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An Analysis of the Relationship between Foreign Trade and Economic Growth in Myanmar during 1990-2014

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AN ANALYSIS OF THE RELATIONSHIP BETWEEN FOREIGN TRADE AND ECONOMIC GROWTH IN MYANMAR DURING 1990-2014

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Abstract. This study analyzes the relationship between foreign trade and economic growth in Myanmar over the period 1990-2014. It covers the annual data of GDP, Export and Import of Myanmar from 1980 to 2014. This study adopts two major methodological approaches – exploratory data analysis and descriptive analysis. For the first approach, Augmented Dickey-Fuller (ADF) unit root test and Granger causality test are used under the framework of Vector Autoregressive (VAR) model, which have almost never been studied for the Myanmar case. The second approach includes the analysis of Myanmar's foreign trade trend with descriptive statistics. The results show that foreign trade did not generate a significant effect on the economic growth of Myanmar. Rather, import growth was negatively influenced by the economic growth of Myanmar. It is found out that exports had been determined by the GDP growth. Thus, growth-driven export strategy had been applied for the period of 1990-2014. Also, there was only one causal run from export growth to import growth. The results conclude that foreign trade did not have significant impact on the economic growth of Myanmar over the period of 1990–2014.

INTRODUCTION

Globally thinking and speaking, it is regarded that foreign trade (international trade) plays an important role in economic development of countries. Foreign trade promotes the bilateral relationship between the importing country and the exporting country. It helps the countries to have substantial growth by equalizing the efficient allocation of resources, by raising human welfare through division of labor, by making improvements in specialization, by technological progress, by importation of technical know-how, allowing greater access to resources and expansion of markets, fostering healthy competition, and also by attracting Foreign Direct Investment.

Through international trade, the exporting companies can achieve a certain level of growth by selling goods and services in the international markets. Such a level cannot be achieved in domestic markets. Revenues from the oversea customers are vital for a company to have benefits. Exporting companies can get success in the overseas markets as they have been competing in several markets. They can also improve their competitiveness by observing a range of product qualities, product development, product design and packaging. A business's reliance on its domestic market reduces by the time it starts trading with foreign companies, especially in relation to the exchange rate according to the HSCB holding plc's business case studies. It can share the

exchange rate risk between two foreign currencies, like Dollar and Renminbi, Dollar and Pound Sterling, etc. On the other hand, foreign trade can also have negative impacts on the exporting and importing companies which in turn affect a country's GDP. Activities between the exporting and importing companies might be slowed down by local customs and legislation. Also, a change in policy, cultural difference, and exchange rate risk can hinder the businesses from expansion to the international market (Hunter, 2014).

The contribution of the volume of international trade has a significant role in global GDP. In 1990, the share of the international trade in global GDP was 40%. It has reached to a peak of 61% in 2011 and then it has fallen slightly to 60% in the following years – the same level as in 2008. Average annual growth of international trade is greater than that of the global GDP in the past two decades. During these years, cross border trade in goods and services grew at a sizzling 7% a year on average, much faster than the global GDP. But after the financial crisis, it grew only by 2.8% in 2014 and 3.2% in 2013 in dollar terms. Meanwhile global GDP grew by 3.1% and 3.2%, respectively (The Economists, 2014).International trade can also be said that it played an important role in Economic Growth of Myanmar. Myanmar started its transition towards a market

economy by adopting a series of economic reforms since 1988. From that time onward, Myanmar started participating in foreign

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trade organizations, such as World Trade Organization (WTO), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), ASEAN and so on. Myanmar foreign trade can be divided into two–normal and border trade. Myanmar has signed bilateral trade agreements with many countries. She also has signed border trade agreements with her neighboring countries – China, Thailand, India, Laos, and Bangladesh. Thirteen border trade posts had been opened by the Department of Border Trade of Myanmar. China is the largest border-trading partner of Myanmar.

At first, Myanmar's trading partner countries were only Asian countries. In 1999, the export-import trading of Myanmar with Asian countries accounted for more than 80% of the total foreign trade. Although Myanmar had adopted a series of open-door policies, trade with Europe and United States declined due to the junta group crackdown on the democracy movement. Therefore the export-import trading of Myanmar with United States declined up to 5% of the whole trading value.

Government of Myanmar encouraged and allowed private sector businesses to engage in external trade so that they could retain export earnings. The private sector has been recognized as a prime-mover of the market mechanism. Therefore, the government of Myanmar pays great attention to the private sector and makes all-out efforts in order to encourage the private sectors to actively participate in foreign trade and gives full support in every angle as to cope with the international trading practices. Due to this action, 1000 exporters/importers had registered in FY[1] 1989.

In FY 1990, the number increased to about 2700 and it reached nearly 9000 by FY 1997 (Kudo and Mieno,2007). Consequently, trade volume also grew and Myanmar's exports increased from 324.91 Million US$ in 1990 to 866.27 Million US$ in 1997, and imports increased from 270 Million US$ in 1990 to 2037.29 Million US$ in 1997. In order to understand more about the foreign trade of Myanmar, the following table shows the total volume of Export and Import, and the GDP of Myanmar from 1990 until 2013 in Table 1.

Table 1 shows the total amount of exports and imports, and the GDP of Myanmar during the period of 1990-2013. According to table 2, it can be seen that up to 2001, imports were greater than exports. Later on, except 2013, exports became higher than the imports. During this period, GDP of Myanmar had steadily grown from 5200 Million US$ in 1990 to 56800 Million US$ in 2013. GDP increased by more than 10 times. It can be argued that the main reason why exports started increasing from 2000 was its gas export to Thailand, which began in 1999. Myanmar could earn such a great amount of foreign income from the exporting of natural gas. During the FY 2013-2014, Myanmar earned US$3.6 billion from gas export (Nation Multimedia, 2014).

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[1] FY stands for Fiscal Year starting from April to May.

