An Analysis of the Effect of Border Trade Value on Myanmar Economic Growth

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Abstract

This study analyzes the effect of border trade value on Myanmar Economic growth over the period 1996-2015. It covers the annual data of GDP, Export and Import of border trade with neighboring countries including China, Thailand, India and Bangladesh. The two major methodological approaches are adopted in this research namely exploratory data analysis and descriptive analysis. Augment Dickey-Fuller (ADF) unit root test and Granger causality are used for the exploratory data analysis approach under the framework of Vector Autoregressive (VAR) model. Myanmar trade has deepened on neighboring countries over the last two decades during the sanction periods. The descriptive analysis approach includes the analysis of border trade of Myanmar trend with descriptive statistics. The border trade value of Myanmar has growing every year. The value of export is larger than the value of import. The border of Myanmar was illegal until 1989 which means that there is no data recorded. It can be classified as formal or official border trade, informal border trade, illegal border trade, transits trade and barter trade. Among them, only the formal border can be recorded with statistics in the department of border trade under the ministry of commerce of Myanmar. The government of Myanmar has signed Border trade agreement with its neighboring countries to integrate economic relation and opened 13 border trade posts in the border area. Border trader with neighboring countries is a vital role for Myanmar economic growth. It is the source of government revenues. The study shows that the export value of border trade is the determinant factor of the economic growth of Myanmar. Therefore, growth-driven export strategy had been applied for the study period 1996-2015.

Key Words: Gross domestic product (GDP), Export, Import, consumer price index Economic growth, VAR model
1. Introduction

Myanmar, also known as Burma, is a country in Southeast Asia, which is bordered with five neighboring countries namely China in the north and northwest, Laos and Thailand in the east, Bangladesh and India in the west. It covers the total area of 676,578 km² and famous for its nature, several of ethnic culture, ancient Pagodas and is also known as Golden land. It is the 40th largest country in the world and the largest country in mainland Southeast Asia with an area of 653,508 square kilometers of land and 23,070 square meters of water. It became an independent nation from British colonies in 1948. According to 2014 census, it has a population of 51 million people. The official name of the country is the Republic of the Union of Myanmar which is a member of different kinds of international organization such as APT, ARF, ADB, ASEAN, BIMSTEC, FAO, G-77, IAEA, IBRD, ICAO, ICRM, IDA, IFAD, IFC, IFRCs, ILO, IMF, IMO, IOC, UN, UNCTAD, UNESCO, UNIDO, WHO, WIPO, WMO, WTO and so on. It is bordered by the most popular nations in the world, China and India. Therefore, it has a huge economy community not only with neighboring countries but also with international. This research focuses on the border trade with neighboring countries. It plays an important role in Myanmar economic growth. The neighboring countries became the main trading partner for Myanmar especially during the sanction periods. Trade is the action of buying and selling goods and services which stimulates economic growth for the country. It makes easy to exchange of food and raw material among trading countries or regions. Therefore, it is regarded as an engine of economic growth. Trade can be divided into normal trade and border trade. Trading with neighboring countries can be seen as border trade which has various forms such as formal or official border trade, informal border trade, illegal border trade, transits trade and barter trade. The government of Myanmar has signed border trade agreement with neighboring countries and opened border trade post since 1996 and the government established the Department of Border Trade (DOBT) which is important to implement and facilitate border trade activities under the guidance of the Ministry of Commerce. The border trade can be seen as illegal trade until 1988 because of the government of Myanmar adopted the Socialist system also known as “the Burmese Way to Socialism” during that time. There is very little documentation relating to Myanmar’s cross-border trade because cross-border activities between Myanmar and its neighbors (India, Bangladesh, China, Thailand, and Lao PDR) are mostly informal and available secondary data does not reflect the actual situation.1 According to official statistics issued by the Central Statistical Organization under the Ministry of National Planning and Economic Development, the annual border trade volume was only 10% of the total trade in 1995 and it rises 35% in

1 Winston Set Aung. © Institute for Security and Development Policy Västra Finnbodavägen 2, 131 30 Stockholm-Nacka, Sweden
2015. Trading with neighboring countries are the primary foreign trade of Myanmar because export to Asian region and neighboring countries is more than 70% of total export and the import from those countries is more than 90% of total import of Myanmar. Although the border trade plays as a vital role for Myanmar economic growth, the border trade between Myanmar and Laos can’t develop because of the mountainous region at the border. It makes difficult to trade between the two neighboring countries. According to Ministry of Commerce in 2015, trade between Myanmar and its four neighboring countries has reached US$2.48 billion. Among all of Myanmar’s border trade centers, the Muse border trade center on Myanmar-China border generates the highest revenues through exports. However, there is still illegal trading across the border areas.

The government of Myanmar has signed Border trade agreement with neighboring countries to integrate economic relation. The objectives of Border trade are:

- To further strengthen the existing friendship between the two countries.
- To promote border trade between the two countries, putting it in line with normal trade.
- To get reasonable revenue for the State.
- To facilitate private business activities there by allowing them to acquire reasonable profit.
- To enhance the smooth flow of commodities. (Department of Border Trade)

The Department of Border Trade of Myanmar has open thirteen border trade posts. China is the largest border-trading partner of Myanmar. The border trade posts can be seen as the following table.

<table>
<thead>
<tr>
<th>No</th>
<th>Name of Border Trade Post</th>
<th>Date of Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Muse(105)</td>
<td>12.1.1998</td>
</tr>
<tr>
<td>2</td>
<td>Lwejel</td>
<td>23.8.1998</td>
</tr>
<tr>
<td>3</td>
<td>Chin Shwe Haw</td>
<td>19.10.2003</td>
</tr>
<tr>
<td>4</td>
<td>Kanpaite</td>
<td>1.8.2009</td>
</tr>
</tbody>
</table>

Myanmar-Thailand

| 1  | Myawaddy                 | 16.9.1998    |
| 2  | Tachikleik               | 16.3.1996    |
| 3  | Kawthaung                | 1.6.1996     |
| 4  | Myeik                    | 1.7.1999     |
| 5  | Na Bu La                 | 29.3.2012    |

Myanmar-India

| 1  | Rih                      | 10.12.2003   |
| 2  | Ta Mu                    | 12.4.2005    |

Myanmar-Bangladesh

| 1  | Maungtaw                | 5.9.1995     |
| 2  | Sittwe                  | 11.12.1998   |
The main aim of the department of border trade is to increase trade volume and to achieve government revenues. It has authority to issue export, import licenses and permits through border area.

It allows transferring of the ownership of goods or services from one person or entity to another for exchanging in goods or services. Trade between two nations can be defined as bilateral trade and trade between more than two nations is called multilateral trade. The trade volume between Myanmar and her neighboring countries is shown in table 1.

**Table 2: Total Border Trade of Myanmar with Neighboring Countries (US $ Million)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total trade</th>
<th>China</th>
<th>Thailand</th>
<th>Bangladesh</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>249.78</td>
<td>147.45</td>
<td>81.08</td>
<td>17.45</td>
<td>3.8</td>
</tr>
<tr>
<td>1997</td>
<td>257.66</td>
<td>145.81</td>
<td>83.86</td>
<td>22.25</td>
<td>5.74</td>
</tr>
<tr>
<td>1998</td>
<td>246.46</td>
<td>194.29</td>
<td>39.34</td>
<td>3.61</td>
<td>9.22</td>
</tr>
<tr>
<td>1999</td>
<td>170.92</td>
<td>96.39</td>
<td>43.70</td>
<td>8.55</td>
<td>22.28</td>
</tr>
<tr>
<td>2000</td>
<td>411.74</td>
<td>267.63</td>
<td>107.59</td>
<td>16.00</td>
<td>20.57</td>
</tr>
<tr>
<td>2001</td>
<td>497.44</td>
<td>276.35</td>
<td>170.59</td>
<td>19.34</td>
<td>31.13</td>
</tr>
<tr>
<td>2002</td>
<td>444.36</td>
<td>331.18</td>
<td>74.04</td>
<td>11.80</td>
<td>26.72</td>
</tr>
<tr>
<td>2003</td>
<td>501.16</td>
<td>387.12</td>
<td>78.57</td>
<td>10.28</td>
<td>25.19</td>
</tr>
<tr>
<td>2004</td>
<td>656.61</td>
<td>496.71</td>
<td>121.94</td>
<td>15.20</td>
<td>22.76</td>
</tr>
<tr>
<td>2005</td>
<td>716.66</td>
<td>481.36</td>
<td>199.02</td>
<td>15.41</td>
<td>20.87</td>
</tr>
<tr>
<td>2006</td>
<td>1092.62</td>
<td>749.76</td>
<td>300.23</td>
<td>15.77</td>
<td>26.86</td>
</tr>
<tr>
<td>2007</td>
<td>1329.50</td>
<td>977.43</td>
<td>304.74</td>
<td>14.83</td>
<td>32.50</td>
</tr>
<tr>
<td>2008</td>
<td>1348.48</td>
<td>986.60</td>
<td>327.35</td>
<td>9.88</td>
<td>24.65</td>
</tr>
<tr>
<td>2009</td>
<td>1383.67</td>
<td>1076.81</td>
<td>274.65</td>
<td>13.74</td>
<td>18.47</td>
</tr>
<tr>
<td>2010</td>
<td>2130.19</td>
<td>1800.30</td>
<td>299.08</td>
<td>16.45</td>
<td>14.36</td>
</tr>
<tr>
<td>2011</td>
<td>3368.73</td>
<td>2985.45</td>
<td>343.31</td>
<td>24.50</td>
<td>15.45</td>
</tr>
<tr>
<td>2012</td>
<td>3453.00</td>
<td>3110.90</td>
<td>574.16</td>
<td>13.00</td>
<td>38.00</td>
</tr>
<tr>
<td>2013</td>
<td>4011.61</td>
<td>3662.20</td>
<td>209.20</td>
<td>11.60</td>
<td>27.61</td>
</tr>
<tr>
<td>2014</td>
<td>4852.98</td>
<td>4322.69</td>
<td>486.49</td>
<td>9.00</td>
<td>34.83</td>
</tr>
<tr>
<td>2015</td>
<td>6206.37</td>
<td>4653.59</td>
<td>502.23</td>
<td>14.3</td>
<td>36.25</td>
</tr>
</tbody>
</table>
As mentioned in the figure, China is the highest total trade value among the neighboring countries. It stands the biggest trade partner of Myanmar. Thailand stands the second largest and India, Bangladesh stands the third and fourth respectively. Natural gas, minerals, marine products, jade are the major export commodities and agriculture products, wood product, clothing and all exportable commodities are also exported. Crude oil, petroleum products, machinery and equipment, transport equipment, construction materials, fertilizer, cement, edible oil, food products, fabric and plastics resin are the major import commodities. Myanmar's main exports partners are neighboring countries and other trading partner countries are Japan, South Korea, Germany, Indonesia and Hong Kong.

