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## **An Analysis on Influencing Factors of Myanmar's Imports\***

Nu Nu Lwin

### **Abstract**

Since its adoption to market-oriented economic system, Myanmar initiated "export promotion and import substitution" to be the main planks of Myanmar trade policy. The major instruments of trade control are license, quantitative restrictions and foreign exchange control rather than through high import duties or export levies. Moreover, investment restriction, trade sanction and several restricted measures imposed by the United States and European countries also had large impact on the structure and direction of Myanmar's trade.

This paper has attempted to identify the factors that affect on the directions and trends of Myanmar's imports and to provide trade policy implications under the framework of basic gravity model. In order to quantify the determinant factors of Myanmar's imports, actual bilateral import volume is compared to the predicted volume estimated by the gravity equation.

During a decade, Myanmar has relied more on the neighboring and other Asian countries for its external trade. However, actual import volume of Myanmar from its neighboring countries are much lower than the potential predicted by the gravity equation, thus it can be envisaged that there are existence of trade barriers and unrecorded informal trades in border area. Even though tariff rates of Myanmar is relatively low in line with CEPT scheme of AFTA, effective tariff rate is supposed to be high and thereby creating low volume of actual trade recorded. These findings suggest that having large extent of informal trades in border areas, Myanmar needs to take possible measures to regularize and institutionalize such trade activities in order to promote formal trade and improve government revenues.

**Keywords:** AFTA; imports, informal trade, gravity model

# AN ANALYSIS ON INFLUENCING FACTORS OF MYANMAR'S IMPORTS\*

Nu Nu Lwin<sup>1</sup>

## ABSTRACT

Since its adoption to market-oriented economic system, Myanmar initiated “export promotion and import substitution” to be the main planks of Myanmar trade policy. The major instruments of trade control are license, quantitative restrictions and foreign exchange control rather than through high import duties or export levies. Moreover, investment restriction, trade sanction and several restricted measures imposed by the United States and European countries also had large impact on the structure and direction of Myanmar’s trade.

This paper has attempted to identify the factors that affect on the directions and trends of Myanmar’s imports and to provide trade policy implications under the framework of basic gravity model. In order to quantify the determinant factors of Myanmar’s imports, actual bilateral import volume is compared to the predicted volume estimated by the gravity equation.

During a decade, Myanmar has more relied on the neighboring and other Asian countries for its external trade. However, actual import volume of Myanmar from its neighboring countries are much lower than the potential predicted by the gravity equation, thus it can be envisaged that there are existence of trade barriers and unrecorded informal trades in border area. Even though tariff rates of Myanmar is relatively low in line with CEPT scheme of AFTA, effective tariff rate is supposed to be high and thereby creating low volume of actual trade recorded. These findings suggest that having large extent of informal trades in border areas, Myanmar needs to take possible measures to regularize and institutionalize such trade activities in order to promote formal trade and improve government revenues.

**Keywords:** AFTA, imports, informal trade, gravity model

## I. INTRODUCTION

Since Myanmar has adopted the market-oriented economic policy in 1988, the series of economic reform in various sectors including trade liberalization were initiated in line with changes of its policy and world economy. Prior to 2001, Myanmar was facing trade deficit due to rapid expansion of imports in consumer and capital goods combined with relatively slow growth of exports. Since the early twenty-first century, Myanmar’s external trade sector gradually improved and the improvement in trade balance was contributed by both strict import controls and rapid export growths. At the same time, the direction of trades has changed as Myanmar has strengthened its trade relations with its neighboring and ASEAN countries.

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\* Best Paper Award Winning Paper in Economics (2011)

This paper proposes two political economic conditions that may affect the directions of trade in Myanmar during the period of 1998-2007. One is economic sanction imposed by the Western countries, which may reduce the amount of trade with them and lead Myanmar to more dependent on its neighboring, ASEAN and East Asian countries. The other is high effective tariff rates, which may encourage informal trade and reduce the recorded amount of trade with countries sharing the border, namely China, Thailand and India.

