

CHAPTER 1

ISSUES AND SETTING OF THE STUDY

1. 1 Background of the Study

1.1.1 Introduction to the Greater Mekong Sub-region (GMS) Countries

The Greater Mekong Sub-region (GMS) Economic Cooperation was created by five countries, including Cambodia, Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Vietnam, and Yunnan Province of the People's Republic of China (PRC), with the help of the Asian Development Bank (ADB) in 1992. Guangxi Zhuang Autonomous Region of the PRC joined the GMS in 2004.



Figure 1.1 The Greater Mekong Sub-region (GMS) Map

Source: http://www.wawasangmr.com.my/images/gms_map_large.png

Economic cooperation among countries that share the same border can reduce barriers to trade, capital, and labor. When these barriers are reduced, a larger market for national producers and consumers is created. Regional cooperation can help land-locked countries integrate with external markets. GMS countries expect that the economic cooperation program would help member countries promote trade and investment and economic growth via improvements in infrastructure and agree to develop human resources and environment management.

In 2002, GMS members united to build the GMS Strategic Framework (GMS-SF), which focuses on five strategic thrusts, as follows;

1. Strengthen infrastructure linkages through a multisectoral approach;
2. Facilitate cross-border trade and investment;
3. Enhance private sector participation and improve competitiveness;
4. Develop human resources and skill competencies; and
5. Protect the environment and promote sustainable use of natural resources.

GMS members also agreed on eleven flagship programs as part of the Strategic Framework:

1. The North-South Economic Corridor

Two routes along the north-south axis are involved in the North-South Economic Corridor initiative: (a) the Kunming-Chiang Rai-Bangkok via Lao PDR and Myanmar route and (b) the Kunming-Hanoi-Haiphong route, which connects to the existing Highway No. 1 running from the northern part of Vietnam to its southern regions. These major routes, together with the Southern Economic Corridor, which

links Bangkok to Ho Chi Minh City, form a large “loop” or “ring road” that covers the major cities and towns of the GMS. The North-South Economic Corridor will, therefore, play a critical role in providing Yunnan Province and northern Lao PDR access to important sea ports.

2. The East-West Economic Corridor

The East-West Economic Corridor is an economic development program initiated in 1998 by the Ministerial Conference of the GMS and organized in Manila, the Philippines to promote the development and integration of four countries, namely, Laos, Myanmar, Thailand, and Vietnam. This corridor became operational on December 12, 2006. The economic corridor was created based on a road 1,450 km long, with the west end located at the port city of Mawlamyine (Myanmar), crossing the Kayin Division, the Thai provinces of Tak, Sukhothai, Phitsanulok, Phetchabun, Khon Kaen, Kalasin and Mukdahan, the Laotian provinces of Savannakhet, and the Vietnamese provinces of Quang Tri, Thua Thien-Hue Province, and Đà Nẵng City at the east end.

3. The Southern Economic Corridor

The Southern Economic Corridor comprises the following sub-corridors and inter-corridors linking connecting major towns and cities in the southern part of GMS: (a) The Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau sub-corridor (Central Sub-corridor); (b) the Bangkok–Siem Reap–Stung Treng–Rathanakini–O Yadov–Pleiku–Quy Nhon sub-corridor (Northern Sub-corridor); (c) the Bangkok–Trat–Koh Kong–Kampot–Ha Tien–Ca Mau City–Nam Can sub-corridor (Southern Coastal Sub-corridor); and (d) the Sihanoukville–Phnom Penh–Kratie–Stung Treng–

Dong Kralor (Tra Pang Kriel)–Pakse–Savannakhet Inter-corridor Link, which links the three SEC sub-corridors with the East–West Economic Corridor.

4. The Telecommunications Backbone

Optical fiber interconnections of the telecommunications systems of GMS members are now in place, and the information super-highway network is being developed to provide a broadband platform among GMS members for voice, data, and internet services.

5. Regional Power Interconnection and Trading Arrangements

Power interconnection projects have helped lay the basis for grid interconnections in the GMS. A number of major hydropower projects have also been developed with private sector participation.

