(35.24)	0.661	(42.90)	1.375	(39.72)	1.295	(58.50)
	0.960	*3.432e+07*	*1.007*	*9.979e+08*	*1.207*	*2.621e+08*	*1.210*	*2.032e+08*
Finance service	0.108	0.911[c]	0.149	0.894[c]	(0.088)	(0.769)	(0.105)	(0.903)
	0.390	*0.500*	*0.393*	*0.512*	*0.548*	*0.667*	*0.560*	*0.726*
Lao Cai	Reference							
Xishuangbanna					(24.91)[a]	(23.07)[a]	(37.02)[a]	(35.06)[a]
					3.090	*2.789*	*3.648*	*3.247*
Dehong					(21.35)[a]	(24.72)[a]	(33.52)[a]	(36.89)[a]
					2.844	*(2.668)*	*3.431*	*3.051*
Honghe					(23.14)[a]	(23.81)[a]	(35.30)[a]	(36.28)[a]
					2.914	*2.655*	*3.483*	*3.088*
Constant	(3.872)[b]	(10.25)[a]	(5.518)[b]	(9.138)[a]	18.29[a]	16.59	12.17	30.60
	1.524	*2.391*	*2.206*	*2.657*	*2.882*	*0*	*4,428*	*0*
Industry dummy	No		Yes		No		Yes	
Log Likelihood	(120.4)		(115.7)		(91.49)		(86.87)	
LR	43.56		52.91		101.3		110.5	
Pseudo-R2	0.153		0.186		0.356		0.389	
Observations	134							

( ) = negative, E = Investment motivation is to improve firm's efficiency, R = Investment motivation is to obtain resources.
Note: Standard deviations are in italics. The results of the control variables, such as firm's nature, firm's age, and industry dummy variables, are not reported in the table.
[a] Coefficient is significantly different from 0 at the 1% level.
[b] Coefficient is significantly different from 0 at the 5% level.
[c] Coefficient is significantly different from 0 at the 10% level.
Source: Authors.

others being constant, there is a higher probability for market-seeking (M) firms to invest in the study areas. As reflected by the marginal effects (Table 22), the signs of coefficients of the three region variable are the same. The sign of the coefficient for the variable market-seeking (M) is significant and positive, while those of the other two motive variables are significant and negative. The results indicate that, compared to Lao Cai, the probability of market-seeking (M) investment is higher in Yunnan Province, while the probabilities of investments seeking resources (R) and efficiency (E) are lower.

In summary, the estimated results partially support Hypothesis 1. First, incentive policies have a positive effect on investment decisions in the study areas. Second, preferential tax policies are the most important factor attracting investments to the BEZs at present.

7.2 Impact of Investment Climate on Firms' Investment Motives

To test Hypothesis 2 (the investment climate can affect a firm's decision to invest), we constructed a model with a structure similar to Equation 5. The explained variables are the same as in the previous analysis, but the explanatory variables and the control variables are different. The explanatory variables include location, availability of resources, market potential, political and legal stability, governance, and infrastructure. Location, availability of resources, governance, and infrastructure were quantified by performing principal component analysis; while for market potential and political and legal stability, the assessment scores in the nonparametric analysis were used. The control variables include the firm's nature (whether it is privately owned: Yes is 1, No is 0), age, size, industry type, and geographic location. The correlation matrix between the explanatory variables and the explained variables were tested. It was found that the collinearity of the explanatory variables is not statistically significant.

Applying the Multinomial Logit method and the formulation of models as tested using the Ramsey method, four models (Model 1', Model 2', Model 3', and Model 4') were estimated. The results of model estimation are shown in Table 23. Model 1' is estimated without controlling for differences in regions and industries; Model 2', controlling for differences in industries; Model 3', controlling for differences in regions; and Model 4', controlling for differences in both regions and industries. Among the four models, Model 4' has the highest goodness of fit.

The coefficient of the variable of resource availability is positive and significant, implying that there is a high probability of resource-seeking (R) investment in the study areas. The variable of resource availability is an assessment indicator of locally available natural resources (such as minerals and wood), cheap labor on both sides of the border, availability of skilled labor, and lower land price. The richer the natural resources and the lower the labor cost, the more probable firms would invest for resource (R) or efficiency (E) in the study areas, other things being equal. As revealed by the marginal effects (Table 24), the coefficient of the variables of market-seeking (M) and efficiency-seeking (E) are negative and significant, while that of the variable of resource-seeking (R) is significant and positive. The more available the resource is, the more probable resource-seeking (R) investment would occur, or the lower probabilities that market-seeking (M) and efficiency-seeking (E) investments would locate in the study areas.

For resource-seeking (R) and efficiency-seeking (E) motives, the coefficients of market potential are positive and highly significant, indicating that the probability of these two types of investments tend to be higher, as compared with market-seeking (M) investment. The variable of market potential represents the growth prospects of the local economy and the importance of local market share. It varies across industries and regions. According to the marginal effects, the variable of market potential has a significant positive impact on the probability of efficiency-seeking (E) investment. The reverse holds true for market-

seeking (M) and resource-seeking (R) investments. The results imply that market potential will attract business investment to raise efficiency and integrate available resources and market and geographically scattered production base so as to achieve economies of scale.