### **Trade Policy in Myanmar**

Since late 1980s, Myanmar has gradually liberalized economic activities and reduced obstacles to foreign trade and investment. Private sector participation in international trade has been encouraged through export promotion and import substitution strategy to develop as an industrialized country. However, during last two decades, trade schemes and measures of Myanmar have been varying from time to time according to the economic and political situation.

To reduce the persistent trade deficit faced prior to 2001, “import first” policy was rescinded and replaced with an “export first” policy, in which the importer can import only against export earnings after deducting export tax. The export tax is levied on almost all exports at the rate of 10 percent, which composes of 8 percent commercial tax and 2 percent income tax.

In mid-2005, Trade Council, which is responsible for controlling the trade policies of Myanmar, has introduced new trade policy under which, the importer can apply license via account transfer even if they have no export earnings. The importers are permitted to open letter of credit (LC) for applying import license through transferring the account of other exporters who have already had export earnings.

The major instrument of trade control is license, which is mandatory for all traders to either export or import whatever commodity, issued by the Directorate of Commerce. When applying export or import license the traders need to present, among several documents, proforma invoice,

sales contract/ agreement, technical specification of the product and recommendation for price issued by the respective authority, which is necessary to prevent undervaluing price of the commodities.

Another barrier in Myanmar trade is the application of different exchange rate for import valuation. Despite official exchange rate of K6 to US\$1, Myanmar's customs department applied K100 to US\$1 for import valuation since June 1996 and it was changed to a new rate of K450 to US\$1 at 15 June 2004. Even though this rate is still used on import valuation of normal trade, the higher exchange rate based on market rate is applied on border trade.

### **Economic Sanctions on Myanmar**

Since 1989, the United States suspended Myanmar's eligibility for benefits under Generalized System of Preferences (GSP) on Myanmar exports to citing the lack of progress toward democracy in Myanmar. In 1996, the United States and European Union (EU) banned on non-humanitarian aid and visas for ruling Myanmar leaders. In 1997, EU and Canada also rescinded GSP benefit to Myanmar exports citing the poor labor standards and practices. The United States imposed barring new investments, while allowing existing contracts to be fulfilled but not to be modified or expanded. In 2000, the United States and EU imposes the arms embargo and a freeze on assets held abroad by Myanmar officials.

In 2003, the United States banned all imports of Myanmar products under the Burmese Freedom and Democracy Act. The legislation which complemented a ban on new investment in Myanmar and other existing sanctions, prohibited any United States financial institutions from making transactions with any Myanmar entity, and codified the existing policy of opposition to international loans and technical assistances and cultural exchange programs to Myanmar. In 2004, EU prohibited granting of financial loans to or new investments in Myanmar state-owned enterprises. All bans and restrictions are extended every year by respective government.

## II. TRADE PERFORMANCE OF MYANMAR

Myanmar's external trade sector gradually improved in the early twenty-first century and the improvement in trade balance was contributed by both strict import controls and rapid export growths. Over the last decade, Myanmar trades have grown at an average annual rate of 13 percent to reach over US\$10 billion in 2009.

**Table - 1**

**Trade Indicators of Myanmar, Cambodia and Lao (1997, 2002, 2009)**

		Myanmar			Cambodia			Lao			ASEAN
		1997	2002	2009	1997	2002	2009	1997	2002	2009	2009
GDP, current prices	US\$ Billion	4.7	6.8	25.0	3.4	4.3	10.4	1.8	1.8	5.6	1,496.3
Trade volume	US\$ Billion	3.9	5.5	10.2	1.6	3	8.9	0.6	1.1	3.0	1,536.8
Population	Million	46.4	52.2	59.5	12.1	13.1	15.0	4.9	5.5	5.9	591.8
Trade to GDP Ratio	%	83.9	81.6	40.8	48.5	69.4	85.8	33.9	60.2	53.1	102.7
Trade volume per capita	US\$	84.2	106	171.2	136.2	226.7	594.1	121.1	199	500.2	2596.7