Figure 1 shows some propositions for the relationship between GDP and foreign trade of Myanmar. Here, it can be seen that both GDP and foreign trade have almost the same trend. Actually, up to 2006, both GDP and foreign trade showed a moderate growth trend. However, after the year 2006, there was a rapid growth trend in both GDP and total foreign trade value. By studying this figure, it can be argued that to some extent, there is a relationship between foreign trade and the economic growth of Myanmar.

Government of Myanmar has implemented basic principles for foreign trade concerning with exports and imports. The basic principle of export policy is to penetrate into the global market by using the existing natural and human resources and to produce value added products more than normal export items. Although there is an important role of foreign trade in the economic growth of Myanmar, it can be argued that little attention was paid on the importance of foreign trade sector.

For this reason, in analyzing the economic growth of Myanmar, foreign trade should have been taken as the important factor which determined the growth, although there were many other factors which certainly contributed to the economic growth of Myanmar in the past three decades.

This study examines the relationship between foreign trade and economic growth of Myanmar in growth rate terms. Thus, in order to investigate the dynamic relationship between foreign trade and economic growth of Myanmar during the period 1990-2014, the technique used for estimation is based on Vector Autoregressive (VAR) Model. In the whole methodology part, Augmented Dickey-Fuller unit root test, lag length selection, VAR estimation, Granger causality test in association with VAR model, model testing and determining impulse responses functions are included.

As for the Myanmar case, most of the studies have been done only in descriptive statistics and qualitative analysis. This paper can be said to be the first to study the relationship between foreign trade and economic growth with quantitative analysis. Descriptive analysis of the foreign trade of Myanmar is also done as part of the empirical analysis.

Theory
Economic theories to be emphasized concerning the relationship between foreign trade and economic growth are (1) foreign trade and economic growth causality; and (2) export-led growth or growth-driven exports proposition.

Foreign Trade and Economic Growth Causality
During the recent several decades, causality studies have played an important role with the increasing number of empirical studies in the economic growth literature. Most of the modern empirical studies provide the conclusions that there is a two-way causal relationship between economic growth and foreign trade. An

increase in trading with the other countries leads to the economic growth of the home country by increasing the total income of the country (increase GDP), which in turn encourages more trade (Ramos, 2000). Grossman and Helpman (1991) had also found out about two-way causal relationship in their models of north-south trade. Depending upon the common understanding of

TABLE 1
Export, Import and GDP of Myanmar During the Period of 1990 - 2013

Year	Exports in US$ Million*	Imports in US$ Million*	GDP in US$ Million**
1990	324.91	270.00	5200
1991	419.25	645.95	5300
1992	531.42	651.16	6000
1993	586.03	813.96	6500
1994	798.45	885.77	7100
1995	851.21	1,334.59	7800
1996	746.34	1,358.09	8400
1997	866.27	2,037.29	9000
1998	1,065.22	2,665.80	7500
1999	1,124.59	2,300.12	9800
2000	1,620.17	2,370.89	10300
2001	2,358.02	2,849.27	7500
2002	3,014.72	2,323.84	7800
2003	2,458.39	2,069.72	12100
2004	2,355.48	2,173.93	12200
2005	3,776.45	1,908.13	13800
2006	4,539.12	2,538.21	16700
2007	6,252.69	3,246.61	23300
2008	6,882.19	4,256.23	34600
2009	6,661.54	4,347.62	38100
2010	8,661.08	4,759.66	49600
2011	9,238.04	9,018.97	56200
2012	8,876.91	9,181.40	55800
2013	11,232.80	12,042.50	56800

macroeconomics, there is one major argument in modern empirical studies that import is considered to be an outflow of country revenue and it does not actually lead to the economic growth of the country; rather, it is likely to lead to unemployment. This can be defined as one of the main reasons why most of the empirical studies have focused only on the relation between

economic growth and export alone in finding out the relationship between foreign trade and economic growth (Kahya, 2011). Therefore, the following two become the prominent theories for understanding the connection between foreign trade and economic growth of the countries.

Export-Led Growth or Growth-Driven Export

Export-led growth is a strategy which promotes export production. This economic strategy is used by most of the developing countries. It can help them to gain hard currency needed for commodity imports which have been manufactured at cheaper rates somewhere else. It is the main reason why the developing countries are trying to change their economies to an export-led growth one. This strategy encourages export expansion which in turn leads to increasing economy of scale, employment generation, promoting production efficiency, and efficient resource allocation (Shahid, 2012).

The hypothesis of an export-led growth strategy proposes that the expansion of aggregate exports has a positive impact on economic growth of the countries in two ways. The first one indicates that the aggregate exports make injections into the circular flow of income through an improvement in the level of aggregate output via the multiplier effect. Secondly, an increase in foreign exchange receipts caused by the level of exports stimulates the imports of essential inputs in the production system (Öztürk & Acaravci, 2010).

In contrast to the above strategy, the growth-driven export proposition suggests that there is a reverse relationship which runs from economic growth to the expansion of aggregate exports. This hypothesis is based on the idea that trade flow is promoted by the growth, meaning that economic growth of the country leads the aggregate exports to expansion. The growth-driven export strategy can create competitive advantages in certain areas and lead to specialization and facilitating exports (Kónya, 2004).

Based on the above two propositions, it is important to find out one answer that is whether causality runs from exports to economic growth, which is the export-led growth proposition; or causality goes from economic growth to exports expansion, labeled as the growth-driven exports, because the direction of this causal relationship has great impact on the implementation of economic policies. If the causality runs from exports to economic growth, then the export promotion policies will have to be implemented for a country to have growth. But if the causality flows from economic growth to exports, then the country will need to increase its exports in order to have proper economic growth, meaning that economic policies should be implemented in the objective of expanding exports. If there is a two-way causal relationship between exports and economic growth, then both polices will be necessary as long as they reinforce one another (Temiz & Gökmen, 2010).

Although it has been argued above that imports have only negative effects on economic growth of a country, trade theory proves that it is not only exports but also imports which promote the national economy welfare and economic growth in terms of importing cheap commodities which in turn decrease the costs of production and increase the consumers' welfare thereby adding to the fact that importing capital goods and technology can make way for the technological progress and improvement of labor productivity to the economy. For this reason, in considering the relationship between foreign trade and economic growth, the impacts of imports should not be neglected. Rather, it should include the effects of imports in terms of economic growth (increase GDP) and technological improvement (Li, Chen & Wang, 2010).