Table 22 Marginal Effects of Investment Incentive Policies on Investment Motives

Item	M	R	E	M	R	E
		Model 1			**Model 2**	
Tax type	(0.3550)[a]	0.303[a]	0.0515[a]	(0.368)[a]	0.334[a]	0.034[a]
Land price: constant		Ref			Ref	
Land price: cheaper	(0.0627)	0.016	0.0465[b]	(0.049)	0.0233	0.025
Land price: expensive	(0.0207)	0.192	(0.171)	(0.082)	0.238	(0.156)
Finance service	(0.0382)	0.012	0.026[c]	(0.044)	0.0287	0.0151
		Model 3			**Model 4**	
Tax type	(0.0127)[a]	(0.029)[a]	0.042[a]	(0.002)a	(0.037)[a]	0.039[a]
Land price: constant		Reference			Reference	
Land price: cheaper	(0.0003)	(0.019)	0.0192	(4.45E-05)	(0.009)	0.009
Land price: expensive	(0.0044)	0.283	(0.279)	(0.0004)	0.456	(0.456)
Finance service	0.0010	0.027	(0.028)	0.0002	0.027	(0.027)
Lao Cai		Reference			Reference	
Xishuangbanna	1[a]	(0.965)[a]	(0.035)[a]	1[a]	(0.972)[a]	(0.028)[a]
Dehong	1[a]	(0.859)[a]	(0.141)[a]	1[a]	(0.883)[a]	(0.117)[a]
Honghe	1[a]	(0.948)[a]	(0.052)[a]	1[a]	(0.955)[a]	(0.045)[a]

( ) = negative, E = Investment motivation is to improve firm's efficiency, M = Investment motivation is to expand market, R = Investment motivation is to obtain resources.
Note: The results of the control variables, such as firm's nature, firm's age, and industry dummy variables, are not reported in the table.
[a] Coefficient is significantly different from 0 at the 1% level.
[b] Coefficient is significantly different from 0 at the 5% level.
[c] Coefficient is significantly different from 0 at the 10% level.
Source: Authors.

The estimated coefficients of the variable of political and legal stability are all significantly negative (Table 23), implying that market-seeking (M) investments are more possible compared with the reference, i.e., marketseeking is the firm's investment motive. Table 24 shows that the variable of political and legal stability has a positive correlation with the probabilities of market-seeking (M) and resource-seeking (R) investments, and a negative correlation with efficiency-seeking (E) investment. Since the political system is stable and a legal framework is in place in the surveyed areas, firms would invest for market-seeking (M) but the probability is relatively small.

According to some literature, infrastructure is an important factor affecting investments. In this study, the estimated coefficient of infrastructure is negative and not significant for resource-seeking (R) investment, and positive and significant for efficiency-seeking (E) investment. The results of the marginal effects (Table 24) show that infrastructure has a significant and positive correlation with the probability of efficiency-seeking (E) investment, and a negative correlation with that of market-seeking (M) and resource-seeking (R) investments. That is, the better the infrastructure, the higher the probability that efficiency-seeking (E) investment would take place.

Table 23 Estimation Results of the Impacts of Investment Climate on Investment Decisions