Source: *World Economic Outlook Database 2009*, IMF, *Key Indicators 2010*, ADB, & ASEAN Secretariat 2010

Despite this increase in the volume of foreign trade, trade openness ratio is quite low even comparing with other new ASEAN members, namely Cambodia and Lao. As shown in Table 1, the openness of the economy measured by the share of external trade in gross domestic product (GDP) has constantly decreased from 83.9 percent in 1997 to 81.6 percent in 2002 and further to 40.8 percent in 2009 and it is also much lower than those of ASEAN average of 103 percent in the same year Trade volume per capita which is another indicator for measuring the openness of an economy has steadily increased from US\$84 in 1997 to US\$106 in 2002 and further to US\$171 in 2009. However, its trade volume per capita is still lower than those of the other new ASEAN members:



Cambodia and Lao both launched their drive toward a market economy at almost the same time as Myanmar.

In fact, relatively low records of trade performance of Myanmar reflect its struggles in a number of challenging domestic and international problems. The imposition of investment restrictions has a large impact on Myanmar's trade performance especially on the export-oriented industry while trade sanction imposed by the United States has caused significant changes in its trade direction.

**Table - 2**  
**Top-Ten Trade Partners of Myanmar (1997, 2002, 2009)**

(Percentage of Total & US\$ Million)

	Country	1997	2002	2009		Country	1997	2002	2009
1	Thailand	n.a.	30.2	46.4		China	21.9	26.8	33.2
2	India	14.9	11.4	13.1		Thailand	n.a.	12.0	26.3
3	China	5.9	4.5	9.0		Singapore	27.2	19.4	15.2
4	Japan	7.9	3.6	5.6		Malaysia	14.2	8.9	3.8
5	Malaysia	4.5	2.5	2.2		Korea	5.3	5.3	3.7
6	Germany	3.0	2.7	1.3		Japan	8.1	4.3	3.4
7	Korea	1.3	1.9	1.7		India	1.8	2.6	3.2
8	Singapore	2.6	3.2	1.9		Indonesia	5.8	2.0	2.8
9	Viet Nam	13.9	3.5	1.1		Germany	2.0	0.7	0.9
10	United Kingdom	9.9	12.5	0.8		Hong Kong	2.7	2.4	0.7
	<b>Top-10</b>	<b>65.6</b>	<b>77.1</b>	<b>83.2</b>		<b>Top-10</b>	<b>88.7</b>	<b>86.4</b>	<b>93.2</b>
	<b>Intra-ASEAN</b>	<b>20.6</b>	<b>37.6</b>	<b>50.4</b>		<b>Intra-ASEAN</b>	<b>47.4</b>	<b>42.7</b>	<b>53.7</b>
	<b>Total Exports</b>	<b>1132.1</b>	<b>2752.7</b>	<b>6341.5</b>		<b>Total Imports</b>	<b>2861.53</b>	<b>2969.11</b>	<b>3849.9</b>

Source: *Key Indicators 2010*, ADB, & ASEAN Secretariat 2010

Since imposition of trade sanction by the United States and EU, the direction of Myanmar's trade has changed and mainly concentrates on its neighboring and ASEAN countries. As shown Table-2, ASEAN countries have been increasingly important as Myanmar's export destination, which increased its share from 21 percent in 1997 to 38 percent in 2002 and further to 50 percent in

2009. Although the United States was the second largest export destination of Myanmar in 2002, since then, the shares of US and European countries has drastically declined due to several restrictions imposed by them. At the import side, the shares of Thailand and China have risen, which together accounted for almost 60 percent of total imports in 2009 while those of other ASEAN countries mainly Singapore, Indonesia, and Malaysia have decreased gradually.