6. Facilitation of Cross-Border Trade and Investment

A Strategic Framework for Action on Trade Facilitation and Investment (SFA-TFI) was formulated in 2004 and priority programs for implementation were identified. However, implementation progress has been slow. There is an overlap between the trade facilitation component of the SFA-TFI and the Cross-Border Trade Area and, more broadly, between the work of the Trade Facilitation Working Group and the Sub-regional Investment Working Group. There is also some overlap between the work of the Transport Forum and the ECF. Resolution of these institutional issues will help sharpen the focus of each entity.

7. Enhancement of Private Sector Participation and Competitiveness

The most noteworthy initiative under this strategic thrust has been the establishment of the GMS Business Forum (GMS-BF). The GMS-BF, a joint initiative of the chambers of commerce of the GMS countries, has been an active participant in GMS meetings on the policy and regulatory reforms necessary to promote trade and investment in the GMS. It has also been an active participant in the ECF, where it has highlighted many of the issues faced by the private sector in doing business along the GMS corridors.

8. Development of Human Resources and Skill Competencies

A major accomplishment under this strategic thrust has been the development and implementation of the Phnom Penh Plan for development management to build capacity among GMS government officials, particularly in terms of strengthening their management capacities in support of regional economic integration and the transition toward more open economies. A second major accomplishment has been the implementation of a range of projects focused on the prevention of communicable diseases. Building on these accomplishments, a Human Resource Development Strategic Framework and Action Plan were prepared and approved in 2009, and the HRD Working Group has been restructured to facilitate implementation of this framework and action plan.

9. Development of a Strategic Environment Framework

Substantial progress has been achieved in this area of cooperation in terms of laying the foundation for implementing a more effective and comprehensive agenda for sustainable development in the GMS. Awareness has been raised and a systematic

sub-regional approach has been initiated. Alliances and partnerships have been developed with a broad range of regional and international environmental organizations. An Environment Operations Center (EOC) has been established to serve as the secretariat of the Working Group on Environment (WGE). Strategic environmental assessments (SEAs) have been conducted for the power and tourism sectors, helping mainstream environmental issues into national planning processes for these sectors.

10. Flood Control and Water Resource Management

Environmental performance assessments (EPAs) have been prepared and the Environment Operations Center (EOC) has been serving as the GMS referral center for SEAs, EPAs, and climate change risk assessments.

11. GMS Tourism Development

In tourism, sub-regional cooperation has helped put the GMS firmly on the world's tourism map, with the job of "positioning the GMS in the eyes of the international industry" having been completed through a series of promotional campaigns and other initiatives. The Tourism Working Group is one of the most active among the sector working groups, with its own secretariat funded by GMS governments and close collaborations with the private sector.



Figure 1.2 Grater Mekong Sub-regions Economic Corridors

Source: Journal of Asian Economics 15 (2004) 977-99

Because this study focuses on cross-border trade, the agreement for the facilitation of cross-border movement of goods and people is discussed in detail, as follows:

1. Single-stop/single-window customs inspection;
2. Cross-border movement of persons (i.e., visa of person engaged in transport operations);
3. Transit traffic regimes, including exemptions from physical customs inspection, bond deposits, escorts, and phytosanitary and veterinary inspections;
4. Requirement that road vehicles must meet eligibility requirements for cross-border traffic;
5. Exchange of commercial traffic rights; and
6. Infrastructure, including road and bridge design standard, road signs and signals.

Since 1992, GMS members have invested about USD 14 billion in projects, the benefits of which range from cross-border roads to the prevention of communicable diseases. The growth in gross domestic product (GDP) of GMS members has averaged about 7.6% each year from 1999 to 2010. The ranks of GDP growth rate are as follows: Myanmar is first with a growth rate of 19.96%; Laos is second with a growth rate of 9.24%; Vietnam is third with a growth rate of 6.88%; Cambodia, with a growth rate of 5.26%, is fourth; Thailand, with a growth rate of 2.53%, is fifth; and Yunnan, with a growth rate of 2.14%, is sixth. In Myanmar, the real GDP in 1999 was