LITERATURE REVIEW

Ramos (2000): Exports, imports, and economic growth in Portugal: evidence from causality and cointegration analysis. This paper examines the Granger-causality between exports, imports and economic growth of Portugal over the period of 1965-1998. Annual data of real GDP, real exports, and real imports are used in this study. The purpose of this paper is to test for the existence of a long-run or trend relationship among GDP and exports and imports. The study uses annual data of real GDP, exports and imports of Portugal. In this paper, the theory of cointegration developed by Engle and Granger (1987), Johansen (1988) and Stock and Watson (1988) has been applied in order to investigate the relationship between three variables. But, the empirical results do not ratify or approve a unidirectional causality between the above three variables. According to the empirical results, it can be concluded that the output growth of the Portuguese economy during the period of 1965-1998 revealed a shape associated with a small dual economy in which the intra-industry transactions are very limited.

Knoya and Singh (2006): Exports, imports and economic growth in India. The main objective of this research is to address the export/import-led growth, and growth-driven export/import hypotheses in India. For testing the variables whether the data have unit root, five different tests, namely, the augmented Dickey-Fuller (ADF) test, the Dickey-Fuller test with GLS de-trending (DF-GLS), the Elliot-Rothenberg-Stock (ERS) point optimal test, the Dickey-Pantula (DP) test for at most two unit roots, and the Kwaitkowski-Phillips-Schmidt-Shin (KPSS) test for stationary have been performed. Two maximum likelihood tests, the trace and maximum eigenvalue tests of Johansen and Juselius (1990) have been applied in this research to check whether the variables are cointegrated. In order to find out the Granger causality between variables, Wald and Modified Wald (MWald) were performed in both bivariate and trivariate frameworks within VEC and VAR models.

The major finding of this research is that exports and imports Granger-cause GDP, both individually and jointly, which support the conclusion of export/import-led growth hypotheses. It is also

found out that GDP and exports jointly Granger-cause imports and GDP, and imports jointly Granger-cause exports. There were several suggestions made in this research, especially that a country should allow greater flow of goods and services into the domestic economy by encouraging both exports and imports.

Temiz and Gokmen (2010): An analysis of the export economic growth in turkey over the period of 1950-2009. This empirical research finds out the dynamic relationship between export and economic growth in terms of real GDP by using the annual time series data of Turkey over the period of 1950-2009. In order to investigate this relationship, time series econometric tools such as Granger causality, Johansen cointegration and vector error correction model are used. The main objective of this study is to investigate the causal relationship between export and economic growth of Turkey in terms of real GDP over the period of 1950-2009.

The results show that export-led growth strategy had been applied during 1950-2009, meaning that economic growth of Turkey led to the enhancement of the abilities to produce more and create comparative advantages which is needed to export. The results of VEC and cointegration analysis point out that Turkey needs economic growth policies which are necessary to expand exports.

Nguyen (2011) Exports, imports, FDI, and economic growth. This paper analyzes the effect of trade liberalization on economic growth for Malaysia and South Korea. The research objective of this study is to contribute to the literature by providing the correct use of econometrics application for VAR model of four variables (GDP, export, import, and FDI), by supplementing the literature about the relationships between trade liberalization, economic growth and empirical evidence of the countries, Malaysia and Korea, and by analyzing and mapping economic policy onto estimated results by providing lessons and policy implications. This paper analyzes the short and long-run relationships between the variables depending on the distinct period of 1970-2004 for Malaysia and 1976-2007 for Korea. The econometric procedures applied in this study include unit root test for four series, lag structure, the VAR diagnosis, the Johansen cointegration test, the Granger causality/block erogeneity Wald test (GCBEW test), and analysis of impulse response and variance decomposition.

The results of the estimation provide the cointegration of four variables for both Malaysia and Korea. According to the estimated results, exports appear to be the long run source of the economic growth of both countries. There are some differences which appear in the results for the countries and they are explained by the different policies implemented in the countries. Although both countries have adopted the policy of export orientation, FDI plays the important role in Malaysia but not in Korea.

Kahya (2011) An analysis of the relationship between foreign trade and economic growth in Turkey over the period 1980-2009. This study tests the relation between foreign trade and economic growth of Turkey by using two main methodological approaches. The first approach includes two econometric analyses, namely VAR and VEC models regarding two periods 1987: –2007:3 and 2000:1–2007:3 in order to estimate the dynamic relationship between GDP, exports, and imports. The second one deals with the descriptive statistics to analyze the composition change in foreign trade of Turkey during the period of 1980 to 2009. One major aim of this study is to contribute to the literature by providing the understanding of foreign trade pattern of Turkey from different perspectives. It is also to study the causality between the economic growth and foreign trade, and to estimate the effect of the change in export and import composition on the economic growth.

The results of this study clearly point out that during the estimated periods, one of the important determinants of the economic growth of Turkey is imports. Exports do not have a significant effect on the economic growth. It is also found that instead of export-led growth condition, growth-led export strategy has been applied in the Turkish economy.

Adesuyi and Odeloye (2013) Foreign trade and economic growth in Nigeria. The study aim of this paper is to find out what kind of relationship that exists between foreign trade and economic growth and to know the extent to which the foreign trade stimulates economic growth in Nigeria. In order to establish the degree of relationship that exists between foreign trade and economic growth, both descriptive and empirical methods have been applied in this research using the annual data over the period of 1980-2010 (31 years). In estimating the parameter of the specified model, an econometric method adapted from the multiple regression model (Ordinary Least Square–OLS method) is applied in this study. The result of the estimated model shows that foreign trade and economic growth of Nigeria have a significant relationship between them. This study provides the conclusion that foreign trade has positive effect upon Nigeria's economic growth. One of the major suggestions of this study is that the government of Nigeria should lower the excise duties in order to inspire local industries to export their goods and services, and to improve the quality of their products so that their output will be competitive in the global market.