According to Commerce Ministry data, Myanmar is Thailand's sixth-largest trading partner in ASEAN, and its seventh largest in the world. China has more favorable conditions concerns with Myanmar because the highways and road transportation are better than others. One main benefit is that the goods imported from China are familiar with Myanmar people. As China is the country of advance technology, imported goods from China have variety of choices such as machine and accessories, electronic goods and technology product. Since the government opened border trade, private business sectors are allowed to participate in all sectors of the economy. The border trade provides to the increase of employment opportunities for many workers and creates income. It can improve the security in the area and promote the transportation facilities in those areas and beneficial for social sector. On the other hand, there is also still negative signs in some of political, social and economic obstacles because of Myanmar civil war is still ongoing in most of frontier area. Although cross-border trade plays an important role in Myanmar’s economy, there are still various
constraints such as an export-first policy, licensing system, and high tax related to exports in conducting formal trade. This has led to a situation where informal practices have expanded drastically, especially in border areas. Brokers have become more systematic by incorporating trading companies and specializing in several sets of products. The border trade authorities under the Ministry of Commerce issue licenses for exports and imports; whereas broker-trading companies apply for such licenses in advance for imports/exports of their specialized products (Winston Set Aung).

The main purposes of this study are:

1. To analyze the effect of border trade value on Myanmar Economic growth over the period 1996-2015 and the border trade policy in Myanmar through descriptive statistics

2. To describe how the export, import and economic growth reacts over time to exogenous impulses

3. To analyze the relationship between import and export from border trade countries to economic growth (GDP) and to test the hypothesis of export led-growth and growth led-export in Myanmar.

As one of developing countries for Myanmar, trade plays as an engine of economic growth. Border trade relation with neighboring countries is the main source of government earning. This study will be helpful to the policy maker how to draw the long-run planning for trading between Myanmar and neighboring countries. Border trade provides not only job opportunities for the people who rely in the frontier areas but also upgrades the transportation sectors. Good communication and transportation will be a vital for the continued growth of Myanmar economy. Therefore, the study of border trade relation with Myanmar and neighboring countries will be helpful for guiding the country’s economic decision-making process. It will also help the policy maker how to apply a set of trade policy within the nation and how to formulate the policies concerning not only border trade but also the international trade of Myanmar in the proper ways.

In this research, the study focuses on the border trade value between Myanmar and her neighboring countries including China, Thailand, India and Bangladesh. The data are secondary data which are collected from department of border trade under the ministry of commerce of Myanmar during 1996-2015. Three variables, GDP, export and import are using in this research. Gross Domestic Product (GDP) is used as dependence variable and Export, Import are used as independence variables. Consumer price index is used as exogenous variable. The study which suggests that how to improve the border trade of Myanmar and gives comments for the future researcher and identifies the border policy of Myanmar.
2. Theory

The effect of border trade value on Myanmar Economic growth over the period 1996-2015 is discussed with the related theories in this chapter. It classifies in two ways namely economic theory and econometric theory.

2.1 Economic Theory

The research is related to new trade theory, The Heckscher-Ohlin Theory, Comparative advantage and absolute advantage theory. The new trade became well known in the 1960s and 1970s because of it was applied instead of the old theories which also known as traditional theories. The specialization to increase output and the ability to enhance economic of scale increase are the key factors of new trade theory. The new trade theory believed that every country has produced the similar goods and services in order to continue in trading with others. It is used to explain the transactions between nations with the same economic activities. The new trade theory also became one of factors to explain the growth of globalization which suggest that a critical factor in determining international patterns of trade are the very substantial economies of scale and network affects that can occur in key industries. It argues that every country in the government needs to play as a role in order to promote new industries and to support the development of the key industries. The developing nations need to set up the system to protect tariff and to subsidy domestic producers. It is the basic factors to create the capital-intensive industries for the economy. The government supporting new industries and businesses can provide the powerful of business sectors and more strength in the long-run period. New trade theory is not primarily about advocating government intervention in industry; it is more a recognition that economies of scale are a key factor in influencing the development of trade. It also suggests that free trade and laissez faire government intervention may be much less desirable for developing economies that find themselves unable to compete with established multi-nationals (Tejvan Pettinger, 2013)

Heckscher-Ohlin Theory is developed by Swedish economist, Eli Heskscher (1919), and Bertil Ohlin (1933) which explains in two nations, two factors and two commodities framework. It states that a nation which rich in labor will export labor intensive goods and the other nations which rich in capital will export capital intensive goods. The differences in factors endowment including land, capital, natural resources and climate are the main causes of trade advantages. Therefore, the Heckscher-Ohlin theory is based on a number of simply assumptions, which are two commodities and two countries, labor and capital flow freely between countries, the amount of labor and capital in two countries differ, free trade technology is across countries and tastes are the same. This theory believes that different countries are endowed with varying proportions of different factors of production. Some
countries have large population and large labor resources. The others have abundance of capital but short of labor resources. Capital abundance country presents a higher capital ratio then what a labor abundant country presents. Thus, the country with large labor force will be able to produce those goods at lower cost that involve labor intensive mode of production. Similarly the countries with large supply of capital will specialize in those goods that involve capital intensive mode of production. The former will export its labor intensive goods to the latter and import capital intensive goods. After the trade, both the countries will have both types of goods at the lower cost. Again theory does not hold good if the labor abundant country is technologically advanced in capital intensive goods or if capital abundant economy is technologically advance in production of labor intensive goods. According to Hecshcer-Ohlin theory, there is a relative price level differ among nations because nations have different relative endowments of factor inputs and different commodities required factor inputs with differing intensive of production. It concludes that the basis of internal trade is the difference in commodity prices in the two countries, differences in the commodity prices are due to cost differences which are the results of differences in factor endowments in two countries, a capital rich country will specialize in capital intensive goods and exports them. While a Labor abundant country will specialize in labor intensive goods and exports them. Thus, the different in national factor endowments among is the basic element for the determination of comparative advantage and international trade.

Adam Smith (1776), the former economists, who introduced the absolute advantage theory. According to this theory, absolute advantage will support the nation to minimize costs and maximize profits which can be achieved by the utilization of resources in the most effective system.

David Ricardo (1817) introduced that the comparative advantage in which theory there are two nations or two trading partners work at in free trade in comparative advantage. David Ricardo suggests that the two nations at the free trade and they aim at to achieve comparative advantage from their trading of goods and services. According to comparative advantage theory, both nations can achieve more benefits by producing one of their favorite commodities. Comparative advantage can be achieved by using different factors endowment like as capital, labor, land, resources. Therefore, it aims to free trade and allows more benefits to all nations by specialization in order to its comparative advantage. Developing countries can gain comparative advantage in production of labor-intensive products because of the lower wages labor in relation to other developed countries. Comparative advantage is the concept in economic that a country should specialize in producing and exporting only its favorable goods and services which it can be produced to be more efficiently (at lower opportunity cost) than other goods and services which is imported from the other nations.
2.2 Export-Led Growth Strategy and Growth-Led Export Strategy

The export-led growth strategy has been successful in various countries, especially in East and South-East Asian and also in India. However, the debate over choosing between Export-led growth strategy and Growth-led export strategy has become immaterial. It may be highlighted that exports and growth entail dual causality and border trade between India and Myanmar needs to be approached from this perspective. While concentrating on engendering and facilitating border trade has in turn growth-inducing effects; focusing on the overall growth and development of the border region has border trade augmenting effects. Hence, both the strategies would have to be adopted simultaneously in the context of Indo-Myanmar border trade. (Ram 2016). The main issue in the export-growth literature is whether causality goes from exports to economic growth as it is asserted by export-led growth hypothesis, or causality flows from economic growth to exports as it is supported by growth-led exports hypothesis. What is important regarding this issue is that depending upon the direction of this causal relationship, different implications for economic policy strategies would be provided. In particular, if causality flows from exports to growth, then it is an appropriate policy for a country to carry out export promotion strategies. However, if causality flows from economic growth to exports, then it is likely that a certain degree of development is prerequisite for a country to increase its exports, which indicates the importance of economic policies in expanding exports. Also if there is a bi-causal relationship between export and growth, then it means that both strategies could be necessary as long as they work hand in hand (Temiz and Gökmen 2010).

As it is stated in the above section, the relationship between foreign trade and economic growth is examined on the basis of export-growth relation. Accordingly, export-led growth or export cause growth hypothesis is being increasingly supported by many studies. There are mainly two reasons for development of export-growth literature. One of them is New Growth Theory which helps modeling the impact of determinants of growth on export. The other one is the new developments in econometrics like co-integration and causality tests which are widely used for examining the relationship between foreign trade and economic growth (Kotil and Konur 2010). If the factors that affect export are taken into consideration, it could be argued that the degree of international openness in terms of increasing competitiveness in domestic markets by increasing efficiency and decreasing costs would enable a country to increase its exports. Also, adoption of high technology, managerial experiences and in-depth exploration of international markets can be taken as supporting factors for exports. Significantly, one of the factors that promote exportation is to assure a sufficient amount of capital accumulation in a country, which could be provided by increasing capital inflows into the country. Thus, in that way the country is able to increase its production with new
resources and to expand its exports with increasing economic growth (Temiz and Gökmen 2010)

The basics of export-led growth hypothesis suggest that the expansion of aggregate exports have a favorable impact on economic growth through two ways. First, through an improvement in the output level via the multiplier effect, the aggregate exports contribute to the circular flow of income in the country. Second, the level of exports increases foreign exchange receipt which is triggering the imports of essential inputs in the production system (Öztürk and Acaravcı 2010).

3. Literature Review

Agasha (2006) studied the determined factors of export growth rate in Uganda. Export growth rate is used as dependence variable and gross domestic product, and foreign direct investment are used for independence variables in this paper. Using the VEC model and studied the export growth in Uganda between the periods (1987-2006). The research showed that Gross Domestic Product, Real Exchange Rate and Terms of trade are positively impact on the export growth rate in Uganda. In other hand, there is negative effect especially in Foreign Price Level. The most significant factors are that there is a positively relationship between Foreign Direct Investment and export growth rate of Uganda.