Variables	Model 1'		Model 2'		Model 3'		Model 4'	
	R	E	R	E	R	E	R	E
	Coefficient (Reference: Investment motive is market-seeking.)							
Resource availability	1.081[a]	0.349	1.085[a]	0.285	1.002[b]	0.458	1.117[b]	0.444
	0.393	*0.546*	*0.396*	*0.567*	*0.492*	*0.622*	*0.528*	*0.655*
Market potential	2.285[a]	3.261[a]	2.334[a]	3.365[a]	2.863[a]	3.648[a]	2.875[a]	3.730[a]
	0.651	*0.960*	*0.660*	*1.009*	*0.873*	*1.107*	*0.887*	*1.159*
Geographic location	(0.0875)	0.878[c]	(0.113)	0.863	(0.529)	0.677	(0.620)	0.795
	0.298	*0.515*	*0.305*	*0.528*	*0.363*	*0.581*	*0.387*	*0.595*
Political and legal stability	(0.847)[a]	(0.606)	(0.826)[a]	(0.653)	(0.884)[b]	(0.864)[c]	(0.909)[b]	(0.952)[c]
	0.299	*0.401*	*0.300*	*0.417*	*0.376*	*0.505*	*0.379*	*0.528*
Governance	0.335	(0.135)	0.346	(0.370)	2.072[c]	0.298	2.085[c]	0.349
	0.770	*1.082*	*0.775*	*1.138*	*1.118*	*1.260*	*1.134*	*1.344*
Firm nature	1.041	(1.190)	1.100	(1.409)	(0.0529)	(1.469)	0.149	(1.634)
	0.915	*0.929*	*0.916*	*0.950*	*1.124*	*0.971*	*1.152*	*1.003*
Infrastructure	(0.290)	4.206[a]	(0.241)	4.028[a]	(0.668)	4.231[b]	(0.483)	4.537[b]
	1.037	*1.451*	*1.052*	*1.488*	*1.373*	*1.838*	*1.399*	*1.874*
Firm size	(0.558)	(1.397)[c]	(0.577)	(1.431)[c]	(1.025)	(1.599)	(0.917)	(1.512)
	0.580	*0.781*	*0.588*	*0.838*	*0.778*	*0.981*	*0.794*	*1.012*
Lao-Cai	Reference							
Xishuangbanna					(25.31)[a]	(25.31)[a]	(25.95)[a]	(21.47)[a]
					4.681	*4.374*	*5.257*	*4.954*
Dehong					(1.73)[a]	(21.59)[a]	(22.29)[a]	(21.48)[a]
					4.445	*3.950*	*4.975*	*4.497*
Honghe					(23.65)[a]	(21.27)[a]	(24.23)[a]	(21.74)[a]
					4.610	*4.263*	*5.144*	*4.823*
Constant	(2.860)	(9.716)[a]	(4.220)	(7.255)[c]	18.56[a]	12.06	15.86[a]	12.35
	2.216	*3.515*	*2.722*	*3.942*	*4.389*	*0*	*4.612*	*0*
Industry dummy	No		Yes		No		Yes	
Log likelihood	(86.12)	(86.12)	(83.69)	(83.69)	(68.71)	(68.71)	(65.67)	(65.67)
LR	108.9	108.9	113.7	113.7	143.7	143.7	149.8	149.8
Pseudo-R2	0.387	0.387	0.405	0.405	0.511	0.511	0.533	0.533
Observations	133							

( ) = negative, E = Investment motivation is efficiency-seeking, R = Investment motivation is resource-seeking.
Note: Standard deviations are in italics. The results of control variables, such as firm's nature, firm's age, and industry dummy variables, are not reported in the table.
[a] Coefficient is significantly different from 0 at the 1% level;
[b] Coefficient is significantly different from 0 at the 5% level.
[c] Coefficient is significantly different from 0 at the 10% level.
Source: Authors.

Regional differences have significant impacts on investment motives. The estimated coefficients of the dummy variable for region are negative and significant, indicating that regional differences favor market-seeking (M) investment. The result is consistent with the theory of niche marketing. Compared with Lao Cai, the marginal effects reveal that the study regions in Yunnan Province in the PRC are more favorable for market-seeking (M) investment, while Lao Cai in Viet Nam has a higher probability of resource-seeking (R) investment.

Other factors relating to the investment climate are also considered in the study. These include distance from the adjacent city, distance to railway stations and airports, and linkages with import and export markets. However, none of the estimated coefficients for these variables is significant and, thus, these factors were not included in Tables 23 and 24.

In summary, the estimated results of the models mostly support Hypothesis 2 (the investment climate can affect a firm's decision on investment). First, investment climate factors that have significant effects on investment motives are the availability of resources, market potential, political and legal stability, and infrastructure. Second, investment climate factors have different effects as motives of investment change. Third, differences in the regional investment climate are associated with firms' different motives for investment.

7.3 Impact of Incentive Package on Firms' Performance

Letting Y^* be the firm's performance, it can be expressed as:

$$Y_i^* = \alpha_0 + \alpha^T X_i + \varepsilon \qquad \text{(Equation 6)}$$

that is, Y_i^* can be explained by explanatory variables contained in the K ×1 vector X_i. The effect of X_i on Y_i^* is measured by the K ×1 vector X_i. The unexplained part of Y_i^* is assumed to follow a logistic distribution.

However, Y* is a latent variable. What we can know is a categorical classification of firms' performance, where firms' performance was classified into *j* categories according to the following rules:

$$y_i = j \quad if \quad \tau_{j-1} \le y_i^* \le \tau_j \quad for \quad j = 1 \; to \; 3 \qquad \text{(Equation 7)}$$

$$Y_i = \begin{cases} 1 \Rightarrow \; firm's \; performance \; becomes \; worse, \; if \; -\infty \le y_i^* < \tau_1 \\ 2 \Rightarrow \; firm's \; performance \; is \; unchanged, \; if \quad \tau_1 \le y_i^* < \tau_2 \\ 3 \Rightarrow \; firm's \; performance \; is \; improved, \; if \; \tau_3 \le y_i^* \end{cases}$$

Then, the ordered Logit technique was used to estimate Y, which is a form of censored data on Y* to fit the parameter vector α. When the latent variable Y* passes the cutpoint, the observed category changes.