Overall, the most important trade partners of Myanmar are Thailand and China. In 2009, Thailand took 46 percent of total exports of Myanmar, mainly with natural gas, and 26 percent of its imports while China held 9 percent of exports and 33 percent of imports.

### **III. EMPIRICAL ANALYSIS**

#### **Literature Review**

Following the Newton's law of gravity, gravity model of international trade estimates the bilateral trades as a function of attraction factors such as economic mass and resistance factors including distance and various obstacles to trade. Specifically, trade volume between two countries should increase with their GDPs, since rich countries should trade more than poor ones and decrease with geographical distance because proximity reduces transportation and information costs.

The gravity model was first applied to the international trade field by Tinbergen (1962) and Linneman (1966) as an econometric analysis of bilateral trade flows based on gravity-type equations to provide empirical evidence. Frankel (1997) formulated a more complex and advanced form of gravity equation by including geographical factors, such as adjacency, landlockedness and population as determinants of bilateral trade flows, and regional trading blocs in order to estimate the impact of regional integration on bilateral trade flows. Hence, gravity models have been used extensively in the empirical literature on international trade. (Winters and Wang, 1991; Nilsson, 2000; Hassan, 2001; Drysdale, 2005; Sohn, 2005; Bussière and Schnatz, 2006)

## Methodology and Data

This paper attempts to test to what extent the gravity model is applicable to explain the trade flows of Myanmar in comparison with other new members of ASEAN; Cambodia and Lao. The empirical analysis is conducted by using aggregated bilateral import volume since bilateral export is much influenced by factor endowments of respective countries. For instance, natural gas exports take 40 percent of Myanmar total exports while 35 percent of Lao's exports are dominated by copper. The analysis is conducted by using aggregated bilateral import data of Myanmar, Cambodia and Lao (hereafter called "CLM") with their 29 trading partners, which are same set of trading partner countries covering the top-20 trading partners which cover about 90 percent of total import volume of each CLM country, over the period from 1998 to 2007.

In this study, the gravity equation uses five basic variables; GDP, gap in per capita income between each pair of trade partners, distance, adjacency, and FTA. Moreover, to observe the impact of trade sanctions on trade flows of Myanmar, this paper adds one more dummy variable for trade sanction.

The empirical gravity equation takes the form:

$$\ln M_{ij} = \alpha + \beta_1 \ln[Y_i] + \beta_2 \ln[Y_j] + \beta_3 \ln[GAP_{ij}] + \beta_4 \ln D_{ij} + \beta_5 FTA_{ij} + \beta_6 ADJ_{ij} + \beta_7 SANC_{ij} + \varepsilon_{ij}$$

where  $M_{ij}$  is the flow of aggregated imports of each CLM country (i) from trading partner (j). Since national products are valued at current exchange rates, the influence of exchange rate fluctuation can distort the underlying trade pattern. Drysdale (2005) recommended to use the purchasing power parity (PPP) valuations of GDP in order to estimate the relative size of economies. Thus,  $Y_i$  and  $Y_j$  stand for GDPs of country i and partner j based on PPP, which are considered as an approximation for economic sizes of respective countries, in terms of both production capacity and market size.  $GAP_{ij}$  is the absolute value of difference in per capita GDP (PPP) of country (i) and partner (j), which

is used as a proxy for level of development stage gap of each pair of countries to determine the pattern of trade between respective pair of countries.  $D_{ij}$  is the distance variable, measured in terms of distances between the capitals of country  $i$  and partner  $j$ .  $FTA_{ij}$  is a dummy variable assuming the value “1” if country  $i$  and partner  $j$  have a free trade agreement and “0” otherwise.  $ADJ_{ij}$  is a dummy variable with the value “1” if country  $i$  and its partner  $j$  share a common land border and “0” otherwise and  $\varepsilon_{ij}$  is the error term. In the case of Myanmar,  $SANC_{ij}$  is a dummy variable which is assigned “1” if partner country imposes trade sanction on Myanmar and “0” otherwise. In the equation, all variables are in natural logarithm except for dummy variables.