about USD 4,140 billion; in 2010, its real GDP increased to USD 27,585 billion, which is about 6.66 times its real GDP in 1999. In Vietnam, the real GDP in 1999 was about USD 43.23 billion; in 2010, its real GDP increased to USD 88.30 billion, which is about 2.04 times its real GDP in 1999. In Thailand, the real GDP in 1999 was about USD 155.10 billion; in 2010, its real GDP increased to USD 203.75 billion, which is about 1.31 times its real GDP in 1999. In Laos, the real GDP in 1999 was about USD 1.33 billion; in 2010, its real GDP increased to USD 3.46 billion, which is about 2.6 times its real GDP in 1999. In Yunnan, the real GDP in 1999 was about USD 186.88 billion; in 2010, its real GDP increased to USD 135.01 billion, which is about 1.25 times its real GDP in 1999. Finally, in Cambodia, the real GDP in 1999 was about USD 5.53 billion; in 2010, its real GDP increased to USD 9.287 billion, which is about 1.68 times its real GDP in 1999 (for details, see Table 1.1).

Table 1.1 GDP, Real GDP and GDP Growth Rate of GMS Countries (billion USD)

Countries	Years	GDP	CPI	Real GDP	Growth Rate
Myanmar	1999	5896.7500	33.70	4139.9730	Av.GRm: 19.96%
	2005=100	6707.3200	33.66	4135.4536	-0.11%
	2001	7468.2000	40.77	5008.0882	21.10%
	2002	8366.2900	64.04	7866.4301	57.07%
	2003	9524.5200	87.47	10744.7347	36.59%
	2004	10823.8000	91.43	11231.9239	4.53%

Table 1.1 Continuous

Countries	Years	GDP	CPI	Real GDP	Growth Rate
Myanmar	2005	12284.2000	100.00	12284.2000	9.37%
2005=100	2006	13893.4000	120.00	14740.6085	20.00%
	2007	15559.4000	162.02	19903.4472	35.02%
	2008	17155.1000	205.45	25237.4790	26.80%
	2009	18970.3000	208.47	25609.0613	1.47%
	2010	20946.3000	224.56	27585.6664	7.72%
Vietnam	1999	28.6837	81.71	43.2385	Av.GRv: 6.88%
2005=100	2000	31.1725	80.31	42.4989	-1.71%
	2001	32.6852	79.97	42.3155	-0.43%
	2002	35.0582	83.03	43.9366	3.83%
	2003	39.5525	85.70	45.3513	3.22%
	2004	45.4279	92.35	48.8702	7.76%
	2005	52.9173	100.00	52.9173	8.28%
	2006	60.9135	107.39	56.8257	7.39%
	2007	71.0156	116.30	61.5443	8.30%
	2008	91.0941	143.19	75.7711	23.12%
	2009	97.1803	153.29	81.1164	7.05%
	2010	106.4268	166.87	88.3047	8.86%

Table 1.1 Continuous

Countries	Years	GDP	CPI	Real GDP	Growth Rate
Thailand	1999	122.6297	87.95	155.1040	Av.GRt: 2.53%
2005=100	2000	122.7252	89.35	157.5732	1.59%
	2001	115.5364	90.81	160.1368	1.63%
	2002	126.8769	91.44	161.2535	0.70%
	2003	142.6401	93.09	164.1630	1.80%
	2004	161.3398	95.66	168.6925	2.76%
	2005	176.3518	100.00	176.3518	4.54%
	2006	207.0889	104.64	184.5301	4.64%
	2007	246.9770	107.02	188.7293	2.28%
	2008	272.5778	112.80	198.9207	5.40%
	2009	263.5050	111.83	197.2221	-0.85%
	2010	318.5223	115.54	203.7521	3.31%
Laos	1999	1.4544	49.03	1.3327	Av.GRI: 9.24%
2005=100	2000	1.7352	61.33	1.6670	25.08%
	2001	1.7686	66.12	1.7972	7.81%
	2002	1.8297	73.15	1.9882	10.63%
	2003	2.1488	84.48	2.2962	15.49%
	2004	2.5071	93.31	2.5365	10.46%
	2005	2.7182	100.00	2.7182	7.17%