Velnampy and Achchuthan (2013) Exports, imports, and economic growth: Evidence from Sri Lanka. This research aims to find out the impact of export and import on economic growth. The other objective of this study is to suggest the policy makers in the external sector to formulate the economic policy in the developing countries perspective to enhance the economic growth.

In order to estimate the relationship between exports and economic growth, and imports and economic growth, data collection by secondary data using three macroeconomic variables, export income, import expenses and economic growth (GDP), yearly data were collected from 1970 to 2010 and were employed into the research. In this research, economic growth has

been expressed as a function of export and import, in which, different models have been utilized for export and import The results of this study illustrate that there is significant positive relationship between export and import; also, both of these two variables have significant impact on the economic growth of Sri Lanka. This study suggests that the small to medium enterprises should be encouraged towards export orientation, and in the same time the importing of raw materials to industries should be restricted in a proper and flexible way through fiscal and monetary policy.

LITERATURE REVIEW REGARDING MYANMAR'S CASE

Kudo and Mieno (2007) Trade, foreign investment and Myanmar's economic development during the transition to an open economy. This paper tries to explain about the situation of Myanmar's external trade and foreign direct investment (FDI) over the period 1990-2005. Descriptive statistics method is used in this study in order to find out the impacts of foreign trade and FDI on the Myanmar's Economy. In the 1990s, imports grew more rapidly than the exports, which caused the economy to have trade deficits expanded.

For this reason, Myanmar faced a problem of shortage of foreign currency. Thus, government of Myanmar started adopting the import substitution policy through rigid controls over the trade activities of the private sector. Yet, thanks to the emergence of new export commodities–garments and Myanmar–external sector has still improved largely since 2000. FDI in Myanmar also significantly contributed to the exploration and the development of new gas fields.

Due to the reason that trade volume of Myanmar grew, trade relations with neighboring countries such as China, India and Thailand were encouraged by the government. Despite the considerable effect of the development of external trade and FDI inflows on economy, the external sector had not yet become the main pillar for broad-based and sustainable development of Myanmar.

Than (2007): Myanmar's foreign trade under military rule: pattern and recent trends. This paper is prepared with descriptive statistics to analyze and explain about the situation of Myanmar's foreign trade under the military rule. By the time junta group took over control in September 1988, the socialist economic system had been abolished, and market-oriented reforms were quickly adopted.

The military government had tried to promote foreign trade by encouraging the private sector participation in the economy. It is found out as a result of changes in policies under the military rule that imports had been the significant source of government revenues in terms of custom duties. This paper suggests that in order to have success in external sector, the government's rule and regulations of licensing, taxation, and banking should be separately.

streamlined to enhance the role of foreign trade as a major engine of growth.

Hlaing (2014) A study on trade reforms in Myanmar. This study had been done in descriptive statistics to analyze the impacts of trade reforms on the external sector of Myanmar's Economy. This paper emphasizes the trade reforms process concerning 4 eras – from 1848 to 1962, from 1962 to 1988, from 1988 to 2010 and from 2010 to 2014. Through brief explanation of the trade liberalization with its impacts, Myanmar trade balance was said to have positive and trade surplus after FY 2002-2003. The results show that Myanmar got a great and positive impact from trade reforms, and is now trying to promote more trade activities especially in exports.

In short, most of the previous studies made the conclusion that foreign trade is significantly related to the economic growth of the countries. Knoya and Singh (2006), Hang T. Nguyen (2011) and Velnampy. T & Achchuthan. S (2013) confirmed the application of export-led growth strategy, while the latter two found that both export and import had a significant impact on the economic growth of the countries. The fact that imports have affected the economic growth of the countries which supports the import-led growth proposition was the main finding of the studies done by Kahya (2011) and Than (2007). However, it was found out that growth-led export strategy has been applied regarding the Turkey case.

According to the studies based on the evidence from Myanmar, they were only done in qualitative analysis and descriptive statistics. Thus, in this paper quantitative analysis using VAR will be conducted in such a way that the finding is even more effective than the former studies.

THEORETICAL FRAMEWORK

From theories that concern the relationship between foreign trade and economic growth of Myanmar, this paper studies the relationship by using Vector Autoregressive (VAR) model. Theoretical framework for the function of economic growth of Myanmar can be taken as the following:

GDP = f(EXP, IMP)

The main hypothesis of this model, as proposed by Mustafa Kahya (2011), is that GDP is a function of exports and import. According to the National Income Identity, the total National Income (GDP) is affected by overall consumption, government expenditure, saving, exports and imports (Chow, 2012). However, as this paper focuses only on the relationship between foreign trade and economic growth, the first three variables are not included in the model. As the VAR estimation and Granger causality test are used to investigate the relationship among all three variables, all of these three variables are endogenous variables and put on the right hand sides in three equations.

The variables used in this study consist of endogenous variables such as the growth rate of GDP, Export income and Import

the variables and measurements used in this study.

Hypothesis of the Study

The main objective of this study is to find out the relationship between economic growth and foreign trade in Myanmar in growth rate terms. According to this objective, four testable hypotheses can be stated as follows:

expenses of Myanmar. The following table shows the design of

Hypothesis 1: foreign trade has an impact on economic growth of Myanmar over the period of 1990-2014.

Hypothesis 2: Exports is the main factor which leads the economic growth of Myanmar as compared to imports.

Hypothesis 3: Growth-led export proposition has been applied in Myanmar over the period of 1992-2014.

Hypothesis 4: Two-way causality runs between exports and imports.