It is similar to that for the binary regression model, except that there are two cutpoints, τ1, τ2. The two cutpoints divide y into three levels. The probability of an observed outcome for given values of x is the area under the curve between a pair of cutpoints. Thus, the probability of observing y = j for given values of x corresponds to the region of the distribution, where it is:

$$\Pr(y = j \mid x) = \Pr(\tau_{j-1} \le y_i^* \le \tau_j \mid x) \qquad \text{(Equation 8)}$$

The cumulative density function (cdf) is

$$\Pr(y_i \le j \mid x_i) = F(\eta_j) = \frac{\exp(\tau_j - \alpha^T x_i)}{1+\exp(\tau_j - \alpha^T x_i)} = \frac{1}{1+\exp(\tau_j - \alpha^T x_i)} \quad \text{(Equation 9)}$$

Therefore

$$\Pr(y_i \le j \mid X_i) = \begin{cases} F(\eta_1) & j = 1 \\ F(\eta_2) - F(\eta_1) & 1 < j < 2 \\ 1 - F(\eta_2) & j = 3 \end{cases} \quad \text{(Equation 10)}$$

Since y is ordinal, the above model can be estimated using the ordered Logit method.

The explained variable is based on the coded data for the question, “Please measure your firm’s performance objectively in the last 3 years.” Firm's performance was assessed using a 3-point scale: 1 = Worse, 2 = Unchanged, and 3 = Improved. The assessment covers firm’s performance in terms of a group of elements, which includes output, import and export volumes, working time, degree of mechanization, product quality, number of employees and skilled workers, production capability, and profit. However, the recoded data cannot be used to estimate the model directly. First, there exists correlation among the different elements. Second, assessment in terms of any element cannot reflect firm's performance completely. Thus, based on the assessment scores for each element, an aggregated score was created through cluster analysis and quantitatively coded as 1 = Worse, 2 = No change, and 3 = Improved, which are respectively presented by W, N, and I in the model.

Explanatory variables were identified according to the survey data for the assessment of the effects of incentive policies on firms’ performance. The incentive policies include preferential tax policy, land use policy, financial support service policy, labor use policy, and investment facilitation. Their values were generated from the recoded scale data using the principal component method and importance scoring method. The basic statistics and correlation coefficient matrix of explanatory variables were analyzed. The results show that the collinearity of explanatory variables is not statistically significant.

Four models were constructed using the ordered Logit method (Table 25). Model I is estimated without including the dummy variables of industry and region; Model II, with controls for industry differences; Model III, with controls for regional differences; and Model IV, with controls for regional and industry differences. The results show that the estimated coefficients of the industry dummy variable are insignificant, while that of the region dummy variable were very significant. Thus, Models I and IV are discussed in detail.

In Model I, financial support service is the dominant explanatory variable affecting firm's performance. It means that the more the firm enjoys financial support services, the higher probability that the firm’s performance would improve. Another dominant variable is land use policy, indicating that the more preferential the land use policy is, the more probable it is that the firm’s performance would improve. In terms of marginal effects (Table 26), as higher importance is attached to land use policy or financial support service, the probability of improved performance is greater while the probability of worse or unchanged performance is lower. From this point of view, Hypothesis 3 (incentives have a positive impact on a firm's performance) is accepted as valid.

The results of Model IV show that, after the inclusion of industry and region dummy variables, the estimated coefficients of policy variables are not statistically significant. The coefficient for the region dummy of Honghe is negative and significant. It implies that, compared with the reference, Lao Cai, the probability of worse or unchanged performance of firms in Honghe is greater. According to the marginal effects analysis, the probability of worse and unchanged performance for firms in Honghe is 37.7%, compared to Lao Cai's is 13.7%, while the probability of improved performance of firms in Lao Cai is reduced by 51.4%. Thus, when the region dummy is included, Hypothesis 3 is rejected.

In addition, the estimated cutpoints are very significant, indicating the ordered logit model with four different letter grades is highly appropriate.

Table 24 Marginal Effects of Investment Climate on Investment Motives

Item	M	R	E	M	R	E
		Model 1'			**Model 2'**	
Resource availability	(0.222)	0.250	(0.0276)	(0.223)	0.255	(0.0324)
Market potential	(0.579)	0.381	0.198	(0.594)	0.397	0.197
Geographic location	(0.0211)	(0.0731)	0.0942	(0.014)	(0.076)	0.0899
Political and legal stability	0.188	(0.176)	(0.0121)	0.188	(0.17)	(0.0176)
Governance	(0.058)	0.092	(0.033)	(0.052)	0.107	(0.055)
Infrastructure	(0.126)	(0.318)	0.444	(0.121)	(0.283)	0.404
		Model 3'			**Model 4'**	
Resource availability	(0.006)	0.0898	(0.0838)	(0.00627)	0.108	(0.102)
Market potential	(0.0202)	(0.107)	0.127	(0.0193)	(0.115)	0.134
Geographic location	0.00196	(0.190)	0.188	0.00222	(0.218)	0.216
Political and legal stability	0.006	(0.008)	0.002	0.006	0.002	(0.008)
Governance	(0.0116)	0.287	(0.275)	(0.0111)	0.275	(0.263)
Infrastructure	(0.002)	(0.765)	0.767	(0.003)	(0.765)	0.768
Lao Cai		Ref			Ref	
Xishuangbanna	1	(0.869)	(0.131)	1	(0.883)	(0.117)
Dehong	1	(0.812)	(0.187)	1	(0.853)	(0.147)
Honghe	1	(0.885)	(0.115)	1	(0.891)	(0.109)

( ) = negative, E = Investment motivation is to improve firm's efficiency, M = Investment motivation is to expand market, R = Investment motivation is to obtain resources.