Frederic Lauyins (2007), studied that co-integration between trade and regional growth in Spain. The author has focused on the relation of trade and economic growth in Spain. He use the residual-based test and the panel co-Integration test and divides two steps Engel-Granger residual –based methodology. He uses OLS to estimate and the Unit Root test is used to predict the residuals. In the ADF test, the ACs appears as for the signification stationary relationship between exports and real per capita. He pointed that in there is no significant relationship between GDP per capita and export. In the other hand, there is a result to evidence the significant in the long-term relationship between imports and per capita and between total trade and GDP per capita.

Tin M. Maung Than (2007) studied Myanmar’s foreign trade under military rule: pattern and recent trends. In 1988, the military took power and the government adopted market-oriented economic system and encouraged private sectors to make activities in trading with foreign countries. The researcher used descriptive statistics to interpret and examine trade of Myanmar with foreign countries during the past period and the current situation. The government changed the economic system from Burmese socialist economic system to market-oriented economic system in order to promote the private business sectors in the country and to connect more with foreign countries especially in neighboring countries. Border trade departments are opened and signed trade agreement with neighboring countries to promote external trade. Import has a positive significant which became the major source of
the government income. The upgrading of trade system and making economics system reform effected positively on Myanmar economic growth.

Nay Myo Aung (2009), an analysis of the structure of Myanmar’s exports, imports and its implications for economic development. The research analysis the regional integration and bilateral trade flow into Myanmar which aims to examine the trade between Myanmar and ASEAN countries and neighboring countries including China, Thailand, India and Bangladesh. Myanmar is one of ASEAN member countries and trading mostly with the member nations of ASEAN. Agricultural products live animal, crude materials and mineral fuels are the main exports of Myanmar to generate foreign income for the government. The trade policy in Myanmar is related to the polices which the government practicing. Trade integration with the neighboring countries and domestic crisises are affecting on the economics growth of Myanmar. The gravity model is used in this research and there are three variables which are applied namely neighboring dummy, bilateral trade and economic growth. The stability of political situation in the country is important to achieve economic growth. When the US and the western countries impose economic sanction on Myanmar government, the neighboring countries became the major trading partner for Myanmar. However, it has limited opportunities to achieve foreign exchange income from goods and services. The increasing of exports is important for economic growth that can promote the productivity of resources, increase specialization of export product and more advance of labor skill. Export-led growth plays an important strategy of Myanmar economic development.

Linh Bun, B. S (2009), Trade, Economic Growth and Quality of Institutions in ASEAN. Trade plays as an important role in the development of the nation to provide essential platform for economic cooperation among the trading partner countries. The author studied the effect of trade on the growth rates of Real GDP Per Capita and analyzes that the effect of the intra-trade on income, based on the Gravity Model. The area and population are included in the regression as a proxy to intra-trade. Moreover, because of the correlation between the repressor, trade share, with other factors that effects on the growth rates of Real GDP Per Capita. The OLS and IV regressions are used as variation and the country dummy variables are also included. The researcher studied the trade between the member countries of the ASEAN they are still small to compare with the trade between the ASEAN countries and the rest of the world especially the U.S. and Japan. The author suggests that the positive effect of trade on economic growth and provide to evidence that in the trading member nations. Trade is important as Quality of Institutions in the member countries. For the economic growth of nation, there were many strong advocates of the possibility of export led growth and strong exports and then stimulates for the experience tremendous economic growth Both trade and Quality of Institutions are affected on economic growth in positively.
Winston Set Aung (2009), The Role of Informal Cross-border Trade in Myanmar, the author studies the border trade of Myanmar. He mention that cross-border activities between Myanmar and its neighbors, India, Bangladesh, China, Thailand, and Lao PDR are mostly informal before the establishment of department of border trade in Myanmar. It has only 10 percent of the total volume of foreign trade. When the Myanmar was imposed economic sanctions by the west in 1997, the cross-border trade became more significant due to the fact that direct imports from and direct exports to the West have become much more difficult. As a result, Myanmar has relied more on its neighboring countries of China, Thailand, and India, to where most products are exported for consumption and also for re-export to the West. Although cross-border trade plays an important role in Myanmar’s economy, there are still various constraints such as an export-first policy, licensing system, and high tax related to exports in conducting formal trade. This has led to a situation where informal practices have expanded drastically, especially in border areas.

Mustfa Kahya (2011), an analysis of the relationship between foreign trade and economic growth in Turkey over the period 1980-2009). The research focuses on how to analyze the relationship between foreign trade and economic growth in Turkey during the time period (1980-2009). Two methodological approaches are used in this study. The first one is econometric analysis which includes two model approaches such as VEC and VAR model which regarding to the period 1987:1-2007:3 and 2000:1-2007:3 for the investigation of the dynamic relationship between GDP, Exports and Import. The second approach is the analysis of composition change in foreign trade of Turkey in the period 1980-2009 which associates to the descriptive statistics. In this research, imports play as the most important factor to determinant the economic growth in Turkey and exports did not have the significant effects on the economic growth of Turkey. During the period 1980-2009, the foreign trade indicators of Turkey have a large volume and value than the last decades especially in imports. The main aim of the research is to contribute to the effects of foreign trade pattern in Turkey from many kinds of perspectives and examining how it provided on the economic growth during the last thirty years ago. In the year 1980s, the government of Turkey initiated the open door economic policies to the rest of the world which is the basic factors of economic growth in the country and the major change of its economic structure and policies which were adopted in the years 1960s and 1970s. Export-oriented industrialization strategy was started in the 1980s instead for import substitution industrializations strategies. When Turkey adopted open door policies, it has more opportunities to improve the allocation of the resources, technological knowledge becomes more advanced and the employment rate and the level of individual income also increased. Export led growth in the economy, growth led to the strategy of export were the most significant factors in the Turkey Economy.
Monojit Chatterji (2011), the relationship between trade openness and economic growth of India (1970-2010). The development research has optimism among most economic policy planners who focus on trade openness. The objective of this research is to examine the relationship between trade openness and growth of India for the time period 1970-2010 by using time series approach and the VAR estimation technique. The measures of trade volume and trade restrictions for trade openness are used in this research. In the post Second World War period, most of developing countries adopted import-substitution industrialization strategies. However, the strategy of most countries become in misallocation of resources. In the late-1970s, many countries abandoned this strategy and changed trade liberalization measures. China, Hong Kong, Taiwan, Singapore and South Korea initiated an Export-oriented Industrialization which becomes rapid economic growth in a few years. Trade openness has a potential achieve the growth prospects of a country in the influence three sources of growth. For example, open economy achieve their services more easily from foreign countries compared to a closed economy. Trade openness can make to allocate better in their resources. The opens up economy has comparative advantage to make a specialization in the sector for better factor endowments. The traditional models of international trade suggest how trade openness improves the allocation of resources to lead more benefit from to production. The Ricardian Model showed that trade liberalization of an economy has a comparative advantage. This leads to an increase in production of output and makes the country better off. Many economists stated that the factor accumulation, increase in productivity and innovation are the main sources of economic growth.

The result of in this paper showed that trade openness had a positive impact for growth in India. An increase in import penetration ratio and total trade has a benefit to increase in GDP growth rate of India.

Hamad, M, Mkubwa (2013), the Impact of Trade Liberalization on Economic Growth in Tanzania. The basic objective of this study is to analyze how the trade liberalization effect on economic growth in Tanzania. It has greater attention to many studies in the international trade. The researcher used a simple linear regression model. Real GDP was used as the dependent variable and the independent variable is trade openness. It divides two parts of the study such as a closed economy the time period (1970-1985) and adoption of open economy period (1986-2010). OLS technique was used in order to estimate the regression model which regarding the two sub-periods. The research indicated that trade openness has a positive effect on economic growth in Tanzania. Tanzania had appeared trade deficits account in during the closed economy period which compared to the open economy period. The country need to put strong export to compare for import. Trade liberalization in Tanzania had the most significant in this study which reduce the restriction or barriers on the exchange of goods and services between nations. Since the year 1960s, Tanzania initiated development strategy by
substituting domestically produced goods for imports and based on Arsha declaration in 1967 known as the concept of “socialism with self-reliance”. This import-substitution strategy became as the key factor for economic objectives to promote heavy industry and to achieve self-sufficiency in food production. It has two main instruments such as investment programs which were five-year plans and its target is to expansion of the capital intensive industrial sector and infrastructure projects. The second one is a set of large public enterprises that dominated most industries; had legal monopolies in the pricing, marketing, and processing of agricultural crops; and, by the mid-1970s, had become the country’s largest importers and exporters. The trade liberalization between Import Substitution and Export promotion in Tanzania had a highly impact on the economic growth. It improved the endowment of various resources and promoting more trade and investment. Trade and investment policies are needed for reforms to adjust with changing economic processes which can take towards more to improve free trade and to eliminate for the trade barriers in Tanzania economy.

Adeteye O. S (2015) studied the impact of International Trade on Economic Growth in Nigeria (1988-2012), by using net export (i.e total export less total import) and Balance of Payment to examine how the international trade impact on the Gross Domestic Product for the economic growth. The two main objectives of the study are to determine the contribution of international trade to economic performance in Nigeria and to determine whether there is bi-directional relationship between exports and economic growth in Nigeria. Co-integration and error correction modeling are used in this study for finding the long-run relationship between economic activities and international trade. In the research, the Total export (TEX) has a positive significant. The total import, total export, gross domestic product, balance of payment was used for the variable in the study. Export and import can be considered as the important contributors among countries. Most of the studies have concluded beneficial effects of export performance on economic growth such as, increasing specialization and the spillover effects of the export sector’s growth, greater capacity utilization, the externalities effect of exports in diffusion of modern technology across other sectors and industries and the increasing effects of economies of scale, industrialization and imports of capital goods. As far as the interactive between International Trade (IT) and Economic Growth (EG) is concerned, According to the research, there are two basic factors. The first one is that International Trade made it possible to overcome the reduced dimension of the internal market and the second one is which can make extension of the market size. The international trade contributes to promote the labor skill and encourage increasing the productivity and technical innovations. The research stated that Import has negative impact on the economy and export is the main factor, which led great output, and international trade plays an important role in economic growth of Nigeria.
Kyaw Kyaw Lynn (2015), an analysis of the Relationship between Foreign trade and Economic growth in Myanmar over the period 1990-2014. The main purpose of this research is to analyze the effect of foreign trade on Myanmar economic growth. The empirical analysis and general descriptive statistics approach are used in this research. It consists three variable namely Gross domestic Product (GDP), Import and Exports and used secondary data. Myanmar government adopted export promotion and import substitution system until 2010. The empirical analysis has included normal trade and border trade. Border trade plays as a crucial role in Myanmar economic growth because of Myanmar has a limited trade regime. After 2010, some of economic sanctions were reduced but Myanmar still remains as one of developing countries with lower income in the world. Therefore, Myanmar has negative impact on the economy and export sector will be helpful to improve the economic growth in Myanmar.