TABLE 2
Design of the Variables

Concept	Variables	Indicators	Measures	Symbols
Economic Growth Rate	Gross Domestic Product	Grow domestic product growth rate in real price	(Present year GDP – Previous year GDP)/Present year GDP*100	GDP
Export Growth Rate	Export Income	Export growth rate	(Present year EXP – Previous year EXP)/Present year EXP *100	EXP
Import Growth Rate	Import Expenses	Import growth rate	(Present year IMP – Previous year IMP)/Present year IMP *100	IMP

Source: Calculation

RESEARCH METHODOLOGY

VAR Model

Over the last two decades, Vector Autoregressive (VAR) model has become one of the popular tools for econometric analysis. Sims (1980) had recommended to use VAR model in place of classical econometric model (Lütkepohl, 1999). VAR is used as the traditional tool in macroeconomics for structural analysis and forecasting (Kaewsompong, Sriboonchitta, Chaitip and Pastpipatkul, 2012). VAR model is used in analyzing the relationship between variables in the short-run by capturing the impacts of current and past values of those variables, meaning that this model can estimate the relationship between variables and indicate the extent of their impacts on one another based on the past and current values (Kahya, 2011).

For a set of K time series variables $y_t = (y_{1t}, \dots, y_{kt}, \dots, y_{Kt})$, where $k = 1, \dots, K$, the basic VAR model has the form

$$y_t = \beta_1 y_{t-1} + \dots + \beta_p y_{t-p} + u_t = \beta Y_{t-1}^{t-p} + u_t$$

where $\beta = [\beta_1 : \dots : \beta_p]$, the β_i are $(K \times K)$ coefficient matrices, $Y_{t-1}^{t-p} = (y'_{t-1}, \dots, y'_{t-p})$ and $u_t = (u_{1t}, \dots, u_{Kt})'$ is an observed zero mean K-dimensional white noise. The model (3.2) is stated as a VAR(p) process due to the number of lags (p). A VAR(p) process is stable if

$$\det(I_K - \beta_1 z - \dots - \beta_p z^p) \neq 0 \text{ for } |z| \leq 1.$$

If the determinantal polynomial in (3.3) has a unit root for z = 1, then some or all of the variables are *I(1)* and they may also be cointegrated (Lütkepohl, 1999).

ADF Unit Root Test

Augmented 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 & Sarpong, 2008). Three versions of ADF can be used to examine the stationary property of a series.

(i) Test for a unit root

$$\Delta y_t = \varphi^* y_{t-1} + \sum_{i=1}^{p-1} \varphi_i y_{t-i} + u_t$$

(ii) Test for a unit root with a constant

$$\Delta y_t = \beta_0 + \varphi^* y_{t-1} + \sum_{i=1}^{p-1} \varphi_i y_{t-i} + u_t$$

(iii) Test for a unit root with a constant and deterministic time trend

$$\Delta y_t = \beta_0 + \beta_1 t + \varphi^* y_{t-1} + \sum_{i=1}^{p-1} \varphi_i y_{t-i} + u_t$$

where,

y_t = the value of a variable at time period t

$\Delta y_t = y_t - y_{t-1}$

β_0 = a constant term

t = a linear time trend

u_t = an error term

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

T statistic $\tau = \dfrac{\varphi^*}{\sqrt{\mathrm{var}(\varphi^*)}}$ and then compare its result to the corresponding critical value at different significant level (Xu, 2012).

Granger Causality Test

Granger causality test is used to estimate the causality among variables. This test also shows the direction of the causality among variables. It can simply check whether the past values of one variable could explain or affect a change in the present values of another variable or not.

If changes in variable X cause variable Y to change, then it can be argued that X Granger-cause Y, i.e., if the past values of variable X increase the forecasting of variable Y, then it can be said that X Granger-cause Y (Kahya, 2011).

The Granger (1969) causality test for two variables x_t and y_t requires the following VAR model to be estimated:

$$y_t = a_1 + \sum_{i=1}^{n} \beta_i x_{t-i} + \sum_{j=1}^{m} \gamma_j y_{t-j} + e_{1t}$$

$$x_t = a_2 + \sum_{i=1}^{n} \theta_i x_{t-i} + \sum_{j=1}^{m} \delta_j y_{t-j} + e_{2t}$$

where it is assumed to have that both e_{yt} and e_{xt} are uncorrelated white-noise error terms. If $\beta_1 = \beta_2 = ... = \beta_i = 0$, then x_t does not Granger-cause y_t (Badarudin, 2009).

Impulse Response Function

Impulse response function (IRF) is the output of a dynamic system when it is presented with a brief input signal, which is known as an impulse. An impulse response denotes the reaction of any dynamic system in response to some shock. A VAR with moving average (∞) has the form of

$$y_t = \mu + \varepsilon_t + \psi_1 \varepsilon_{t-1} + \psi_2 \varepsilon_{t-2} + ... \tag{2.9}$$

Here, the matrix ψ_s is $\psi_s = \dfrac{\partial y_{t+s}}{\partial \varepsilon_t'}$ and can be interpreted in such a way that the row i and column j element of ψ_s show the consequences of one unit increase in the jth variable's innovation at time t (ε_{jt}) for the value of ith variable at time t+s (y_{it+s}), holding all other innovations at all dates constant. $\dfrac{\partial y_{it+s}}{\partial \varepsilon_{jt}'}$ is called the impulse response function (Lu & Xin, 2010).

Descriptive Statistics

In this part, the foreign trade pattern of the past twenty five years is analyzed with a different approach. Based on the annual reports of Myanmar, there are some discussions about exports and imports in terms of product composition. As border trade with the neighboring countries–China, India, Thailand, Laos and Bangladesh also plays a vital role in Myanmar foreign trade, trade activities with these countries are discussed in this part. Additionally, trade reforms of Myanmar in the past twenty five years are also included in these descriptive statistics in order to know the impacts of these reforms on the foreign trade pattern of Myanmar.

Data of the Study

The data range for the study is quite wide. All the data to be used in econometric models are taken from World Economic Outlook reported by International Monetary Fund (IMF) and World Trade Organization (WTO) for the reliability and robustness of the study. They can provide sufficient level of information and data on national accounts and foreign trade statistics of Myanmar.

Regarding the methodology section, GDP, export and import data are required for doing VAR model estimations and causality analysis among these three variables. In order to increase the robustness of this analysis, sufficient time series data on GDP, Exports and Imports are needed. For this reason, annual data of GDP, Exports and Imports are taken from 1980 to 2014. The reason for which the data set was collected from 1980 is because for running time-series data, more than 30 observations are required. Thus, at the end, there are 34 time series data for each variable regarding econometric analysis and growth rate forms of all these three variables are used in VAR model estimations and causality analysis.