Table 1.1 Continuous

Countries	Years	GDP	CPI	Real GDP	Growth Rate
Laos	2006	3.4897	106.80	2.9031	6.80%
2005=100	2007	4.2596	111.63	3.0344	4.52%
	2008	5.4778	120.15	3.2659	7.63%
	2009	5.9071	120.19	3.2670	0.04%
	2010	7.2964	127.38	3.4625	5.98%
Yunnan	1999	224.1700	455.8	186.8780	Av.GRy: 2.14%
1978=100	2000	236.1700	446.3	182.9830	-2.08%
1978=41	2001	250.6600	444.5	182.2450	-0.40%
	2002	269.7000	443.6	181.8760	-0.20%
	2003	297.0500	448.9	184.0490	1.19%
	2004	372.3200	475.9	195.1190	6.01%
	2005	422.5900	482.5	197.8250	1.39%
	2006	500.2800	491.7	201.5970	1.91%
	2007	627.6300	520.7	213.4870	5.90%
	2008	819.5900	550.4	225.6640	5.70%
	2009	903.2000	552.6	226.5660	0.40%
	2010	1067.1700	573.2	235.0120	3.73%
Cambodia	1999	3.5172	87.82	5.5265126	Av.GRc: 5.26%
2005=100	2000	3.6540	87.13	5.4830909	-0.79%

Table 1.1 Continuous

Countries	Years	GDP	CPI	Real GDP	Growth Rate
Cambodia	2001	3.9798	86.6	5.449738	-0.61%
2005=100	2002	4.2840	89.4	5.625942	3.23%
	2003	4.6582	90.48	5.6939064	1.21%
	2004	5.3378	94.03	5.9173079	3.92%
	2005	6.2930	100	6.2930	6.35%
	2006	7.2744	106.14	6.6793902	6.14%
	2007	8.6391	114.28	7.1916404	7.67%
	2008	10.3518	142.85	8.9895505	25.00%
	2009	10.4019	141.91	8.9303963	-0.66%
	2010	11.2423	147.58	9.2872094	4.00%
GMS				Average GR:	7.63%

Source: Yunnan statistical yearbooks and Website of World Bank

1.1.2 Introduction of Yunnan Province

Yunnan is the seventh largest province of China, located far southwest of the country, spanning about 394,000 square kilometers, and with a population of 45.7 million (2009). The province borders Guangxi and Guizhou Provinces in the east, Sichuan Province in the north, and Tibet Province in the northwest. Kunming, the capital of the province, is recognized as an important market of China. The province has improved road links to coastal areas, such as Guangzhou, which is within 20 hours of travel from Yunnan, Xiamen, which is within 25 hours of travel, Shanghai,

which is within 30 hours of travel, and Beijing, which is within 34 hours of travel. Manufacturing and market centers in the middle of the country are also conveniently within reach, such as Chengdu, which is 14 hours away, and Xian, which is 22 hours away.

Yunnan shares a total international border length of 4060 km with Myanmar (1,997 km) in the west, Laos (710 km) in the south, and Vietnam (1,353 km) in the southeast. It is close to Thailand, Cambodia, Malaysia, and Singapore. Because of its favorable geographic location, the province has comparative advantages in regional and border trade with countries in Southeast Asia. The Lancang River (upper reaches of the Mekong River) is the waterway to Southeast Asia. In recent years, land transportation has been improved to strengthen economic and trade co-operation among countries in the GMS.

Yunnan not only has advantages in geographic location but also cultural advantages. Yunnan has 16 minority nationalities living in cross-borders, in which most of the national customs, educational standards, and levels of development are the same. Language is also interlinked (i.e., the Thai language and the language of the Dai in Xishuang Banna are very similar). People who live in cross-border areas are in constant contact with each other, and interracial marriages have occurred in the mixed situation of “you have me and I have you.” If Yunnan issues favorable policies for border trade with its neighboring countries, border trade within Yunnan itself will be developed as well.



Figure 1.3 Location of Yunnan Province

Source: http://en.wikipedia.org/wiki/File:China_Yunnan.svg

1.1.3 Yunnan's border trade with other GMS members

Five GMS members have very close economic relationships with Yunnan.