Table 3: Summary of Literature Review

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Variable</th>
<th>Econometric</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agasha (2006)</td>
<td>The determined factors of export growth rate in Uganda</td>
<td>Export growth rate, GDP, foreign direct investment (FDI)</td>
<td>VEC model</td>
<td>There is a positive relationship between foreign direct investment and export growth rate of Uganda.</td>
</tr>
<tr>
<td>Frédéric Lauyin’s (2007)</td>
<td>Co-Integration between trade and regional growth in Spain</td>
<td>GDP, Export, Import</td>
<td>Panel Co-integration, Engle-Granger Causality Test, VAR, VECM</td>
<td>The relationship between GDP and Import has positive significant in the long-term</td>
</tr>
<tr>
<td>Tin Maung Maung Than (2007)</td>
<td>Myanmar’s foreign trade under Military rule: Pattern and recent trend</td>
<td>Real GDP, Export, Import</td>
<td>OLS model, Descriptive method</td>
<td>Import become the major source of government earning</td>
</tr>
<tr>
<td>Linn Bun, B.S(2009)</td>
<td>Trade economic growth and Quality institutions in ASEAN</td>
<td>Real GDP, Total export &amp;Import, population</td>
<td>Gravity model</td>
<td>Strong export stimulates the economic growth of the nation</td>
</tr>
<tr>
<td>Mustfa Kahya (2011)</td>
<td>The relationship between trade and economic growth in Turkey</td>
<td>Export, Import, GDP</td>
<td>VECM, VAR</td>
<td>Import has a positive impact to the economic growth in Turkey</td>
</tr>
<tr>
<td>Monojit Chatterji</td>
<td>The relationship between trade openness and GDP, Trade balance, Government</td>
<td>VAR estimation technique</td>
<td>Trade openness had a positive impact for growth</td>
<td></td>
</tr>
</tbody>
</table>
3.1 Definition of the Effect of Border Trade Value on Myanmar Economic Growth

The Republic of the Union of Myanmar shares land border with China, India, Thailand, Bangladesh and Laos. The government of Myanmar has border trade agreement these countries through border trade post under the department of Border trade. Cross-border trade is defined as the flow of goods and services across international land borders. Cross-border trade takes advantage of geographical proximity and allows traders to take advantage of demand-supply gaps at the border.

The border trade of Myanmar is the main source government revenue and it provides political stability in the frontier area. It makes trade to increase not only in volume and also favor to achieve higher quality product. It also plays essential role for Myanmar economy, which stands as an initial form of international trade. As the global economy has being developed, both of border trade and relation to the international level are expanded, deepened and strengthened. For Myanmar, border trade relation can promote the contribution of social welfare, technological cooperation at national level and economic integration at the regional level. It makes easy to flow of goods and services across international borders and provide benefit to global community and the businessmen. It is different way of international trade because it can only be done by over land in the respective areas. The most common reason a product or service might be imported is that it is significantly cheaper to import it from its exporting territory than it is to produce it locally, perhaps due to tax reasons. Although this might simply sound like good business practice, there are a large number of benefits outside of larger profits which makes cross-border trading so beneficial to the ethical businessman.

Many researcher mentioned that the border trade between two nations is an excellent way to strengthen international bonds because it helps to create long-lasting partnerships where before none may have existed. It also supports job opportunities to the local society and increase potential market. It helps to export goods and services from domestic market to
foreign market and also as to import them. The rate of currency exchange needed to consider in the trading pattern. It is needed to research the exchange rate is the way to ensure benefits for business that will be helpful to the economy in positively. The trade flows in officially which will allow the goods to be exported and imported in smooth way. The government of Myanmar has signed border trade agreement with neighboring countries and opened border trade posts to increase the border trade value and volume. As the increasing of border trade value, the resistance people have more opportunities for their job. Most of developing countries are struggling with indirect factors that.

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2 Dr Ram Upendra Das, Department of Commerce and Industry, Government of India,
as anti-competitive business practices, regulatory environments that are unfavorable to business growth and investment, or limited infrastructure capacity. They tried to access the market network for developing their economy infrastructure. Trade liberalization and transparent trade policy is a key component of development and poverty reduction. The border trade relation with Myanmar and neighboring countries has a greatly positive impact on Myanmar economy. Therefore, it focuses on the trade relation with neighboring.

### 3.2 Border Policy and Border Structure of Myanmar

Myanmar adopted a neutralist foreign policy in the 1950s and 1960s. Since Myanmar has changed its economic course from a centrally planned economy into a market oriented system, a series of structural reforms had been introduced and new legal policy instruments were enacted as paving way for market oriented economy. The Myanmar government has recognized, in the context of the market-oriented economic system, the private sector as a prime-mover of the market mechanism and pays great attention for its development. All-out efforts are being made to encourage the active participation of private sectors in foreign trade and giving full support in every angle as to cope with the international trading practices. Department of border trade was established in 1996 in order to strengthen the border policy and to develop the bilateral trade relations with the neighboring countries. The national security, economic development, social justice, ecological protection and cultural prosperity are the critical issue of Myanmar border policy. In this research, the study mainly evaluate the effects of border trade value on Myanmar economic growth and the policy effect on the people who residents on both side of border area. According to national security policy, the inflow of people, goods and informational are limited. The border policy focus on further strengthen the close and friendly ties that exist between the neighboring countries. Even the border trade plays an important role in more than two decades in Myanmar economy; there is still some problem in trading like as export-first policy, licensing system, high tax related to export. It makes some difficult for the flow of goods and services. The effectiveness of border policies is primarily reflected in the consistency of the achievement level of the policy itself and the actual target of the policy, as well as the impacts on the economic and social life of border regions. (Qianlong Bie 2014).

The Structural policy can influence the sustainability of trade development between neighboring countries. Myanmar border department adopted export first and import later policy. Therefore, it can be seen as that import was permitted based on the value of export. Before 1997, US Dollar was the way of payments system. In 2000, the government notification the payment system and allowed to make any currencies for respective local area such as Kyats (or) Baht in Myanmar-Thailand border area and Kyats or Ruppies in Myanmar-India border area. But the payments system in Myanmar-Bangladesh has to be made in only
US dollars. The border trade authorities issue exports and imports licenses for the broker trading companies in the respective border areas. They can apply for those licenses in advance for their specialized products. Existing trade policies should be tilted to incorporate measures favorable to the poor, so that border trade can not only contribute to economic development but also to poverty alleviation, opening up more opportunities for the ethnic minorities and disadvantaged in the border areas.

3.3 Economic Model

Theoretical model used to find out border trade relationship between Myanmar and neighboring countries can be specified as a simple model:

\[ \text{GDP} = f(\text{EXP}, \text{IMP}, \text{CPI}) \]

GDP denotes Gross Domestic Product, EXP means export of border trade and IMP means import of border trade and CPI means the consumer index. The relationship between GDP, border export and import and CPI can be examined by using Augment Dickey Fuller (ADF) unit root test, and Ganger causality test under the broader of Vector Auto regressive (VAR) and Vector Error Correction (VEC) model to find out causality and direction among of the variables.

A. VAR Model

VAR model (vector Autoregressive Models) is an econometric model in which is used to capture the linear interdependencies among multiple time series. Sims introduced VAR model in 1980. In 1995, Ender stated that the VAR model is a suitable econometric technique to study the relations between variables. It has become a prevalent method of time-series modeling. The VAR model can be written as,

\[ Y_t = A_i Y_{t-1} + \cdots + A_p Y_{t-p} + \beta_0 X_{i,t} + \cdots + \beta_q X_{it-q} + \mu_t \]

In which \( Y_t = Y_{1t} \cdots Y_{kt} \) is the endogenous variable, and \( X_t = (X_{1t} \cdots X_{mt}) \) is the exogenous variables. K×1 vector and m×1 vector and \( D_t \) includes all pre-determined variable. So we can write VAR equation for Myanmar as follows:

\[
\begin{align*}
\text{GDP}_t &= \alpha_1 + \sum_{i=1}^{p} \theta_i \text{GDP}_{t-i} + \theta_2 \sum_{t-p}^{p} \text{EX}_{t-p} + \theta_3 \sum_{t-p}^{p} \text{IM}_{t-p} + \beta_1 \text{Exo}_t + e_{it} \\
\text{EX}_{it} &= \alpha_2 + \sum_{t-p}^{p} \lambda_1 \text{EX}_{t-p} + \lambda_1 \sum_{t-p}^{p} \text{GDP}_{t-p} + \lambda_2 \sum_{t-p}^{p} \text{IM}_{t-p} + \beta_2 \text{Exo}_t + e_{it} \\
\text{IM}_{it} &= \alpha_3 + \sum_{t-p}^{p} \theta_1 \text{IM}_{t-p} + \theta_2 \sum_{t-p}^{p} \text{GDP}_{t-p} + \theta_3 \sum_{t-p}^{p} \text{EX}_{it-q} + \beta_3 \text{Exo}_t + e_{it}
\end{align*}
\]

Where,

\[ t \] is time and \( q \) is lag value, \( q = 1, 2, 3, \ldots, N \)

\[ e_{it} \] is error term and \( \alpha_i \) is constant term

Exo is denoted the exogenous variable using as consumer price index (CPI)
VAR model estimation analyzes and explains the relationship among variables and shows that to what extent their effects occur on one another based on past and current values.

B. ADF Unit Root Test

Augment Dickey Fuller (ADF) unit root test, an augmented version of Dickey Fuller (DF) test, is used to accommodate some form of serial correlation. And it is used for a larger and more complicated set of time series model (Usman and Sarpong, 2008). There are three versions of ADF in which are using for analyzing the stationary property of a series.

i. Test for Unit root

\[
\Delta Y_t = \phi^* Y_{t-1} + \sum_{i=1}^{p-1} \phi_i \Delta Y_{t-i} + \mu_t
\]

Test for Unit root with constant

\[
\Delta Y_t = \beta_0 + \phi^* Y_{t-1} + \sum_{i=1}^{p-1} \phi_i \Delta Y_{t-i} + \mu_t
\]

ii. Test for Unit root with a constant and deterministic time trend

\[
\Delta Y_t = \beta_0 + \beta_1 t + \phi^* Y_{t-1} + \sum_{i=1}^{p-1} \phi_i \Delta Y_{t-i} + \mu_t
\]

Where,

- \( y_t \) is the value of a variable at time period \( t \)
- \( \beta_0 \) is a constant term
- \( t \) is a linear trend
- \( \Delta y_t = y_t - y_{t-1} \)
- \( u_t \) is an error term

In order to test the presence of unit root test, it is needed to calculate T statistic

\[
\tau = \frac{\phi^*}{SE(\phi^*)}
\]

and then compare its result to the corresponding critical value at different significant level (XU, 2012).