Empirical Analysis

The relationship between the economic growth and foreign trade is examined in two ways: exploratory data analysis and descriptive analysis. The first section deals with the data running and data analyzing by using VAR model to find out the relationship between economic growth and foreign trade in growth rate terms.

The facts that how GDP growth affected the foreign trade, how imports growth and exports are related to each other and how foreign trade had impacts on GDP growth are discussed based on the empirical results. In the second section, the relationship between the economic growth and foreign trade is discussed by using descriptive statistics.

Exploratory Data Analysis

The exploratory data analysis is conducted in four steps. The first step is to check the stationary condition of the data set by using the Augmented Dickey-Fuller unit root test because in order to use VAR estimation all the time-series data have to be stationary at level. After making sure that all the data are stationary at level, VAR estimation is conducted as the second step of the analysis. In the third step, Granger causality test associated with vector

autoregressive model is used to examine the causal relations between all three variables. Finally, testing the VAR model for stability and testing the residuals for normality and autocorrelation are conducted.

Augmented Dickey-Fuller Unit Root Tests

In order to use VAR estimation and find out the causality between the three variables, GDP, EXP and IMP, it is needed to check whether all the data are stationary. Accordingly, Augmented Dickey-Fuller unit root test is used to check the stationary quality of the time series variables. The null hypothesis for this test is that time-series is not stationary. If the test statistics are less than 5%, the null hypothesis can be rejected, which means that the time-series is stationary. In Table 3 the ADF unit root tests are recorded.

TABLE 3
Augmented Dickey-Fuller Unit Root Tests Results

Variables	ADF Test statistics	5% Critical value	10% Critical value	Deterministic Regressors	Lags	Results
GDP	-1.53064	-3.56288	-3.21526	intercept+ trend	8	Non-Stationary
EXP	-4.21019	-3.55775	-3.21236	intercept+ trend	8	Stationary
IMP	-5.30335	-3.55297	-3.20964	intercept+ trend	8	Stationary
GDP	-1.69199	-1.95133	-1.61074	None	8	Stationary
EXP	-3.38999	-1.95133	-1.61074	None	8	Stationary
IMP	-4.47636	-1.95133	-1.61074	None	8	Stationary

Source: Calculation

TABLE 4
Defining the Number of Lags for VAR Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-399.3469	NA	16736685	25.14668	25.28410	25.19223
1	-381.8228	30.66725*	9862369.*	24.61392*	25.16358*	24.79612*
2	-375.9474	9.180238	12202380	24.80922	25.77110	25.12805

Source: Calculation

As shown in Table 3, except GDP, the rest two variables, EXP and IMP, are stationary at level in testing with intercept and trend. However, in testing with neither intercept nor trend, null hypothesis can be rejected for all three time-series, which means that all the variables are stationary at level in testing with neither intercept nor trend. The time-series data of GDP are significant at 10% critical level.

Vector Autoregressive (VAR) Estimation

After making sure that all the variables are stationary at level I(0),

VAR analysis can be carried out. Although there is no certain rule for selecting lag length for VAR analysis, at least 1 or 2 lags have to be used because annual data are used in this model. And based upon the Likelihood-Ratio Test and Akaike's Information Criterion (AIC), the number of lags can also be defined as one. Table 4 shows the defining decision of the lag length for the VAR model. In the table, both LR test and AIC test suggest us to use only one lag for our model.

From Table 5, it can be seen that GDP growth rate is influenced significantly by the growth rate of GDP of the previous year. However, GDP growth rate does not depend both on the import

growth rate and export growth rate of the previous year. The results show that 1% increase in GDP growth rate in the previous period causes GDP growth rate in the current period to increase by 0.58%.

In the estimation of setting export growth rate as the dependent variable, export growth rate in the current period depends on the GDP growth rate of the previous period at 10% significance level while both export growth rate and import growth rate in the previous period cannot explain the export growth rate in the current period. 1% increase in the GDP growth rate of the previous period adds 1.31% to the export growth rate in the current year. In the last equation, it is found out that import growth rate depends significantly both on the GDP growth rate and export growth rate in the previous period. However, it is not

influenced by its one lagged value. Particularly, an increase in the GDP growth rate of the previous year causes the import growth rate in the current year to decrease 2.11 at 5% significance level. On the other hand, 1% increase in export growth rate in the previous period contributes to the current period import growth

rate at the rate of 0.88%.

Granger Causality Test

After running VAR estimation, it is time to check the Granger Causality test to find out the causality between the three variables GDP growth rate, export growth rate and import growth rate. All the results of Granger Causality test can be seen in Table 6. The results of VAR estimation are expressed in Table 5.

TABLE 5
VAR Model Estimation Results

		Coef.	Std.err	T-test	*p*-Value
GDP	GDP (-1)	0.5835	0.1484	3.9316	0.0002*
	EXP (-1)	0.0370	0.0356	1.0383	0.3020
	IMP (-1)	0.0046	0.0231	0.1997	0.8421
EXP	GDP (-1)	1.3161	0.7648	1.7207	0.0888*
	EXP (-1)	0.2074	0.1837	1.1286	0.2622
	IMP (-1)	-0.0024	0.1191	-0.0203	0.9838
IMP	GDP (-1)	-2.1121	1.0066	-2.0981	0.0388*
	EXP (-1)	0.8850	0.2418	3.6594	0.0004*
	IMP (-1)	-0.0632	0.1568	-0.4033	0.6877
	Constant	17.9496	7.8233	2.2943	0.0242

Source: Calculation

TABLE 6
Granger Causality Test Results

Null Hypothesis, H_0	Chi-sq	Prob.
GDP growth does not granger cause Export growth	2.9610	0.0853*
GDP growth does not granger cause Import growth	4.4023	0.0359*
Export growth does not granger cause GDP growth	1.0782	0.2991
Export growth does not granger cause Import growth	13.3913	0.0003*
Import growth does not granger cause GDP growth	0.0398	0.8417
Import growth does not granger cause Export growth	0.0004	0.9838