In this study, ordinary least-squares (OLS) linear regression is conducted by using Statistical Package for the Social Sciences (SPSS version-17). For analysis, nominal import flows are from the Direction of Trade Statistics, DOTS (May 2009) from International Monetary Fund (IMF) for the period from 1998 to 2007; these data are deflated by U.S. GDP deflator to generate real import flows. Missing import values are excluded and  $\ln(I+M_{ij})$  is used to deal with zero import values in logs. GDP, per capita GDP and U.S GDP deflator come from IMF’s World Economic Outlook Database (2009) and then GDP and per capita GDP are deflated by U.S. GDP deflator. The distance is measured in kilometers as the direct line distance between the capital cities of the two countries which is taken from GEOBYTES.

## **Empirical Results**

### ***OLS Regression Results***

The pooled cross-sectional OLS regression results for the period of 1998-2007 are presented in Table 3. It is observed that the overall performance of the model seems to be good with high  $R^2$  values of over 70 percent and almost all estimates of the coefficients are highly significant with expected signs, indicating that the gravity models are fitting and efficient in explaining the trade flows of Myanmar as well as Cambodia and Lao.

The power of the model explaining the variation in bilateral import flows of Myanmar is considered to be strong as the value of the  $R^2$  is over 0.70 and the value of F-test, the overall significance of the model, comes out highly significant at 1 percent level. Almost all explanatory variables show expected sign in coefficients and highly significant at the 1 percent level. Remarkably, the estimated coefficient of partner country's GDP, distance, being the members of a FTA by trading partners and sanction imposed by partner country are highly significant indicating as the most influenced factors on Myanmar imports.

**Table – 3**  
**Regression Result of Gravity Equation of CLM Country**

Explanatory Variables	Myanmar		Cambodia		Lao, PDR	
	OLS Coefficient (B)	Standardized Coefficient (β)	OLS Coefficient (B)	Standardized Coefficient (β)	OLS Coefficient (B)	Standardized Coefficient (β)
Constant	9.866*** (6.461)		6.532*** (3.379)		2.679** (2.114)	
GDP of Country i	<b>-0.369</b> <b>(-1.533)</b>	<b>-0.054</b>	1.055*** (3.124)	.133	.057 (.128)	.005
GDP of Partner j	1.250*** (15.194)	.684	.856*** (11.958)	.498	.846*** (12.798)	.496
GAP	.587*** (5.517)	.305	.499*** (6.737)	.312	.656*** (9.495)	.475
Distance	-2.294*** (-15.154)	-.728	-1.995*** (-10.084)	-.849	-1.575*** (-13.866)	-.625
FTA	.934*** (4.070)	.168	.050 (.141)	.010	<b>-0.008</b> <b>(-0.032)</b>	<b>-0.002</b>
Adjacency	.076 (.249)	.010	.966*** (2.414)	.121	2.919*** (10.865)	.405
Trade Sanction of U.S.	-2.387*** (-7.459)	-.118	-	-	-	-
No. of observation	290		290		290	
R <sup>2</sup>	.721		.630		.669	
Adjusted R <sup>2</sup>	.714		.620		.662	
F-statistics	88.238***		62.703***		147.540***	

- Note: 1. Heteroskedasticity-consistent standard errors (White) are in parentheses.  
 2. \*\*\* and \*\* and \* mean significant at 1%, 5% and 10% level, respectively.  
 3. All variables except dummy variables are in natural logs.

Overall, the results of the gravity model highlight the fact that major determinants of bilateral import flows of CLM countries are partner country's GDP, GAP and distance. It implies that CLM's bilateral import volumes grow up with an increase in economic size of trade partner and larger differences in per capita income between them. Moreover, geographical distance is an important impediment factor for bilateral import flows of all CLM countries especially for Lao which is small landlocked country. In addition, being the member of specific FTA has significant impact on increasing bilateral import flows of Myanmar and Cambodia. For Myanmar, the trade sanction also has large impact on its import flows. It can be envisioned that improving political process in Myanmar will lead to increase in its international trades.