Especially since 2004, Myanmar and Vietnam have been Yunnan's No.1 and No. 2 trader partners, respectively, based on trade volume. Thailand ranks third, while Laos

and Cambodia rank fourth and fifth, respectively. Unfortunately, data on Cambodia have not appeared in the Yearbooks of Yunnan and China or any other statistics books

for that matter. Thus, this study will deal only with Yunnan's border trade with Myanmar, Vietnam, Thailand, and Laos.

The study will first look at exports and imports. Yunnan and other GMS members' export and import have markedly increased since 1999. Within GMS members, the average growth rate of exports was larger than the average growth rate of imports. However, the average growth rate of exports was smaller than the average growth rate of imports in Yunnan. In Myanmar, the average import growth rate was 15.54% and the average export growth rate was 28.70%. The largest import growth (43.27%) occurred in 2010 while the largest export growth (99.71%) occurred in 2008. In Vietnam, the average import growth rate was 31.55% and the average export growth rate was 40.12%. The largest import growth (107.60%) occurred in 2007 while the largest export growth (143.73%) occurred in 2001. In Thailand, the average import growth rate was 34.24% and the average export growth rate was 60.81%. The largest import growth (104.75%) occurred in 2003 while the largest export growth 293.83% occurred in 2010. In Laos, the average import growth rate was 26.52% and the average export growth rate was 37.43%. The largest import growth (82.65%) occurred in 2004 while the largest export growth (158.63%) occurred in 2006. Finally, in Yunnan, the average import growth rate was 27.83% and the average export growth rate was 20.41%. The largest import growth (49.74%) occurred in 2010 while the largest export growth (55.03%) occurred in 2007 (for details, see Table 1.2).

Table1.2 The Value and growth rate of Import, Export and Trade Balance in
Yunnan with the GMS Countries (USD 10 000)

Countries	Year	Import Value	Import Growth	Export Value	Export Growth	Trade Balance
Myanmar	1999	24599	15.54%	5353	28.70%	-19246
	2000	29301	19.11%	6993	30.64%	-22308
	2001	25151	-14.16%	9722	39.02%	-15429
	2002	29608	17.72%	11070	13.87%	-18538
	2003	35683	20.52%	13596	22.82%	-22087
	2004	38661	8.35%	16471	21.15%	-22190
	2005	41047	6.17%	22102	34.19%	-18945
	2006	52113	26.96%	17095	-22.65%	-35018
	2007	64068	22.94%	23289	36.23%	-40779
	2008	72769	13.58%	46510	99.71%	-26259
Vietnam	2009	77506	6.51%	45227	-2.76%	-32279
	2010	111043	43.27%	64921	43.54%	-46122
	1999	6252	31.55%	969	40.12%	-5283
	2000	9264	48.18%	766	-20.95%	-8498
	2001	14232	53.63%	1867	143.73%	-12365
	2002	13371	-6.05%	2895	55.06%	-10476
	2003	19299	44.33%	2815	-2.76%	-16484
	2004	28682	48.62%	5176	83.87%	-23506

Table 1.2 Continuous

Countries	Year	Import Value	Import Growth	Export Value	Export Growth	Trade Balance
Vietnam	2005	26404	-7.94%	5470	5.68%	-20934
	2006	37463	41.88%	13280	142.78%	-24183
	2007	77773	107.60%	19394	46.04%	-58379
	2008	49331	-36.57%	15160	-21.83%	-34171
	2009	66132	34.06%	12868	-15.12%	-53264
	2010	78875	19.27%	16065	24.84%	-62810
Thailand	1999	1856	34.24%	593	60.81%	-1263
	2000	2356	26.94%	802	35.24%	-1554
	2001	3639	54.46%	688	-14.21%	-2951
	2002	3766	3.49%	594	-13.66%	-3172
	2003	7711	104.75%	1018	71.38%	-6693
	2004	11032	43.07%	1905	87.13%	-9127
	2005	12952	17.40%	1494	-21.57%	-11458
	2006	10919	-15.70%	2150	43.91%	-8769
	2007	15680	43.60%	6341	194.93%	-9339
	2008	22888	45.97%	2087	-67.09%	-20801
	2009	20265	-11.46%	3320	59.08%	-16945
	2010	33268	64.16%	13075	293.83%	-20193
Laos	1999	1022	26.52%	539	37.43%	-483