C. Granger Causality Test

The Granger causality test is a statistical hypothesis test, which is using for estimating the causality among variables. Based on VAR estimation, Granger causality test is run for observation the causality and its direction among variables. It can check whether the past values of one variable has been explained or it effected a change in current values of other variables or not. If it changes in variable X and Y to change, and then it can be assumed that X Granger cause Y. If the past values of X increase the forecasting of variables Y, then it can be said that X Granger cause Y. It can be applied to examine the impact of trade on economic growth by using time series data. It is using to observe the relationship between trade and economic growth because the ratio of imports, exports, or imports plus exports to the GDP is believed to be the engine of growth in developing countries. The causality occurring from trade to economic growth means that the growth and industrialization observed in countries
have been realized in the form of external learning, together with an increase in trade. Therefore, the direction of causality between trade openness and economic growth is important in order to establish whether countries’ growth rates are internal or external (Akilou, 2013).

\[ Y_{t,t} = \beta_1 + \gamma_1 t + \delta_{11} Y_{t-1} + \cdots + \delta_{1p} Y_{t-p} + a_{11} X_{t-1} + \cdots + a_{1q} X_{t-p} + e_{lt} \]

\[ X_{t,t} = \beta_2 + \gamma_2 t + \delta_{21} Y_{t-1} + \cdots + \delta_{2p} Y_{t-p} + a_{21} Y_{t-1} + \cdots + a_{2q} X_{t-p} + \mu_{lt} \]

4. Methodology

The literature review and theories have concerning the relationship of trade and economic growth. The research is using the Vector Autoregressive (VAR) model to estimate the long-run and short variables. The study focuses on the border trade relationship between Myanmar and neighboring countries. The following function represents the theoretical framework of the border trade relationship between Myanmar and her neighboring countries.

Figure 2: The Conceptual Framework

\[ GDP = f(\text{EXP}, \text{IMP}, \text{CPI}) \]

In this function, as export and import rise, output (GDP) also raise and vice versa. The above equation is using to explain the variables contributions and effecting of the economic growth of Myanmar. According to the mention earlier in new trade theory, a nation can gain economic growth by specialization in the production of the commodity in which has comparative advantage. Export has positive effect on the economic growth of Myanmar. It is important for not only international trade but also border trade. Thus, it provides the economic stability of the nation. The increasing of exports can support to grow aggregate demand (AD) and make higher economic growth. The economic growth rate and income distribution and wealth of a nation are closely related to economic growth. Therefore, Exports play an important role in Myanmar economy which influences the level of economic growth and employment. Import of border trade did not generate a significant effect on the economic
growth of Myanmar during the study period. Its growth was negatively influenced by the economic growth of Myanmar. It is found out that exports to neighboring countries had been determined by the GDP growth because the governing income is depending on natural products export earning especially in natural gas which represents 40 percent of country’s income. This research is focusing on the border trade relation between Myanmar and her neighboring countries. In this research, the VAR estimation and Granger causality are used in order to investigate the relationship of the variables namely GDP, export, import and consumer price index.

4.1 Variable Used in the Model.

The variables used in this research has three variables such as GDP growth rate, income of exports and Import expense form the border trade relationship between of Myanmar neighboring countries. The design of variables can be shown as the following table.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Indicators</th>
<th>Measure</th>
<th>Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth rate</td>
<td>Gross Domestic Product</td>
<td>Gross domestic growth rate in real price</td>
<td>Present quarter GDP quarter</td>
<td>GDP</td>
</tr>
<tr>
<td>Export (EXP)</td>
<td>Export Income</td>
<td>Export Income in US$</td>
<td>Present quarter Export income</td>
<td>EXP</td>
</tr>
<tr>
<td>Import (IMP)</td>
<td>Import Expense</td>
<td>Import expense in US$</td>
<td>Present quarter Import expense</td>
<td>IMP</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>Consumer Price Index</td>
<td>Consumer Price Index in US$</td>
<td>Present quarter Consumer Price Index</td>
<td>CPI</td>
</tr>
</tbody>
</table>

In this study all the above three variables are transformed into a form of Logarithm as the following:

- LnGDP is the natural logarithm of gross domestic product
- Ln EXP is the natural logarithm of export income
- LnIMP is the natural logarithm of import expense
- LnCPI is the consumer price index

4.2 Data Collection

The secondary data are used in this research in which are collected from the department of border trade under the ministry of Commerce of Myanmar. The study is focuses on four countries and the using data are recorded and published by the central statistical organization of Myanmar. VAR model can be estimated by using GDP, Export (EX) and Import (IM) and consumer price index (CPI).

Hypothesis of the research, the main purpose of this research is to analysis the effect of border trade value on Myanmar economic growth and to find out the border trade relationship
between Myanmar and her neighboring countries. The four testable hypotheses are used to test according to the purpose of the study.

Hypothesis1: border trade has an effect on economic growth of Myanmar during the study period of 1996-2015.

Hypothesis2: Export of border trade is more important factor which leads the economic growth of Myanmar than import.

Hypothesis3: Growth-led export proposition is applying in Myanmar over the study period 1996-2015.

Hypothesis4: There are using two ways causality between export and import Research Methodology

4.3 VAR Model

a) ADF Unit Root Test

The variables are tested that whether they are stationary or non-stationary for analyzing the relationship between the stationary variables in first difference is a necessary condition. There is needed to test the variables, which are stationary or non-stationary before making analysis. It is important step for analyzing the relationship between variable and the stationary of variables by using ADF. After that, the VAR estimation is doing and the ADF unit root test can be applied as the following:

<table>
<thead>
<tr>
<th>Unit Root Test</th>
<th>ADF Unit Root Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null Hypothesis: H0</td>
<td>Time-series is not stationary</td>
</tr>
<tr>
<td>Alternative Hypothesis: H1</td>
<td>Time series is stationary</td>
</tr>
<tr>
<td>Statistic test</td>
<td>t-Test</td>
</tr>
<tr>
<td>Prob&lt;0.1</td>
<td>0.00-0.10</td>
</tr>
</tbody>
</table>

And the equations are:

\[
\Delta \ln GDP_t = \beta_0 + \beta_1 t + \varphi^* \ln GDP_{t-1} + \sum_{i=1}^{P} \varphi_i \Delta \ln GDP_{t-i} + \mu_{t1}
\]

\[
\Delta \ln EXP_t = \gamma_0 + \gamma_1 t + \delta^* \ln EXP_{t-1} + \sum_{i=1}^{P} \delta_i \Delta \ln EXP_{t-i} + \mu_{t2}
\]

\[
\Delta \ln IMP_t = \epsilon_0 + \epsilon_1 t + \rho^* \ln IMP_{t-1} + \sum_{i=1}^{P} \epsilon_i \Delta \ln IMP_{t-i} + \mu_{t3}
\]

\[
\Delta \ln CPI_t = \theta_0 + \theta_1 t + \rho^* \ln CPI_{t-1} + \sum_{i=1}^{P} \theta_i \Delta \ln CPI_{t-i} + \mu_{t3}
\]

b) Lag Selection Criteria

Estimating the lag length of autoregressive process for a time series is a crucial econometric exercise in most economic studies. This study attempts to provide helpfully guidelines regarding the use of lag length selection criteria in determining the autoregressive lag length. The VARs are simulated using prespecified model parameters and lag length and a random number generator. The alternative lag selection criteria are evaluated by computing the frequency distributions of lag lengths selected by each lag selection criterion. Lütkepohl
(1993) indicates that over fitting (selecting a higher order lag length than the true lag length) causes an increase in the mean-square forecast errors of the VAR and that under fitting the lag length often generates auto-correlated errors. Hafer and Sheehan (1989) find that the accuracy of forecasts from VAR models varies substantially for alternative lag lengths.

c) VAR estimation

If all variables are stationary, VAR model can be estimated. The VAR model is used to explain and analyze for the relationship among variables.

\[
\text{LnGDP}_t = \beta_1 + \sum_{i=1}^{n} \beta_{i-t} \text{LnEXP}_{t-1} + \sum_{p=1}^{p} \beta_{t-p} \Delta \text{LnIMP}_{t-1} + \sum_{q=1}^{q} \beta_{t-q} \Delta \text{LnCPI} + \epsilon_t
\]

\[
\text{LnEXP}_t = a_1 + \sum_{i=1}^{n} a_{i-t} \text{LnGDP}_{t-1} + \sum_{p=1}^{p} a_{t-p} \Delta \text{LnIMP}_{t-1} + \sum_{q=1}^{q} a_{t-q} \Delta \text{LnCPI}_{t-p} + u_t
\]

\[
\text{LnIMP}_t = \partial_1 + \sum_{i=1}^{n} \partial_{i-t} \text{LnEXP}_{t-1} + \sum_{p=1}^{p} \partial_{t-p} \Delta \text{LnGDP}_{t-1} + \sum_{q=1}^{q} \partial_{t-q} \Delta \text{LnCPI} + \epsilon_t
\]

\[
\text{LnCPI}_t = \gamma_1 + \sum_{i=1}^{n} \gamma_{i-t} \text{LnGDP}_{t-1} + \sum_{p=1}^{p} \gamma_{t-p} \Delta \text{LnEXP}_{t-1} + \sum_{q=1}^{q} \gamma_{t-q} \Delta \text{LnIMP} + \pi_t
\]

4.4 Transformation of Data

The data transformation is the application of a deterministic mathematical function to each point in a data set that is used to transform the data is invertible, and generally is continuous. It also usually applied to a collection of comparable measurements in order to get a better result of fitting and make variables.

\[
\text{GDP} = 100 \times \log \left( \frac{\text{GDP}_t - \text{GDP}_{t-1}}{\text{GDP}_{t-1}} \right) \quad \text{(GDP growth rate)}
\]

\[
\text{EXP} = 100 \times \log \left( \frac{\text{EXP}_t - \text{EXP}_{t-1}}{\text{EXP}_{t-1}} \right) \quad \text{(EXP growth rate)}
\]

\[
\text{IMP} = 100 \times \log \left( \frac{\text{IMP}_t - \text{IMP}_{t-1}}{\text{IMP}_{t-1}} \right) \quad \text{(IMP growth rate)}
\]

\[
\text{CPI} = 100 \times \log \left( \frac{\text{CPI}_t - \text{CPI}_{t-1}}{\text{CPI}_{t-1}} \right) \quad \text{(CPI growth rate)}
\]