Source: Calculation

According to the results presented in Table 6, it can be seen that causality runs from GDP growth rate both to import growth rate and to export growth rate. Changes in the GDP growth rate cause both the export growth rate and import growth rate at 10%

significant level. On the other hand, import growth rate cannot cause both GDP growth rate and export growth rate. There is a one-way causal relation from export growth rate to import growth rate at 1% significance level.
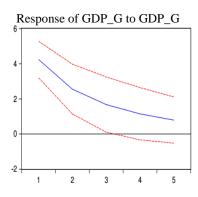
Testing the Model

In order to know whether the above VAR model is stable, it is important to test the model for stability and residuals for normality and autocorrelation. By testing the model, it is found out that VAR model used for this study is stable. And it can also be seen that residuals are distributed normally according to the normality test. Hence, the results of autocorrelation show that residuals are not correlated with each other, meaning that there is no autocorrelation in residuals. (See the results in Appendix)
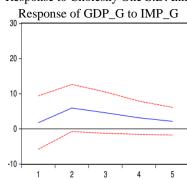
Impulse Response Function

In order to estimate the responses of the three variables, when a shock is put to the error terms of the above VAR model, impulse response functions can be used. Impulse response function is a shock to the VAR model. There are three variables in our VAR model and three impulse response functions can be used to explain to responses between three variables. These three impulse response functions are plotted in figure 2, 3 and 4 to display the responses clearly. These are the results by setting the variables according to Cholesky-dof adjusted method as given in EVIEWS 8. Figure 2 shows the impulse responses of GDP growth rate to GDP growth rate itself, export growth rate and import growth rate in the future 5 periods or 5 years.
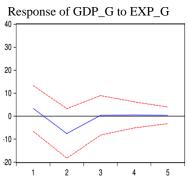
FIGURE 2
The Impulse Response of GDP Growth Rate to Other Variables
Response to Cholesky One S.D. Innovations ± 2 S.E.
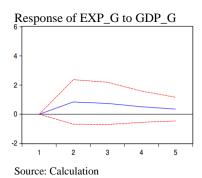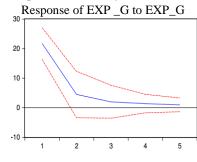

Source: Calculation

When a shock is put to GDP growth rate, every response of both GDP growth rate and export growth rate is positive. However, there will be negative responses of import growth rate in the first 3 periods. Later, the responses of import growth rate will become zero. The responses of GDP growth rate will be slightly falling period by period. The responses of export growth rate will reach around +5 in the second period and then it will be slightly falling in the following three years.

FIGURE 3
The Impulse Response of EXP growth Rate to Others
Response to Cholesky One S.D. Innovations ± 2 S.E.

Source: Calculation

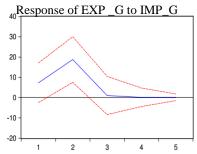Figure 3 shows the impulse responses of export growth rate to GDP growth rate, export growth rate itself and import growth rate in the future 5 years. When the impulse is export growth rate, all the responses from GDP growth rate, export growth rate and import growth rate will be positive at each responsive period. The responses of export growth itself will be slightly falling year
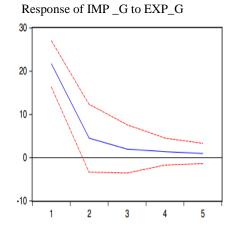
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after year. There will be significant responses of GDP growth rate and import growth rate in the first 2 periods. Later the responses of GDP growth rate will slightly fall bit by bit in the next three

years and the responses of import growth rate will become zero in the following three periods.

FIGURE 4
The Impulse Response of EXP Growth Rate to Other Variables
Response to Cholesky One S.D. Innovations ± 2 S.E.

Response of IMP_G to GDP_G   Response of IMP_G to EXP_G   Response of IMP_G to IMP_G
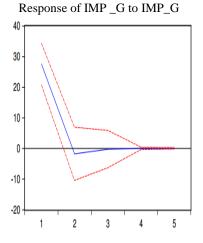
Source: Calculation

Figure 4 shows the impulse responses of import growth rate to GDP growth rate, export growth rate and import growth rate itself in the future 5 periods. When a shock is given to import growth rate, the responses of GDP growth rate will be equal to zero almost all the five future periods. Every response of export growth rate will be positive. In the first period, there will be significant response of export growth rate, however, it will be falling slightly in the following four periods. Except the first one which is significant and positive response, almost all the responses of import growth will be equal to zero in response to a shock in itself.

Descriptive Analysis
This study deals with the foreign trade trend of Myanmar during the period starting from 1990 to 2014. This period can be divided into two; (i) Foreign trade under military rule (or) Market-oriented economy (1988-2010) and (ii) Foreign trade under new government (2010-present). In this section of analysis, descriptive statistics of Myanmar's foreign trade of the above two periods is discussed with some trade reforms which took place in each period. As the border trade plays a central role in Myanmar's foreign trade sector, it is also included in this descriptive analysis section.

Foreign trade under military rule (1988-2010): In 1988, the junta group took the ruling authority from one-party socialist government. Then, the socialist economic system was abolished

and replaced with market-oriented economic system. Then the military government liberalized the foreign trade of Myanmar and encouraged the private sector's participation in the foreign trade activities. An "open door" policy towards Foreign Direct Investment and foreign trading companies had been implemented. Due to this action, the number of registered export-import Due to this action, the number of registered export-import companies increased from 0 in 1988 to 2813 in April 2001 and to almost 10 times (19494 companies) in 2005. At that time, the currency of Myanmar (Kyat) was not strong enough to convert to foreign currency such as dollar.

Therefore, exports became the only one and important channel for the private sector to obtain the foreign currency which could be, in turn, used to spend for importing the consumer goods and also used to import equipment and materials for the manufacturing and services sectors.