Table 1.2 Continuous

Countries	Year	Import Value	Import Growth	Export Value	Export Growth	Trade Balance
Laos	2000	1336	30.72%	590	9.46%	-746
	2001	1408	5.39%	425	-27.97%	-983
	2002	1053	-25.21%	602	41.65%	-451
	2003	1458	38.46%	653	8.47%	-805
	2004	2663	82.65%	713	9.19%	-1950
	2005	2877	8.04%	1339	87.80%	-1538
	2006	3469	20.58%	3463	158.63%	-6
	2007	3591	3.52%	4748	37.11%	1157
	2008	5714	59.12%	5534	16.55%	-180
	2009	7434	30.10%	8064	45.72%	630
	2010	10289	38.40%	10090	25.12%	-199
Yunnan	1999	7454	27.83%	34022	20.41%	26568
	2000	9151	22.77%	43941	29.15%	34790
	2001	12702	38.80%	45420	3.37%	32718
	2002	15161	19.36%	48149	6.01%	32988
	2003	18082	19.27%	64473	33.90%	46391
	2004	24265	34.19%	81176	25.91%	56911
	2005	30406	25.31%	83339	2.66%	52933
	2006	36339	19.51%	104085	24.89%	67746

Table 1.2 Continuous

Countries	Year	Import Value	Import Growth	Export Value	Export Growth	Trade Balance
Yunnan	2007	53772	47.97%	161366	55.03%	107594
	2008	69291	28.86%	150768	-6.57%	81477
	2009	69553	0.38%	171421	13.70%	101868
	2010	104151	49.74%	233845	36.42%	129694

Source: Yunnan Statistical Yearbooks

This study also pays attention to the balance in border trade between Yunnan and other GMS members. Overall, Yunnan enjoyed a healthy level of border trade with other GMS members from 1999 to 2010. However, GMS members showed unfavorable trade deficits, especially Myanmar, Vietnam, and Thailand, from 1999 to 2010. Because the growth rates of import and export were not stable, the balance of trade was also unstable (for details, see Figure 1. 4, Figure 1.5, Figure 1.6, Figure 1.7 and Figure 1.8).