4.5 Granger Causality Test

Clive Granger defined the concept of *Granger causality*, which can be used to shed light on the direction of possible causality between pairs of variables. The VAR is a natural framework to examine for Granger causality. When more than two variables in VAR model such as \((x, y), (y, z), \text{and} (x, z)\) that can be tested for Granger causality in both directions. Therefore, which can be used to find out the causality and its causality test can be shown as the following table:

<table>
<thead>
<tr>
<th>Test</th>
<th>Granger Causality test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null Hypothesis: (H_0)</td>
<td>(Y_t) does not cause (X_t)</td>
</tr>
<tr>
<td>Alternative Hypothesis: (H_1)</td>
<td>(Y_t) cause (X_t)</td>
</tr>
<tr>
<td>Statistic test</td>
<td>F-statistic</td>
</tr>
<tr>
<td>Prob&lt;0.1</td>
<td>0.00-0.10</td>
</tr>
</tbody>
</table>
Thus, we got the equations of VAR (1) with the nature of logarithm as follows:

\[
\Delta GDP_t = \beta_0 + \sum_{i=1}^{l} \beta_i \Delta LnGDP_{t-i} + \sum_{i=1}^{l} \beta_i \Delta LnEXP_{t-i} + \sum_{k=1}^{l} c_i \Delta LnIMP_{t-1}
\]

\[
+ \sum_{i=1}^{l} k_i \Delta LnCPI_{t-i} + \rho_t
\]

\[
\Delta EXP_t = \alpha_0 + \sum_{i=1}^{l} \alpha_i \Delta LnEXP_{t-i} + \sum_{i=1}^{l} q_i \Delta LnGDP_{t-1} + \sum_{k=1}^{l} f_i \Delta LnIMP_{t-1}
\]

\[
+ \sum_{i=1}^{l} k_i \Delta LnCPI_{t-i} + \rho_t
\]

\[
\Delta IMP_t = \gamma_0 + \sum_{i=1}^{l} \gamma_i \Delta LnIMP_{t-1} + \sum_{i=1}^{l} k_i \Delta LnEXP_{t-1}
\]

\[
+ \sum_{k=1}^{l} c_i \Delta LnGDP_{t-1} + \sum_{k=1}^{l} w_i \Delta LnCPI_{t-1} + \varphi_t
\]

\[
\Delta CPI = \vartheta_0 + \sum_{i=1}^{l} \vartheta_i \Delta LnCPI_{t-1} + \sum_{i=1}^{l} h_i \Delta LnIMP_{t-1} + \sum_{k=1}^{l} j_i \Delta LnEXP_{t-1}
\]

\[
+ \sum_{k=1}^{l} k_i \Delta LnGDP_{t-1} + \varphi_t
\]

4.6 Impulse Response Function

When the VAR estimation has done, impulse response function can apply to describe how the economy reacts over time to exogenous impulses. Impulses that are often treated as exogenous which responses functions have been suggested and separated the impact of positive shocks from the negative ones. The number of impulse response function can be defined according to the lag length of the VAR model and the number of the variables. The number of impulse response function is equal to the lag length of the VAR multiplied by the number of variables. (G.Rivera, 2008)

4.7 Variance Decomposition

The variance decomposition is applied for multivariate time series which indicates the amount of information each variable. It can also be used to interpret of vector auto-regression model. While impulse response functions trace the effects of a shock to one endogenous variable on to the other variables in the VAR, variance decomposition separates the variation in an endogenous variable into the component shocks to the VAR. Thus, the variance decomposition provides information about the relative importance of each random innovation in affecting the variables in the VAR. The variance decomposition determines the amount of the forecasting error variance of the variables can be explained by exogenous shocks to the other variables and contributes to the other variables in auto-regression.

4.8 Descriptive Statistics

The government of Myanmar was adopted the central planned economic system also known as “Burmese Way to Socialism” until 1988. Therefore, the border trade between neighboring countries was underdeveloped. It became more significant and play essential role in Myanmar foreign trade after the establishment of department of border trade. The statistics
of border trade can be available from the year 1996 to 2015. It was the time that the government changed the economic system from central planned economic system to market economy which adopted open door policy and try to implement liberalization. In this part, the study focuses on the descriptive statistics of border trade in order to find the effect of border trade value on Myanmar economic growth.

Empirical analysis, in this research, the study focuses on the border trade value between Myanmar and her neighboring countries including China, Thailand, India and Bangladesh. The data are secondary data which are collected from department of border trade under the ministry of commerce of Myanmar during 1996-2015. There are three endogenous variables in this research. Gross Domestic Product (GDP) is used as dependence variable and Export, Import and CPI are used as independence variables.

4.9 Exploratory Data Analysis

There are four steps in exploratory analysis. The first step is the data checking of stationary condition. Augment Dickey-Fuller unit test is used in this step for applying VAR estimation all the time-series data have to be stationary at level. In the second step, the VAR estimation is used for the analysis after the data are stationary at the level in the first step. Granger causality test is applied in the third step in order to examine the causal relationship the variables that are used in the research. In finally, the auto-correlation is conducted and the VAR model is testing for stability and the residual also testing for normality.

4.10 Augmented Dickey-Fuller Unit Root Tests

There is needed to check all the data whether are they stationary or not because Augmented Dickey-Fuller Unit Root Tests is applied for the checking of the stationary of time series variables. The null hypothesis in this testing is that time-series is not stationary. When the critical value of the test statistics is less than 5%, the null hypothesis can be reject which means that time series is stationary. The result of ADF unit root tests is shown in Table 4.

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF</th>
<th>5% Critical Value</th>
<th>10% Critical Value</th>
<th>Deterministic Regressors</th>
<th>Lag</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-5.2715</td>
<td>-2.9511</td>
<td>-2.6143</td>
<td>intercept</td>
<td>8</td>
<td>Stationary</td>
</tr>
<tr>
<td>EXP</td>
<td>-3.9929</td>
<td>-2.9511</td>
<td>-2.6143</td>
<td>intercept</td>
<td>8</td>
<td>Stationary</td>
</tr>
<tr>
<td>IMP</td>
<td>-5.3077</td>
<td>-2.9511</td>
<td>-2.6143</td>
<td>intercept</td>
<td>8</td>
<td>Stationary</td>
</tr>
<tr>
<td>CPI</td>
<td>-3.6484</td>
<td>-2.9540</td>
<td>-2.6158</td>
<td>intercept</td>
<td>8</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

Source: Author’s calculation
The above table 5 shows that the using variables in this research are stationary at level in testing with intercept. If there is no intercept in testing, the null hypothesis can rejected which means that all the variables are stationary at level in testing. As the result of the calculation, time-series data of GDP is significance at 10% critical value level.

### Table 6: Results from Lag Selection Criteria

<table>
<thead>
<tr>
<th>Lag</th>
<th>Log</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-676.0683</td>
<td>NA</td>
<td>9.34e+12</td>
<td>41.21626</td>
<td>41.39766*</td>
<td>41.27730</td>
</tr>
<tr>
<td>1</td>
<td>-650.0834</td>
<td>44.09571*</td>
<td>5.14e+12*</td>
<td>40.61111*</td>
<td>41.51809</td>
<td>40.9163*</td>
</tr>
<tr>
<td>2</td>
<td>-642.2628</td>
<td>11.37540</td>
<td>8.85e+12</td>
<td>41.10684</td>
<td>42.73939</td>
<td>41.65614</td>
</tr>
</tbody>
</table>

### Table 7: The Result of VAR Model Estimation

<table>
<thead>
<tr>
<th></th>
<th>Coeff:</th>
<th>Std.err</th>
<th>T-test</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP(-1)</td>
<td>0.0677</td>
<td>0.2047</td>
<td>0.3307</td>
<td>0.7415</td>
</tr>
<tr>
<td>EXP(-1)</td>
<td>-0.3222</td>
<td>2.3835</td>
<td>-0.1351</td>
<td>0.8927</td>
</tr>
<tr>
<td>IMP(-1)</td>
<td>-5.8102</td>
<td>1.5641</td>
<td>-3.7146</td>
<td>0.0003</td>
</tr>
<tr>
<td>CPI(-1)</td>
<td>-0.5757</td>
<td>2.4355</td>
<td>-0.2363</td>
<td>0.813</td>
</tr>
<tr>
<td>EXP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP(-1)</td>
<td>0.0910</td>
<td>0.1067</td>
<td>-0.5443</td>
<td>0.5874</td>
</tr>
<tr>
<td>EXP(-1)</td>
<td>0.3084</td>
<td>0.1948</td>
<td>1.5777</td>
<td>0.1179</td>
</tr>
<tr>
<td>IMP(-1)</td>
<td>0.1485</td>
<td>0.1282</td>
<td>1.1582</td>
<td>0.2496</td>
</tr>
<tr>
<td>CPI(-1)</td>
<td>0.4227</td>
<td>0.3176</td>
<td>1.3315</td>
<td>0.1862</td>
</tr>
<tr>
<td>IMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP(-1)</td>
<td>-0.0108</td>
<td>0.0268</td>
<td>-0.4023</td>
<td>0.6883</td>
</tr>
<tr>
<td>EXP(-1)</td>
<td>0.8149</td>
<td>0.3128</td>
<td>2.6049</td>
<td>0.0107</td>
</tr>
<tr>
<td>IMP(-1)</td>
<td>0.0635</td>
<td>0.2053</td>
<td>0.3095</td>
<td>0.7575</td>
</tr>
<tr>
<td>CPI(-1)</td>
<td>0.2190</td>
<td>0.5081</td>
<td>0.4311</td>
<td>0.6673</td>
</tr>
<tr>
<td>CPI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP(-1)</td>
<td>0.074</td>
<td>0.1073</td>
<td>0.6986</td>
<td>0.4865</td>
</tr>
<tr>
<td>EXP(-1)</td>
<td>0.1670</td>
<td>0.1249</td>
<td>1.3370</td>
<td>0.1884</td>
</tr>
<tr>
<td>IMP(-1)</td>
<td>-0.0047</td>
<td>0.08198</td>
<td>-0.0579</td>
<td>0.9539</td>
</tr>
<tr>
<td>CPI(-1)</td>
<td>0.5028</td>
<td>0.2028</td>
<td>2.4784</td>
<td>0.0149</td>
</tr>
</tbody>
</table>

Source: Author’s calculation

The result of VAR estimation is shown in Table 4.3 which shows that GDP growth of the current year is influenced by the GDP growth rate of the previous year. However, it does not depend on the growth rate of export and import in the previous year. As shown in the result, 1% increases in the growth rate GDP in the previous year cause the growth rate of GDP in current year to increase 0.06%. The export growth rate of the current year is depended on the previous year in which 1% increase in the growth rate of GDP, the growth rate export is 0.09% in the current period. The import growth rate is depending on of GDP and export growth rate. When 1% increases in the current year, it has 0.01% to decrease. The consumer price index has a positive significant in which 1% increase of GDP growth rate in the previous year cause the CPI growth rate to increase 0.07 to increase in the current year.