Note: The results of the control variables, such as firm's nature, firm's age, and industry dummy variables, are not reported in the table.

Source: Authors.

7.4 Impact of Investment Climate on Firms' Performance

To test Hypothesis 4 (a good investment climate has a positive impact on the performance of firms), a model structure similar to Equation 5 was constructed using the same explained variables—worse performance, unchanged performance, and improved performance. The differences lie in the explanatory variables, which are the elements of investment climate that include resource availability, market potential, geographic location, political and legal stability, governance, infrastructure, and logistics.

The first four explanatory variables were created the same way as in the testing of Hypothesis 2. The value of governance is based on the recoded data from the survey question, “How do you evaluate the governance efficiency after your firm located in the BEZ?” In the questionnaire, governance is evaluated in terms of satisfaction about the procedure of administrative review and approval, time taken for the review and approval, and the minimum fund requirement for entry. The survey data was aggregated to generate an index for the variable of governance. Using principal component method, the value of infrastructure was generated from the answers to the survey question, “Has the following infrastructure changed for the past 5 years?” Infrastructure was evaluated in terms of water supply, electricity supply, warehousing, cargo-handling facilities, road facilities, and public utilities.

Table 25 Estimation Results of the Effects of Incentive Policies on Firms’ Performance

	Model I	Model II	Model III	Model IV
Variables	**Coefficient**	**Coefficient**	**Coefficient**	**Coefficient**
Tax policy importance	0.213	0.404	(0.0147)	0.302
	0.309	*0.309*	*0.391*	*0.401*
Land policy importance	0.628[c]	0.740[b]	0.113	0.0114
	0.367	*0.375*	*0.424*	*0.457*
Finance service degree	1.889[b]	1.854[b]	1.357	1.428
	0.919	*0.897*	*0.976*	*0.921*
Investment service degree	(0.282)	(0.718)	0.529	0.260
	1.262	*1.314*	*1.440*	*1.551*
Labor policy satisfactory	0.213	0.404	(0.0147)	0.302
	0.309	*0.309*	*0.391*	*0.401*
Lao Cai			Reference	
Banna			(1.136)	(0.645)
			0.762	*0.895*
Dehong			0.0139	0.450
			0.822	*0.928*
Honghe			(2.033)[a]	(2.443)[a]
			0.736	*0.839*
Cut 1	1.322	2.005	(1.690)	(1.187)
	1.419	*1.813*	*1.822*	*2.106*
Cut 2	3.004b	3.757b	0.182	0.846
	1.438	*1.813*	*1.777*	*2.047*
Industry dummy	No	Yes	No	Yes
Log Likelihood	(129.5)	(126.5)	(120.4)	(113.6)
Likelihood Ration (LR)	14.30	22.32	26.86	38.16
Pseudo-R^2	0.0547	0.0766	0.121	0.171
Observations			134	

( ) = negative.
Note: Standard deviations are in italics.
[a] Coefficient is significantly different from 0 at the 1% level.
[b] Coefficient is significantly different from 0 at the 5% level.
[c] Coefficient is significantly different from 0 at the 10% level.
Source: Authors.

The value of public utilities is based on recoded data for the question, “Has your firm experienced the interruption of the following services? If yes, please evaluate its impact on your firm.” The impacts are assessed using a 3-point scale: great loss, small loss, and no loss. The value of the variable was generated by computing a comprehensive index. Corruption’s impact on firms' performance is a main concern in developing countries. Corruption was represented by irregular payments in the study. Irregular payment may be required when dealing with the following administrative procedures: review and approval, issuance of licenses, customs clearance, labor supervision, environment monitoring, jurisdiction, and taxation. It is assessed using a 4-point scale: 1 = Never, 2 = Occasionally, 3 = Sometimes, 4 = Often/ regularly. Based on the measurement on the Likert scale for this question, we use the assessment score for each source of irregular payment to convert it into index variable in the model. Other control variables are the same as those in used in Hypothesis 3. The collinearity of explanatory variables was tested and found to be statistically insignificant.

Table 26 Marginal Effects of Incentive Policies on Firms’ Performance

Item	Tax Policy Importance	Land Policy Satisfactory	Finance Service Degree	Investment Service Degree	Labor Policy
Model I: Not control industry and region difference					
Worse	(0.0282)	(0.0832)[c]	(0.25)[b]	0.0373	0.0144
No change	(0.025)	(0.0738)[c]	(0.222)[b]	0.0331	0.0128
Improvement	0.0531	(0.157)[c]	(0.472)[a]	(0.0704)	(0.0271)
Model IV: Control industry and region difference					
Worse	(0.0307)	(0.00116)	(0.145)	(0.0264)	0.00192
No change	(0.0448)	(0.00169)	(0.212)	(0.0386)	0.0028
Improvement	0.0755	0.00285	0.357	0.0651	(0.00472)

( ) = negative.
Note: Probabilities are calculated while evaluating all other variables at their average values. Other control variables, such as firm’s age, industry dummy, and regional dummy, are omitted from this table.
[a] Coefficient is significantly different from 0 at the 1% level.
[b] Coefficient is significantly different from 0 at the 5% level.
[c] Coefficient is significantly different from 0 at the 10% level.
Source: Authors.