#### ***Comparison of Actual Imports with Its Potential***

The gravity model is supposed to provide a long-run equilibrium view of trade flows, which is trade potential predicted by the gravity equation. The gap between actual trade flow and its long-term equilibrium value can be regarded as unexhausted trade potential. This gap can be engendered if there is any sort of market intervention that prevents from reaching to the market equilibrium. The market intervention encompasses external factors as well as domestic policies. The comparison between actual and potential import volume of CLM countries in 2007 are presented in Table 4.

In Myanmar, among its top-ten import sources, the actual imports from Asian countries such as Thailand, Japan, India and Hong Kong are lower than their potential predicted by the model. Among ASEAN, Singapore, Indonesia and Malaysia record high import volume with more than 100 percent of their potential. Even though the United States and European Union have imposed the investment restrictions and trade sanctions on Myanmar, actual import volume from these countries except the United Kingdom are generally higher than the potential predicted by the model as an indication of reaching full potential.

Although Thailand is the second largest import sources of Myanmar and sharing the same border with Myanmar, the actual import volume from Thailand is only half of its potential. The bilateral import volume from India, which is also sharing same border with Myanmar and the second largest export destination and eighth largest import sources of Myanmar, left far behind the potential estimated by the model. These low ratios suggest that the existence of some trade barriers and the extent of unrecorded informal trades and smuggling in the border area.

**Table – 4**  
**Actual and Predicted Flows of Import (2007)**

(US\$ Million, Percentage)

Myanmar		Actual Import	Predicted Import	Act : Pred (%)	Cambodia		Actual Import	Predicted Import	Act : Pred (%)	Lao, PDR		Actual Import	Predicted Import	Act : Pred (%)
1	China	1553.2	690.7	225%	1	Thailand	1491.1	2230.9	67%	1	Thailand	1204.2	729.2	165%
2	Thailand	880.2	1809.0	49%	2	Vietnam	1089.9	91.4	1192%	2	China	162.9	326.4	50%
3	Singapore	714.3	122.7	582%	3	China	969.4	155.5	624%	3	Vietnam	95.8	84.3	114%
4	Korea	268.1	148.4	181%	4	Hong Kong	673.3	154.7	435%	4	Korea	51.1	12.2	418%
5	Indonesia	240.9	45.8	526%	5	Singapore	482.2	263.4	183%	5	Singapore	35.8	10.5	340%
6	Malaysia	193.3	136.8	141%	6	Korea	309.6	77.6	399%	6	Japan	34.8	26.9	129%
7	Japan	161.9	179.0	90%	7	USA	152.7	50.7	301%	7	Germany	29.0	6.3	461%
8	India	155.9	260.1	60%	8	Malaysia	147.5	247.0	60%	8	Australia	20.1	2.5	810%
9	Italy	87.8	16.2	542%	9	Indonesia	134.0	51.3	261%	9	Hong Kong	12.3	20.3	61%
10	Germany	48.6	32.3	151%	10	Japan	122.6	167.9	73%	10	USA	12.2	13.7	89%
11	Hong Kong	45.2	54.2	83%	11	France	83.2	17.7	469%	11	France	10.6	4.1	257%
12	France	35.4	17.3	205%	12	Belgium	41.0	4.4	925%	12	Malaysia	8.5	7.2	119%
13	Australia	27.3	6.5	417%	13	Australia	38.7	16.3	237%	13	Belgium	8.5	1.0	812%
14	Ukraine	24.0	1.1	2124%	14	India	34.2	29.7	115%	14	India	6.6	2.4	277%
15	Vietnam	20.0	51.1	39%	15	Germany	30.8	27.9	110%	15	UK	6.1	4.4	138%
16	Russia	19.4	30.2	64%	16	Italy	23.0	16.9	136%	16	Sweden	3.8	1.2	326%
17	USA	7.9	7.5	105%	17	Pakistan	16.3	5.9	279%	17	Indonesia	3.4	1.9	179%
18	Austria	7.8	3.3	237%	18	Russia	12.3	25.7	48%	18	Ireland	2.1	0.6	346%
19	Netherlands	7.7	4.8	162%	19	Sweden	9.4	5.1	185%	19	Denmark	2.0	0.7	285%
20	Philippines	7.4	19.1	39%	20	Philippines	9.4	33.6	28%	20	Russia	2.0	4.9	40%
21	UK	6.7	18.6	36%	21	Switzerland	8.5	4.1	210%	21	Switzerland	1.6	1.0	163%
22	Belgium	5.1	2.2	226%	22	Netherlands	7.1	7.5	94%	22	Italy	1.6	3.7	42%
23	Pakistan	3.2	6.8	47%	23	Luxembourg	6.8	1.3	533%	23	Netherlands	1.1	1.8	63%
24	Switzerland	2.2	1.9	116%	24	UK	5.7	18.8	30%	24	Finland	0.6	1.0	64%
25	Sweden	1.8	2.6	70%	25	Austria	3.0	6.0	49%	25	Austria	0.5	1.4	34%
26	Ireland	1.2	0.9	131%	26	Ireland	2.9	2.4	119%	26	Philippines	0.4	1.7	24%
27	Denmark	0.7	1.3	53%	27	Denmark	1.8	3.1	58%	27	Luxembourg	0.1	0.4	37%
28	Finland	0.1	1.9	5%	28	Finland	0.4	4.2	9%	28	Pakistan	0.1	0.6	10%
29	Luxembourg	0.01	0.3	3%	29	Ukraine	0.1	2.3	6%	29	Ukraine	na	0.4	na