**Granger causality Test**
Granger causality test is applied after running VAR estimation in order to find the causality relationship between the variables that are using in the research, the growth rate of GDP, export, import and consumer price index.

### Table 8: The Result of Granger Causality Test

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>F-Statistics</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIM does not Granger Cause MGDP</td>
<td>10.3787</td>
<td>0.0004</td>
</tr>
<tr>
<td>MGDP does not Granger Cause MIM</td>
<td>0.35294</td>
<td>0.7057</td>
</tr>
<tr>
<td>MEX does not Granger Cause MGDP</td>
<td>1.53919</td>
<td>0.2322</td>
</tr>
<tr>
<td>MGDP does not Granger Cause MEX</td>
<td>0.25302</td>
<td>0.7782</td>
</tr>
<tr>
<td>MCPI does not Granger Cause MGDP</td>
<td>0.15974</td>
<td>0.8531</td>
</tr>
<tr>
<td>MGDP does not Granger Cause MCPI</td>
<td>0.54954</td>
<td>0.5833</td>
</tr>
<tr>
<td>EX does not Granger Cause IM</td>
<td>5.44041</td>
<td>0.0101</td>
</tr>
<tr>
<td>IM does not Granger Cause EX</td>
<td>0.85881</td>
<td>0.4345</td>
</tr>
<tr>
<td>CPI does not Granger Cause IM</td>
<td>1.21859</td>
<td>0.3109</td>
</tr>
<tr>
<td>IM does not Granger Cause CPI</td>
<td>0.60415</td>
<td>0.5535</td>
</tr>
<tr>
<td>MCPI does not Granger Cause MEX</td>
<td>3.61873</td>
<td>0.0400</td>
</tr>
<tr>
<td>MEX does not Granger Cause MCPI</td>
<td>3.39537</td>
<td>0.0478</td>
</tr>
</tbody>
</table>

Source: Author’s calculation

The table shows that the causality runs from the growth rate of GDP to the growth rate of export, the growth rate of import and the growth of consumer price index. When the growth of GDP change, which effect to 10% significant level in the growth rate of import and export.

### 4.11 Impulse Response Function

When the VAR estimation running is done, impulse response function can be applied to describe how the economy reacts over time to exogenous impulses. Impulses that are often treated as exogenous which responses functions have been suggested that can separate the impact of positive shocks from the negative ones. According to the lag length of the VAR model and the number of the variables, the number of impulse response function can be defined. In this research, there are four variables in VAR model and four impulse response function which are shown in figure 2.
There were some trade reforms in the each period. There were some trade reforms in the each period. The department of border trade was established in 1996 which became a vital role in Myanmar economic development process.

(i) The border trade relation during the military rule (until 2010)

(ii) The border trade under the new government (after 2010-present). The result of 2010 election, U Thein Sein became the president of the union of the republic of Myanmar and attempted to move toward political and civil reforms and economic growth. It can be seen as two periods such as under the military rule (until 2010) and the second period is after 2010.

The figure shows that the impulse response of the growth rate to the growth rate of GDP itself, the growth rate of export, import and CPI in the future 12 periods. Every response of GDP, EXP and CPI growth rate are positive when a shock is put to the growth rate of GDP. However, there is a negative response of import growth rate in the study period.

4.12 Descriptive Analysis

This study deals with the border trade relation with Myanmar and neighboring countries during the period starting from 1996-2015. Myanmar is surrounded by the world largest population countries, India and China and also close to Thailand, Bangladesh, Lao PDR. It can be showed that there is about 40 percent of the world’s population consumer surrounded by Myanmar. Therefore, it has a great opportunity to achieve economic growth. The study period can be seen in two parts.

(i) The border trade relation during the military rule (until 2010)

(ii) The border trade under the new government (after 2010-present). The result of 2010 election, U Thein Sein became the president of the union of the republic of Myanmar and attempted to move toward political and civil reforms and economic growth. It can be seen as two periods such as under the military rule (until 2010) and the second period is after 2010. The analysis in this section, descriptive statistic of Myanmar’s reforms which took place in each period. There were some trade reforms in the each period. The department of border trade was established in 1996 and which became a vital role in Myanmar economic development process.

(i) The border trade relation during the military rule (until 2010)
The trade type in Myanmar can be classified three: namely by sea, by air, and by land. Among them, the trade relation with neighboring countries knows as border trade which is trade by land. Since the military took the state power in 1988, market oriented economic system was introduced and the foreign trade also liberalized and allowed the private sector to participate in trading activities and permitted modest expansion of the private sector, allowed some foreign investment, and received much needed foreign exchange. When the economic sanction emergence as the political tool, the government of Myanmar encouraged trade relation with neighboring countries. The border trade posts were expanded to take the country towards economic growth. The government attempted to implement open door policy to the rest of the world towards Foreign Direct Investment and foreign trading company. There was no registered export-import companies before 1988. The result of open door policy, there were 19494 export-import companies in 2005. During that time, the exports played as the most important channel for the private sector to achieve foreign currency because of the Myanmar currency (Kyat) did not have strong enough to cover to the foreign currency. Although trade is liberalized, Myanmar’s economy is still largely controlled by the state. The infrastructure in the border area still remains underdeveloped. Therefore, it was difficult to promote trade, investment and other economic activities. All of them are committed to bilateral agreements and to multilateral agreements for economic cooperation at the sub-regional, regional, and international levels. In 1996, the border trade department was opened and extended the border trade posts with neighboring countries. The positive impact of cross-border trade for Myanmar has been rise in employment and income and improvements in security, transportation facilities, and the social sectors in border regions. On the other hand, political, social, and economic obstacles to cross-border economic cooperation persist. Nevertheless, the prospects for continued cooperation are good as the riparian neighbors have the political will and as all of them are committed to bilateral, sub-regional, regional, and international agreements for economic cooperation. (Mya Than)

In recent years, both China and India have attempted to strengthen ties with the government for economic benefit. Many nations, including the United States and Canada, and the European Union, have imposed investment and trade sanctions on Burma. The United States banned all imports from Burma, though this restriction was since lifted. Foreign investment comes primarily from people’s Republic of China, Singapor, South Korea, India and Thailand. (wikipedia). Although the diplomatic relation between Myanmar and the People’s Republic of China was formally established on June 8, 1950, the border trade between the two nations did not develop until 1988. In order to improve the trade relation, they signed a treaty of friendship and mutual non-aggression and promulgated a Joint Declaration in 1954.

www.globalbizresearch.org
(ii) The border relation with Myanmar and Neighboring countries (2011- present)

In 2011, the new government came to power and attempted a major policy of reforms including currency exchange rate, foreign investment laws and taxation. Import restrictions were relaxed and export taxes were abolished. Some of economic sanctions were also relaxed. The Asian Development Banks (ADB) also formally began re-engaging its providing for Myanmar including finance to infrastructure and development projects in the country. It issued $512 million loan to Myanmar in 30 years and target banking services and the major investments such as road, energy, irrigation and education. The export and Import Law was launched on 7 September 2012 which repealed the control of Exports and Imports Act 1947.

The objectives of this Law are as follows:-
(a) To enable to implement the economic principles of the State successfully;
(b) To enable to lay down the policies relating to export and import that support the development of the State;
(c) To cause the policies relating to export and import of the State and activities are to be in conformity with the international trade standards;
(d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.

The relationship between China and Myanmar has been developed in the 1970s. On August 5, 1988 China signed a major trade agreement, legalizing cross-border trading and began supplying considerably military aid. China exports its cheaper products to Myanmar and it became the major trading partner to implement its economic strategies. China gained benefit economically by linking with Myanmar for trade and investment. The government of China is trying to keep a good relationship with Myanmar because she is an important channel for energy. The Sino–Myanmar oil and gas pipeline was successfully completed to flow to China and abundant natural resources from Myanmar also plays the key role for China to support its economic development. The geographical location of Myanmar is not only China’s security barrier and strategic buffer and also as economic strategies. Myanmar is one China’s major allies in the international arena. China and Myanmar adopted different development patterns from those generally recognized by the West. They support each other on issues such as human rights, freedom and democracy, which some Western countries use as an excuse to criticize both countries. Thus, China and Myanmar have strong bilateral relations to ensure each social and political welfare. The political stability is needed for both nations to implement their economic activities especially in border trade. There are many ethnic people living on both sides of Myanmar-China border area.

The relationship between Myanmar-India can’t achieve economic development like as China and Thailand because the infrastructure between the two nations remains
underdeveloped. Infrastructure is the main constraint in the development of Northeastern part of India and subsequently in the border trade development with Myanmar. Both of the government of India and the government of Myanmar should encourage the improvement of require infrastructure that will beneficial for the border trade relation. India and Myanmar has not only cross in geographically but also strong historical, cultural and economic linkages and the same ethnic people are living in both side of the border area. The government of India has attempting to invest on the Kaladan Multi-Modal Transit Transport Project which will be connecting from Mizoram, the north eastern part of India to Sittwe port in Myanmar. This project expects to connect the ASEAN nations which will become the largest of India investment in Myanmar. It will support to the improvement of the trade between the two nations. Idia’s border trade with Myanmar is very small when compared with Myanmar’s border trade with China. China accounts for almost 87% of Myanmar’s border trade. Its share has significantly improved from 62% in 1990s, whereas India that accounted for 4% share in the same period but now accounts for less than 1% (0.8% to be precise).Thailand accounts for 12% of Myanmar’s border trade and rest is accounted for by Bangladesh. As per different estimates available, China’s accumulated border trade with Myanmar stands at US $ 3.8 billion. They trade in more than 11000 items. While Bangladesh’s accumulated border trade with Myanmar stands at US $ 1.5 billion, India has the lowest at US $ 66 million which is mere 0.8% of Myanmar’s border trade. The latest figures show that in the financial year from April 1, 2015 onwards and as of January 15, the total trade between India and Myanmar amounted to just over US $ 1 billion, of which about US $ 52 million passed via Tamu. Of this, Myanmar has exported about US $ 653 million to India, mostly in farming products, while importing about US $412 million from India in consumer goods, raw materials and other merchandise. (Myanmar Time 2016).