Four models were constructed using the ordered Logit method (Table 27). Model I’ is estimated without including the dummy variables of industry and region; Model II’ controls for industry differences; Model III’ controls for regional differences; and Model IV’ controls for regional and industry differences. The results show that the estimated coefficients of the industry dummy are insignificant while that of the region dummy were very significant. Thus, Model I’, Model III’, and Model IV’ are discussed in detail.

The coefficients of resource availability in the three models are significant at the level of 1%. In particular, the effect of resource availability in Model IV’ was investigated. As shown in Tables 27 and 28, the more available the resource is, the more probable it is that firms’ performance can be improved. The results of Model I’ show that better infrastructure, transport, logistics, and electricity supply will lower firms’ production costs, and, thus, improve firms’ performance. In Model III’, the coefficient of geographic location is significant at the level of 10%. The survey data show that the highest score was given to trade routes, while other elements were not valued highly. In short, the effect of location on the improvement of firms' performance is limited. In Model III’, the coefficient of governance is significant at the level of 5%, indicating that the simpler the administration procedures, the lower the administrative cost; and the less the time taken for administration procedures, the higher the efficiency of governance. Further, high governance can reduce the transaction cost of production and operation. The role of governance

is similar in both Model III’ and Model IV'. The coefficients of market potential, political and legal stability, logistics, interruption loss, and irregular payment are not statistically significant in relation to the probability of improved firms' performance.

In addition, when the dummy variable of region is introduced, only the coefficient of Honghe is significant, indicating that, compared with Lao Cai, the probability of worse or unchanged performance is higher in Honghe.

To sum up, the estimation result partly supports Hypothesis 4—good investment climate has a positive impact on the performance of firms.

Table 27 Estimation Results of the Impacts of Investment Climate on Firms' Performance

Variables	Model I' Coefficient	Model II' Coefficient	Model III' Coefficient	Model IV' Coefficient
Resource availability	0.785[a]	0.714[a]	0.833[a]	0.714[a]
	0.239	*0.239*	*0.242*	*0.259*
Marketing	0.385	0.405	0.214	0.169
	0.383	*0.409*	*0.368*	*0.386*
Location	(0.189)	(0.101)	(0.406)[c]	(0.303)
	0.210	*0.212*	*0.223*	*0.221*
Political stability	(0.188)	(0.224)	0.256	0.275
	0.197	*0.189*	*0.220*	*0.232*
Governance	0.583	0.530	0.884[b]	0.800[b]
	0.356	*0.375*	*0.381*	*0.398*
Infrastructure change	0.378[a]	0.444[a]	0.164	0.210
	0.123	*0.122*	*0.147*	*0.144*
Loss from public utility interruption	0.0655	0.190	0.101	0.312
	0.182	*0.195*	*0.288*	*0.295*
Irregular payment	0.147	0.118	(0.0404)	(0.138)
Firm size	0.531	0.439	0.964[b]	1.013[b]
	0.424	*0.450*	*0.434*	*0.462*
Primary industry		Reference		
Second industry		0.147		0.111
		0.855		*0.799*
Third industry		(0.796)		(1.574)[c]
		0.924		*0.919*
Lao Cai		Reference		
Xishuangbanna			(2.304)	(2.357)
			1.422	*1.461*
Dehong			(0.348)	(0.327)
			1.223	*1.266*
Honghe			(2.744)[b]	(3.517)[a]
			1.199	*1.240*
Cut 1	4.039b	4.433b	3.107	3.052
	1.878	*1.906*	*2.320*	*2.306*
Cut 2	5.924[a]	6.382[a]	5.172[b]	5.282[b]
	1.877	*1.906*	*2.324*	*2.323*
Log Likelihood	(118.2)	(115.7)	(110.0)	(103.9)
LR	35.79	41.68	47.76	63.14
Pseudo-R^2	0.133	0.151	0.193	0.237
Observations		133		

( ) = negative.
Note: Standard deviations are in italics.
[a] Coefficient is significantly different from 0 at the 1% level.
[b] Coefficient is significantly different from 0 at the 5% level.
[c] Coefficient is significantly different from 0 at the 10% level.
Source: Authors.