One of the reasons for the low ratio is trade policy of Myanmar. The import policy of Myanmar is to give first priority to import capital goods, intermediate goods and industrial raw materials to promote import-substitution and export-oriented industry. This policy leads to shortage of consumer goods and hence, to unrecorded informal trade and smuggling in the border area. Another reason for lowering actual import volume is the undervaluing the price of commodities in the invoices in order to avoid paying taxes/custom duty to the government.

In the case of China, both regularization and institutionalization of cross-border transactions and road infrastructure development contributed to boosting formal border trade between the two countries. Although Myanmar promoted all border trade not only with China but also with Thailand, India and Bangladesh to compensate for economic sanctions imposed by the Western countries, trade across the border with China became more successful than others, so that China has become a largest import source of Myanmar especially through cross-border trade.

Regarding significantly high ratio of Singapore, main reason is the import-export transactions of Myanmar firms, which set up their branches in Singapore mainly due to convenience of trade transactions including bank transactions between Singapore banks and stated-own Myanmar Foreign Exchanged Bank (MFTB) and Myanmar Industrial and Commercial Bank (MICB) and reliance on Singapore's logistic services. Such items of transit-imports to Myanmar through Singapore may be shown country of origin as Singapore.

As an impact of trade sanction on Myanmar's trade direction, in 2002, before imposing the trade sanction by the United States, only six Asian countries were included in its top-ten trade partners with about 69 percent of total trade values. However, in 2007, the number of Asian countries included in top-ten trade partners has become eight, altogether take 84 percent of total trades, highlighting more reliance of Myanmar's trade on neighboring and Asian countries.

In the case of Cambodia, the actual import volume from Thailand, which shares common border and is the largest import sources of Cambodia, is about two-third of its potential in 2007. For Lao, the actual import volume from China, which is a neighboring country and third largest import sources of Lao, is only half of the import potential. These scenarios highlight the existent of trade barriers and the extent of smuggling and unrecorded informal trades in the border area.