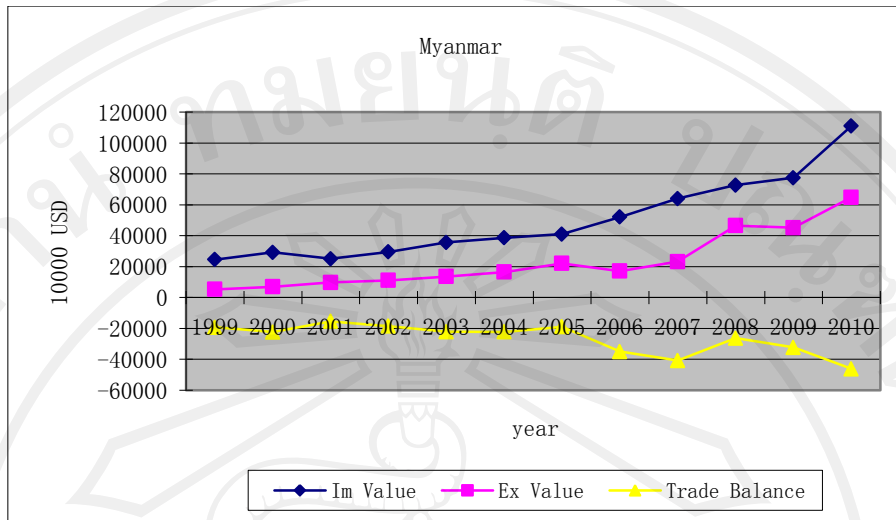


Figure 1.4 Trends of Import, Export and Trade Balance Value in Myanmar

Source: Yunnan Statistical Yearbooks

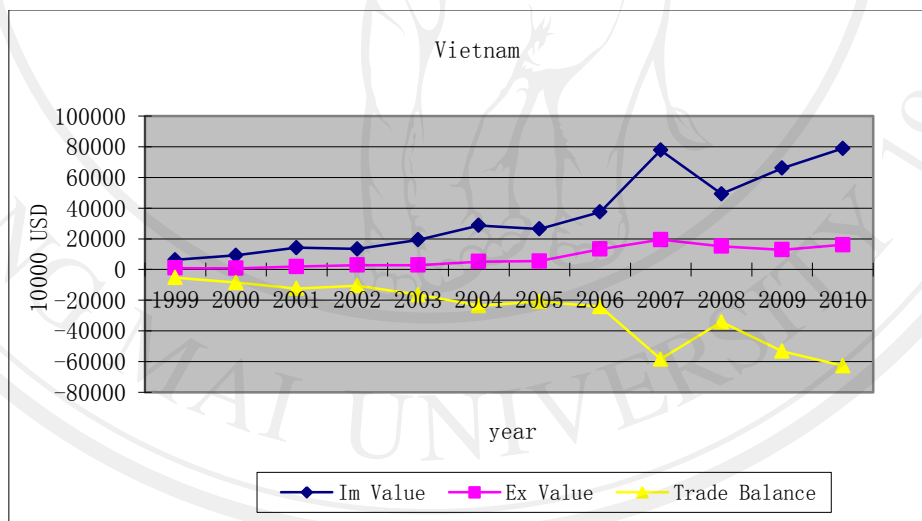


Figure 1.5 Trends of Import, Export and Trade Balance Value in Vietnam

Source: Yunnan Statistical Yearbooks

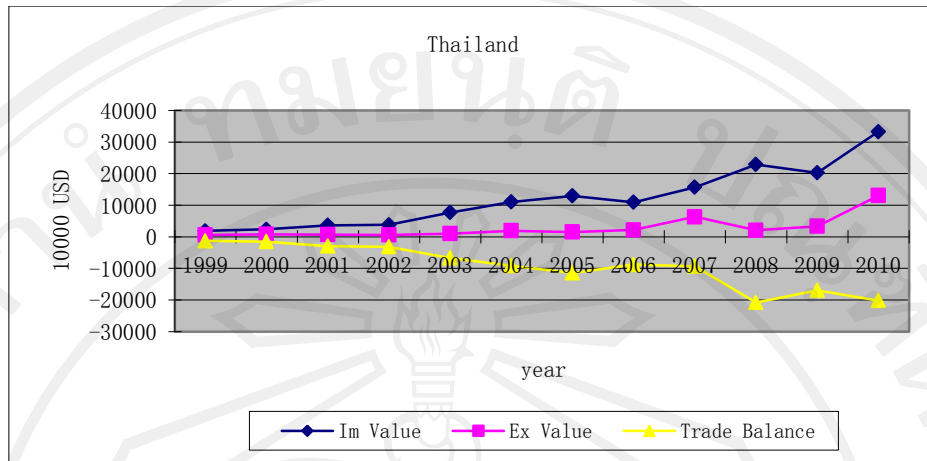


Figure 1.6 Trends of Import, Export and Trade Balance Value in Thailand

Source: Yunnan Statistical Yearbooks

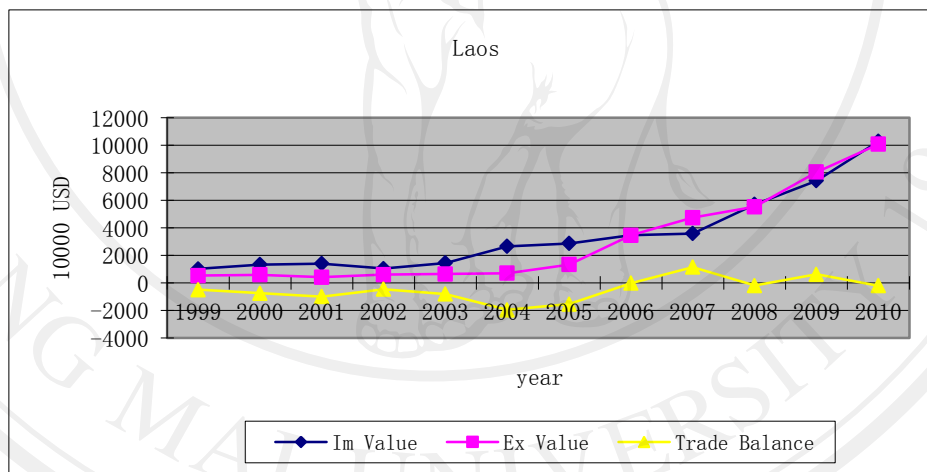


Figure 1.7 Trends of Import, Export and Trade Balance Value in Laos

Source: Yunnan Statistical Yearbooks

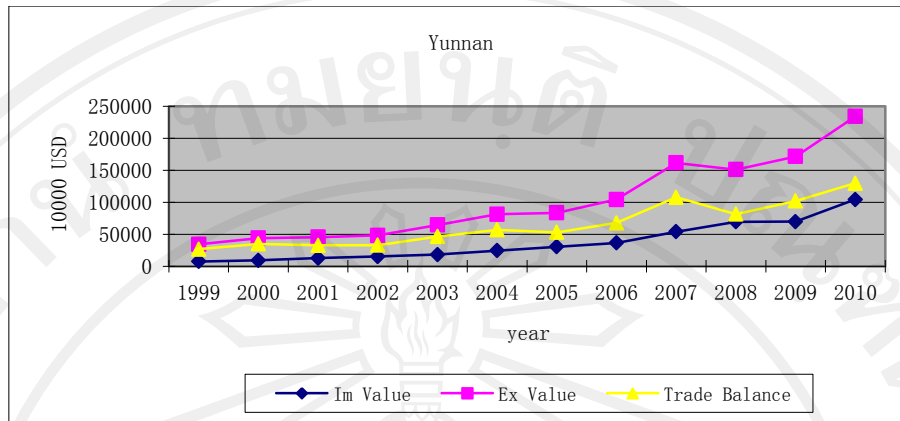


Figure 1.8 Trends of Import, Export and Trade Balance Value in Yunnan

Source: Yunnan Statistical Yearbooks

1.2 Objectives of the Study

The impact of border trade on economic growth has received great attention in empirical studies. This study aims to test the relationships among border import, border export, and economic growth between Yunnan and other GMS members. This study has four objectives, as follows:

1.2.1 To investigate the long-term relationships among border import, border export, and economic growth between Yunnan and other GMS members.

1.2.2 To examine the short-term relationships among border import, border export, and economic growth between Yunnan and other GMS members.

1.2.3 To determine whether cross-section and period have fixed or random effects on border import, border export, and economic growth.

1.2.4 To determine whether or not border import, border export, and economic growth between Yunnan and other GMS members have Granger causality bi-directional relationships.

1.3 Advantages of the study