Table 28 Marginal Effects of Investment Climate on Firms' Performance

Item	Resource Availability	Marketing	Location	Political Stability	Governance	Infrastructure Change	Logistics Interruption Loss	Irregular Payment
Model I': No control of industry and region differences								
Worse	(0.0887)[a]	(0.0435)	0.0213	0.0213	(0.0659)	(0.0428)[a]	(0.0074)	(0.0166)
No change	(0.1070)[a]	(0.0527)	0.0258	0.0258	(0.0798)	(0.0518)[a]	(0.0090)	(0.0201)
Improvement	0.1960[a]	0.0962	(0.0471)	(0.0470)	0.1460	0.0946[a]	0.0164	0.0366
Model III': Region differences controlled								
Worse	(0.0802)[a]	(0.0206)	0.0391[a]	(0.0246)	(0.0851)[b]	(0.0158)	(0.0098)	0.0039
No change	(0.1280)[a]	(0.0329)	0.0623[a]	(0.0393)	(0.1360)[b]	(0.0252)	(0.0155)	0.0062
Improvement	0.2080[a]	0.0536	(0.1010)[a]	0.0639	0.2210[b]	0.0410	0.0253	(0.0101)
Model IV': Industry and region differences controlled								
Worse	(0.0605)[a]	(0.0143)	0.0257	(0.0233)	(0.0678)[b]	(0.0178)	(0.0265)	0.0117
No change	(0.1180)[a]	(0.0279)	0.0501	(0.0453)	(0.1320)[b]	(0.0347)	(0.0516)	0.0228
Improvement	0.1780[a]	0.0422	(0.0758)	0.0686	0.2000[b]	0.0525	0.0781	(0.0345)

( ) = negative.
Note: Probabilities are calculated while evaluating all other variables at their average values. Other control variables, such as firm's age, industry dummy, and regional dummy, are omitted in this table.
[a] Coefficient is significantly different from 0 at the 1% level.
[b] Coefficient is significantly different from 0 at the 5% level.
Source: Authors.

8. Conclusion and Policy Implications

8.1 Conclusion

The nonparametric analysis reveals that firms with investment in the study areas are mainly resource-based. Most investments are from domestic firms, while FDI is small. Cross-border trade is dominated by imports of resources and exports of end products. The industrial chain is weak in the study areas.

The results of cross-tabulations show that firms' investment motives, the perceived importance of incentive policies and infrastructure, and the general assessment of BEZs are specific to the regions where the firms invest, i.e., regional differences are statistically significant. In detail, firms in Lao Cai are more motivated by seeking resources and low-cost production; and underdeveloped BEZs have a higher expectation for incentive policies. Firms in the PRC BEZs highlight the importance of infrastructure associated with the improvement of living standards, while those in Lao Cai's BEZ attached high importance to basic infrastructure. BEZs in different areas are constrained by different factors. The general situation of BEZs in Honghe is relatively well developed, while the main problems of BEZs are market potential in Xishuangbanna, infrastructure in Lao Cai, and production factors and infrastructure in Dehong.

As assessment scores show, investments in the study areas are mainly for the purpose of seeking natural resources and markets. Underdeveloped transport facilities are a major constraint to the development of BEZs, and most firms are concerned with policies that can directly reduce the costs of investment and production, such as preferential tax policy and land use policy. Many firms face difficulties in financing or taking a loan from local banks or other financing agencies. Labor quality is low in the study areas and

firms have a high expectation for training support; and, besides basic infrastructure, logistics for warehousing should be improved.

Based on the theory of FDI, the study assessed the impacts of the incentive package and investment climate on the motives of investment and firms' performance in border areas of the PRC and other GMS countries. The findings are as follows:

i. Some policies have positive impacts on firms' investment motives. Among these, preferential tax policy plays a critical role in influencing firms' investment decisions. In general, financial support and land use policies are also important factors affecting firms' decisions; however, their effects become insignificant when regional differences are considered.
ii. Firms' investment decisions are also affected by some elements of the investment climate, including resource availability, market potential, political and legal stability, and infrastructure. The probability of resource-seeking investment has a positive relationship with preferential tax type, resource availability, market potential, and governance. Different from investments in Lao Cai Province in Viet Nam, which have a high propensity to seek resources and efficiency, investments in the border areas of Yunnan Province in the PRC are more motivated by market-seeking objectives.
iii. Financial support policy has a positive relationship with the probability of improved firms' performance. However, its effect on firms' performance is insignificant when regional differences are considered, i.e., as shown by the results of nonparametric analysis, financial support policy is associated with the region.
iv. Firms' performance is affected by the investment climate, including resource availability, infrastructure, transport, governance, logistics, electricity supply, and geographical location. However, these elements are region-specific. Firms' performance is not significantly affected by other elements of the investment climate, including market potential, political and legal stability, logistics interruption, and irregular payments. In terms of the effects of the investment climate, firms in Lao Cai have greater probability of improving their performance than those in Honghe.