In general, CLM's actual imports from their neighboring countries are seen to be about half of their potential highlighting the extent of unrecorded informal trades in the border area. Moreover, the trade relations with East Asian countries have yet to reach their full potential indicating substantial trade barriers between trading partners although several trade agreements have being implemented under ASEAN plus arrangements. By both regularization and institutionalization of cross-border transactions as well as fully liberalizing the trade, CLM countries can enjoy large benefits from unexhausted trade potential in near future.

#### **IV. CONCLUSION REMARKS**

This paper has traced the factors that affect on the directions of Myanmar trade. In order to quantify the determinant factor of Myanmar's trade flows, actual bilateral trade volume is compared to the predicted volume estimated by the Gravity equation. In order to explore the significant factors of Myanmar trade flow, the same practice is performed with the data of Cambodia and Laos and their results are compared with those of Myanmar. As bilateral export volume is much influenced by factor endowments of respective countries, the analysis is done only with aggregated bilateral import volume.

According to empirical results of the gravity model, Myanmar's import volumes grow up with an increase in economic size of trade partners and larger differences in per capita income between them. The distance and being the members of a FTA also have significant impact on increasing bilateral trade flows between Myanmar and its partners. As expected, the trade sanction

has large impact on Myanmar trades, hence, it can be envisaged that improving political process in Myanmar will lead to increase in its international trades. The results are almost the same for Cambodia and Lao although participating in a FTA does not have much impact on their imports.

In general, actual import volume of all CLM countries from their neighboring countries are much lower than the potential predicted by the gravity equation indicating the existence of trade barriers and unrecorded informal trades in border area. Within ASEAN, the actual import from Singapore is much higher than its potential highlighting its entrepôt position and a hub of the financial and business services in ASEAN. Actual imports from almost all Western countries have already reached their potential while the actual imports from East Asian countries still left far behind the potential estimated by the model.

In the case of Myanmar, the reasons for lowering trade ratio with its neighboring countries mainly lay on its trade policy. First reason is the policy of prioritizing industrial goods in its import, which leads to shortage of consumer goods and hence, to unrecorded informal trade and smuggling in border area. Second reason is the requirement of several documents and complicated procedures in applying import license, which lead to informal trade with neighboring countries. Another reason is the practice of undervaluing invoice for imports in order to reduce the tax and duty. Even though tariff rates of Myanmar is relatively low in line with CEPT scheme of AFTA, effective tariff rate is supposed to be high and thereby creating low volume of actual trade recorded.

At the same time, investment restriction and trade sanctions of Western countries have large impact on direction of Myanmar's trade. The number of Asian countries in Myanmar top-ten trade Partners increased from six to eight while their share have risen from 69 percent to 84 percent, highlighting more reliance of Myanmar's trade on its neighboring and Asian countries.

Having large extent of informal trades and smuggling in border areas, Myanmar as well as Cambodia and Lao need to take possible measures to regularized and institutionalize such trade

activities, thereby, government can enjoy the custom duty to improve their revenues at least in the short-term before full realization of implementing FTAs as well as consumers benefits from wider varieties of safety products at a lower price. At the same time, there is an urgent need to promote bilateral trades between CLM and their East Asian trade partners by hastening the elimination of tariff and non-tariff barriers and simplification of trade facilitating procedures in order to enjoy large benefits from unexhausted trade potential.

This paper has attempted to identify empirically the underlying factors of trade flows of Myanmar and to provide trade policy implications under the framework of basic gravity model. The empirical outcomes might differ if such omitted explanatory variables as tariffs, NTBs, and other trade restrictions are included in the model or if bilateral trade volumes are disaggregated into commodity level. Nonetheless, this study is believed to have significant implications for promoting bilateral trades of Myanmar and to a lesser extent, Cambodia and Lao and more detailed researches on this topic are expected to continue in the near future.

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