The main advantage of this study is using panel unit root, co-integration test in panel data, granger causality test in panel data and error correction model (ECM) in doing the research on the relationship of border export, border import and economic growth in Yunnan with the GMS countries, which has been rarely studied before in the literature on relationship among border export, border import and economic growth in Yunnan. Many economists have studied the relationship between international or border trade and the economic growth of many countries but none have focused on Yunnan Province thus far.

Two benefits of this study are as follows:

1. The results may be of use to Yunnan policy makers when making decisions regarding the expansion of border trade. These policy makers can use the empirical results to see how border trade has affected Yunnan's economic growth over the last 12 years.

2. The research not only studies the relationship between the border trade and economic growth of two countries but also discusses the relationship between the border trade and economic growth of GMS members. The results will be of help to policy makers of GMS members when promoting regional economic growth.

1.4 Scope of the study

The study examines secondary data on Yunnan and other GMS members obtained from 1999 to 2010. Secondary data on Yunnan are based on available numbers spanning 12 years of the province's border trade. All of the data were collected from China Statistical Yearbook and Yunnan Statistical Yearbook, published by the National Bureau of Statistics of China from 1998 to 2011, as well as the website of the Yunnan Department and Commerce and the website of Kunming Customhouse.

Secondary data on other GMS members were collected from the website of the World Bank.

1.5 Organization of the study

The remainder of this study is organized as follows: in Section 2, we briefly describe earlier studies on the relationship between border trade and economic growth. In Section 3, the empirical models, including the general growth model, panel unit test, panel co-integration test, Granger causality test, and error-correction model (ECM), are presented. In Section 4, we present the results of our research. We conclude our research in the Section 5.