8.2 Policy Implications

The results of the study reveal that there are regional differences in the border areas of the PRC and other GMS countries in terms of incentive policies and investment climate, which have important effects on firms' investment decisions and performance. The following policy implications can be drawn from the study:

i. Improvements in incentive policies and investment climate can play positive roles in attracting investments in BEZs. The border areas of the PRC and other GMS countries are bestowed with abundant natural resources; however, most firms are involved in the production of primary products and the industrial chains in the areas are short. In particular, little FDI is attracted to the region. To promote the development of CBEZs, improved incentive packages and a favorable investment climate are indispensable.
ii. Preferential tax policy has a close relationship with the probability that firms will invest for resource-seeking purposes and to improve performance. However, with the exception of a number of firms in Honghe, most firms in the study areas are young. Since tax policy is usually not flexible, long-term effects should be considered in designing tax policy.
iii. A high percentage of firms in the study areas face difficulties with financing or obtaining a loan. The improvement of financing support policy and services will facilitate the development of industries, especially small and medium-sized enterprises. To promote the development of CBEZs, financing support policy should be designed according to the region-specific situations

and the corresponding financing services should be provided.

iv. From the perspective of the investment climate, it is essential to maintain resource availability, build market potential, and improve governance; but major efforts should be made to improve infrastructure, including transport and public utilities. In particular, the logistics system should be a priority because it affects directly firms' production and operation costs.
v. The China–ASEAN Free Trade Area (CAFTA) took effect on 1 January 2010. Incentive policies for CBEZs should be designed in the policy context of CAFTA.
vi. In Yunnan Province, the investment policies for BEZs are the same as the policies for the development of western PRC because there is no specified policy for the border areas. In terms of incentives, the border areas have no advantage over the rest of western PRC. Because of lagging economic development, investment flow to the border area is even less than in many other parts of western PRC. Thus, incentive policies should be designed to highlight the advantage of border areas.
vii. Policy consistency is required for the construction of CBEZs. Despite similarities in the incentive policies of the PRC, the Lao PDR, Myanmar, and Viet Nam, differences and contradictions have been noted. These should be addressed in designing policies for CBEZs. In short, the basic policy principles are the same for neighboring countries, but differentiated policy is advisable for BEZs in the border areas of PRC–Viet Nam, PRC–Lao PDR, and PRC–Myanmar. It is impossible to design a well-functioning policy package at one time, but it is possible to have some small-scale, tentative efforts on a pilot basis based on mutual agreement. The experimental policies can be improved gradually and eventually expanded until a unified policy is realized.
viii. The greatest comparative advantage of CBEZs is the cross-border flows of commodity, labor, and other production factors in a straightforward, convenient, and low-cost way. The field surveys showed that firms encounter some difficulties in the customs transit of products and raw materials. To solve these problems require the reconciliation of customs policies at national level. It is advisable that policies for CBEZs include complete and applicable customs policies to reduce the transaction costs of multinational economic activities.
ix. The quality of labor is an issue vital to local investment firms. Apart from formulating policy for promoting skills development, local human capital needs to be developed. In the absence of these measures, lack of skills would become a bottleneck in the development of CBEZs. Besides government efforts, it is highly advisable to engage professional training agencies, encourage firms to establish education and training programs, and provide special incentives to qualified training agencies.
x. Great progress has been made in the construction of cross-border roads, and cross-border construction is likewise accelerating. However, corresponding traffic and logistics infrastructure needs further improvement, and, hence, special incentives should be made available to relevant investment firms.

A majority of firms use their own funds to invest in the study areas, and fewer receive support from local financing agencies because the finance industry has been slow to develop. Moreover, there is lack of currency-clearing institutions, although several informal channels are involved in cross-border trade. The construction of CBEZs requires better fiscal and financial services. It is desirable to introduce some strategic financial corporations and establish financial institutions specialized in providing financing, insurance, and currency clearing exclusively to CBEZs.

The general performance of firms in BEZs is not high, and it is difficult to attract well-performing manufacturing firms to BEZs. However, these firms, in the long run, are indispensable if this region is expected to become a production base for export business located in the junction between the PRC and the member states of the ASEAN. The local industrial structure is currently dominated by resource-based

firms. From a perspective of long-term development, industry-oriented policies should be formulated to promote the development of CBEZs.

8.3 Limitation of the Study and Further Research

The study assessed only the effects of locational advantage, in particular incentive policies, on firms' decisions to invest and their performance; while the effects on the macro economy, such as distortions in factor prices and markets, are beyond the scope of the study. Thus, although the study has identified factors affecting investments in the border areas between the PRC and other GMS countries, there is not enough information for policy design. A policy would be misleading if it is designed without considering the macroeconomic effects. It is desirable to design policies for CBEZs that consider the macro economy where the effects of different policies are assessed.

The study is the first step to investigate the potential of and identify the barriers to the regional integration of the PRC and its neighboring GMS countries from the perspective of industrial development. In setting up CBEZs, it is crucial to establish or strengthen the industrial chain and its linkages. Although the study has identified some linkages among different industrial clusters, a more in-depth investigation will help generate a clearer picture of industrial relationships. Thus, a study at the meso-economic level is also necessary besides the micro- and macroeconomic studies.

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www.adb.org/GMS/phnom-penh-plan
ISBN 978-92-9092-454-8
Publication Stock No. RPT114047

October 2011

Printed on recycled paper

ISBN 978-92-9092-454-8
9 789290 924548

Printed in the Philippines