Myanmar and India border share over 1,600 kilometers. Therefore, India is one of the huge economic communities for Myanmar. Although it has a long share with border region, there has only two border trade post in those area namely Rih Border trade post in Chin State and Tamu Border trade post in Sagaing region. When the infrastructure becomes developed, Chin State will become the main entrance of Myanmar and India. Rih border trade post is the only one officially border trade post in Chin State in the current year and it is one of the main gates way of Myanmar-India. The people in the both side have traditionally much in common, with cultural, historical, ethnic and religious ties. In Myanmar side, Chin state has a population of nearly 500,000 and an area of 36,019 square-kilometers which connect with Rakhine state in the south, Bangladesh in the south-west, Sagaing region and Magway region in the east. Chin State and India has sharing a long border particularly in at least five locations namely Tonzang, Falam, Matupi, Htantlang and Paletwa townships. India is a huge customer.
for Myanmar’s beans and pulses, also wants to help Myanmar develop research into different varieties of beans. 61 percent of Chin state’s population relies on agriculture sector that will support the necessary of India food security. Although government did not open the officially border trade post along Indo-Myanmar border, there is a strong wholesale centers in those area. The main commodities to be traded are expected to include local farm crops and animal husbandry products. the state has many attractive places for tourists, they are not be able to come. The worst part is young people difficult for employment opportunities. The main agricultural crops are paddy, maize and millet although wheat, groundnut, chilli, cotton and sugar-cane are also grown. Apples, oranges, damsons and other garden fruits are produced in large quantities and grapes are being cultivated on an experimental basis. Cultivable acreage has increased as the State has built irrigation works, introduced terrace cultivation, distributed pedigree seeds and insecticides and provided tractor ploughing. The 605 square miles of Forest Reserves in Chin State produce valuable scented woods, teak, pine and cane. Hilly though the State is, the hills are not rocky but made up of shale and earth. The residents are deeply relying on Organic farming. India is a huge market for Myanmar exports. It is one the most populous nations on the world. When the infrastructure is better than before, the market size will also be grater for trading between the two nations. The local government of Chin State has attempting to open border markets in the border area of Myanmar and India. It will provide to increase job opportunities for local residents and also as free flow goods and service. Tamu also one of the border relation entrance of India-Myanmar. However, it is not a peaceful region. India is the fifth largest trade partner of Myanmar (3rd largest export destination for Myanmar and 7th largest of imports into Myanmar). Therefore, trading with India is less than compares with other trading partners’ countries.

The trade relation between Myanmar and Thailand has developed before the founding of the Union of Myanmar, a pre-colonial definitely before King Mindon’s regime (1852–1878), it had little regular commerce with the Kingdom of Thailand and The Kingdom of Mon (Mon state in Myanmar). Thailand shares an approximated 2400 kilometers border with Myanmar. There are various border trade issues, including the smuggling trade that plays one of the most important roles within the sphere of economic activity between the two countries. The border trade became in 1996. Even the border trade is informal, people that have been employed to carry goods across the border along the river and hill paths. According to the Ministry of Commerce of Myanmar, the border trade amounted to US$2.698 billion in the fiscal year 2015-16. In 2014, two-way trade amounted to $8.16 billion, with exports from Thailand making up $4.24 billion and imports from Myanmar worth $3.92 billion. In the fiscal year of 2014-15, the two-way trade totalled $6.58 billion, a slight drop of 1.15% year-on-year. For Thailand, exports amounted to $3.44 billion and imports $3.15 billion. Myanmar
is of vital strategic and economic importance to China and it’s highly unlikely that Beijing would jeopardize that by encouraging democracy in the country. It will provide to increase job opportunities for local residents and also as free flow goods and service.

4.13 Individual Trading Cards (ITC)

The Ministry of Commerce of Myanmar introduced Individual Trading Cards (ITC) in 2012 to make easy for small individual exporters and importers to do business. Trading with ITC has increased continually during in yearly. According to the Ministry of Commerce of Myanmar, they have issued 1,004 ITCs. At present, ITCs are issued at 17 trading posts that are shown in the following table.

Table 9: ITC Issue Centre in Myanmar and Trade Volume

<table>
<thead>
<tr>
<th>no</th>
<th>ITC issued post</th>
<th>Date of Issued</th>
<th>No of ITC</th>
<th>Operation of serving</th>
<th>Trade volume (kyats Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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Source: The department of border trade, Ministry of Commerce, Myanmar
5. Conclusion

The main objective of this research is to analyse the effect of Border Trade Value on Myanmar Economic Growth during the period 1996-2015. It also studies the border trade relationship between Myanmar and neighbouring countries. The data used in the research are secondary data.

This study adopts two main methodological approaches for finding the appropriate answers to the research problem. The first one is econometric methods such as Augmented Dicker-Fuller unit root test, Granger causality test within the framework of Vector Autoregressive (VAR) model. Empirical results are mainly based on the above econometric methods. Secondly, border trade trend of Myanmar during the period of 1996-2015 is analysed by using descriptive analysis. The result of this study is somewhat contrary to conventional belief that border trade has significant impact on Myanmar economic growth. The empirical results show that the import did not have significant effect on Myanmar economic growth. It means that the import can’t generate a significant effect to enhance economic growth. The result is similar to the former researcher like Linn Bu B.S (2009), Adeteye O.S (2015), Tin Maung Maung Than (2007). Therefore, we have to reject the first hypothesis that border trade had impact on economic growth of Myanmar over the period 1996-2015. Rather, we can accept the alternative hypothesis that border trade did not have a significant impact on the economic growth of Myanmar over the period of 1996-2015. It is concluded from both of the two analyse that during the period 1996-2015, the economic growth of Myanmar had negative impact on the import growth. The result of Myanmar had been applying the export promotion and import substitution strategy. Therefore, as the country economic is growing, the import also grow up. However we have to reject the second hypothesis that export is the main factor which leads the economic growth of Myanmar compared with import, and accept the third hypothesis that growth-led export proposition has been applied in Myanmar over the period of 1996-2015. Because the finding shows the economic growth of Myanmar is depending on the export. Therefore, growth driven export proposition can be addressed for Myanmar. This result is also reasonable because export promotion strategy was adopted in during the military rule in Myanmar. Export is the main source of government revenue for more than two decade especially in Oil and Gas. For the last hypothesis that two ways causality runs between export and import, we cannot accept the hypothesis. The results point out that there is one way causality run from export growth to import growth and no causality runs from import growth to export growth. It can be concluded that export growth had a positive and significant impact on the import growth. Myanmar is trading land borders with China, India, Bangladesh and Thailand. They are the main trade partner of Myanmar. The Markets of the neighbouring countries provide the
economic development of Myanmar especially in the sanction period. This research attempts how to improve trading activities with neighbouring countries and how it effects on Myanmar economic development. China and Thailand are standing the major trading partner for Myanmar in the current period. However, India will become the main trade partner for Myanmar in the future. The north –east policy of India is depending on the trade relation of Myanmar and India. It is needed to improve the transportation infrastructure from Myanmar side. Soon after the opening up of border trade in 1988, China appeared in trade statistics as a major supplier of commodities and goods to the Myanmar economy. Myanmar’s imports from China have increased since the opening of border trade. Myanmar’s exports to neighbouring countries includes mostly wood, natural gas, gemstones and fruit and nuts. Among them, it has become more and more dependent on wood exports, the share of which occupied nearly 60 per cent of the total export for the period 2000– 2007 according to the official statistics. Border trade with neighbouring countries have experienced ups and downs, reflecting not only market situations but political, security and macroeconomic conditions in a broader area. The Myanmar and Chinese Governments signed the first formal border-trade agreement in August 1994. The Muse border trade office was established in August 1995 and one stop services also introduced in that time. In August 1996, the office was extended to the fully fledged Border Trade Department of the Ministry of Commerce.

5.1 Implication

The result of this study-(1) the border trade with neighbouring countries is one of the key determinant factors of the economic growth of Myanmar over the study period 1996-2015. It was also the time that the economic sanction period. Thus, the government of Myanmar encourage the trade relationship with neighbouring countries and ASEAN countries. (2) import did not have important impact on the economic growth because economic growth of Myanmar had a negative impacts on the import growth., (3) the growth of exports was positive affected by the GDP growth which is the significant factor that growth-driven export pattern had been applied in Myanmar during this period. Myanmar export natural gas to China and Thailand in order to generate the government income, (4) there was no two –way causal relation between import growth and export growth which may useful for the policy makers in Myanmar in both of external and internal sector to help make decisions in promoting trade pattern. According to the finding, which is growth – export growth strategy, growth policies is necessary to implement for achieving of expand export. Myanmar has a lot of time more than four decades because of the very tight controls control on the economy and the discouragement of entrepreneurship and new business investment. So, there was a lot of catching up to do for the economic growth. It still remains at the early stage of development. However, it has a great opportunities to grow up very first because of there is so much pent-
up energy and resources. The most important thing is going to be establishment rule of law and systems and practices for the investors who would like to invest within the nation. The policy makers and decision makers of foreign sector should attempt to generate foreign revenue by changing the product composition of import and export that have to be positive effect on Myanmar economic growth. As mention in the descriptive analysis part, capital goods, the natural industrial goods and intermediate goods are the main exports commodities of Myanmar. In order to achieve more efficiency from trade especially in foreign trade on economic growth, the natural resources should be produced and export to not only neighbouring countries but also to international rather than selling the commodities largely depending on natural resources. There is also needed to adopt the technological assistance from abroad in producing goods for the improvement of the quality of the export commodities. The government of Myanmar should encourage and subsidize the domestic companies and invite the investor from international to produce the similar kinds of goods rather than importing expensive products from abroad. Export promotion and import substitution policy will be one of the important policies for the external sector of Myanmar in order to achieve the economic growth.

5.2 Suggestion for Future Study

This study analyses the border trade relationship between Myanmar and neighbouring countries. Although the border trade plays a vital role in Myanmar foreign trade sector, it has to be promoted the infrastructure. India should be one of the major trading partners of Myanmar. However, the trade relation between the two nations is lower than China and Thailand. The future research may study that how to improve the border trade between Myanmar and India. It has more favourable condition in the stability of the region than other border areas. The main challenge of border trade between Myanmar and India is poor transportation infrastructure. Transportation plays the important role for the border trade. A good transportation can reduce transportation cost and save time as well as easy inflow goods and services.

Furthermore, the border trade growth of Myanmar is depending on the peace process and political situation. Political relation with neighbouring countries also important the transportation sector and political stability within the nation can promote the economic growth of Myanmar The border conflict is effecting on the development of border trade between Myanmar and neighbouring countries. Border trade is important for Myanmar economic growth because it has directly effect on the welfare of the people who rely on the both side.
References


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