In FY 2005-2006, the total value of foreign trade became 5.5 billion US dollar, six times greater than the value of foreign trade in 1985. (Ahmed, 2006)

Table 7 shows the value of total merchandise foreign trade of Myanmar during the period of 1990-2013.

From this table, it can be seen that the value of export constantly grew from 1990 to 2002, expect in 1996, which was the "Visit Myanmar Year", thus, the focus on the exporting to foreign countries was slightly reduced due to the Government activities to attract the foreign visitors to Myanmar.

The value of exports grew from 324 million US $ to almost 10 times in amount of 3014 million US $. In July 2003, as the United

States imposed trade sanctions against the military government of Myanmar, the value of exports dropped down significantly from 3014 million US $ in 2003 to 2458 million US $ in 2004. The

most affected industry of the foreign export sector was the garment industry because nearly half of the products of this industry were exported to the United States market. (Kudo, 2005).

TABLE 7
Value of Total Merchandise Foreign Trade During the Period of 1990-2013

Year	Exports US$ Million*	Imports US$ Million*	Balance
1990	324.91	270.00	54.91
1991	419.25	645.95	-226.7
1992	531.42	651.16	-119.74
1993	586.03	813.96	-227.93
1994	798.45	885.77	-87.32
1995	851.21	1,334.59	-483.38
1996	746.34	1,358.09	-611.75
1997	866.27	2,037.29	-1171.02
1998	1,065.22	2,665.80	-1600.58
1999	1,124.59	2,300.12	-1175.53
2000	1,620.17	2,370.89	-750.72
2001	2,358.02	2,849.27	-491.25
2002	3,014.72	2,323.84	690.88
2003	2,458.39	2,069.72	388.67
2004	2,355.48	2,173.93	181.55
2005	3,776.45	1,908.13	1868.32
2006	4,539.12	2,538.21	2000.91
2007	6,252.69	3,246.61	3006.08
2008	6,882.19	4,256.23	2625.96
2009	6,661.54	4,347.62	2313.92
2010	8,661.08	4,759.66	3901.42
2011	9,238.04	9,018.97	219.07
2012	8,876.91	9,181.40	-304.49
2013	11,232.80	12,042.50	-809.7

Source: *World Trade Organization (WTO)

On the other hand, imports were driven up by the consumer demand, which were suppressed under the socialist command economy for more than 20 years, a mini construction boom and

tremendous infrastructure developments carried out by the military government. The value of total merchandise import surpassed the export earnings throughout 1990s. In 1997, 1998

and 1999, the amount of trade deficit even outpaced the export earnings.

 Due to these huge trade deficits, since 1998, government of Myanmar not only tried to cut down the imports, but also tried to increase exports (Than, 2015). In 2011, Myanmar started

exporting natural gas especially to Thailand through natural gas pipeline. At the early years of exporting natural gas, Myanmar was just a small scale producer and export of natural gas. But later on, she witnessed a substantial increase in output, especially

FIGURE 5
Natural Gas Export of Myanmar in Cubic Meters

Source: CIA World Factbook

for export.[2] Figure 5 shows the volume of natural gas-export of Myanmar from 2001 to 2011. Through the substantial increase in natural gas exports, Myanmar achieved trade surplus since 2002. According to the director of the International Relations and Information Division under the Ministry of Energy (MoE), natural gas export to Thailand and China represents 40 percent of total country's income. It generates over 170 million US $ every month for the country.[3]

Trade Reforms (1990-2010)
According to the changing economic system from socialist to market-oriented economic system in 1991, the military government of Myanmar encouraged the private sector participation in the trade sector, allowed the export-import companies and their activities to be registered, permitted the foreign direct investment, border trade activities, and formed the foreign and domestic joint venture.

During this period, the main components of Myanmar external trade policy were export promotion and import substitution. On the export side, as one major objective of export promotion policy is to export all exportable surpluses, government of Myanmar permitted the exporting companies to export all commodities except certain restricted items such as rice, rice products, and timber; all these are monopolized by state-owned enterprises to maintain inland food security and keep the stability of national environment. There were neither export quotas nor ceiling for any

exportable product or any individual or organization. Meanwhile, in order to avoid the trade deficit problem, importing the capital goods and raw materials by the private sector was balanced with parallel essential consumer goods in import policy.

In general, it can be seen that foreign trade policy of Myanmar under the military rule was closely related to the industrialization policy and it seemed to uplift the private sector. The export policy of Myanmar was to mainly use the natural resources such as rice, teak, and natural gas; and at the same time to introduce a number of new items in the manufactur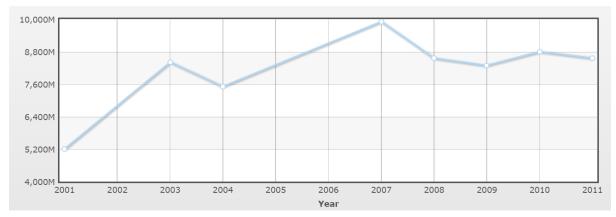ing and processing sectors. The import policy of Myanmar was to give priority to consumer goods, industrial machinery including raw materials and other essential items. Open-door policy of this period helped increase Myanmar external trade throughout 1990s and up until 2005 (Hlaing, 2014).

Foreign trade under new government (2010-2014)
After the 2010 election, the military government was replaced with the new government, and the Government of the Republic of Myanmar had been reorganized in the context of the market-oriented economic system. The private sector became a prime-mover of the market mechanism and was paid a great attention for its development. (Hlaing, 2014)

Under the new government, both of the foreign trade sectors of export and import can be said to have grown gradually. However, during this period, foreign trade of Myanmar witnessed trade deficits. It is because although there wasn't much change in

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[2] https://www.worldenergy.org/data/resources/country/myanmar/gas/
[3] http://www.mmtimes.com/index.php/business/15034-govt-earns-us-170-million-monthly-from-gas-exports.html

exporting products, which were primarily based on the natural resocurces, imports had reached a high level since the new government launched the car subststion scheme in September, 2011. This scheme allowed the old cars to be replaced with new

models. Also in July 2012, the permission to import new models of cars was even given to individuals willing to import new models of cars to Myanmar. From that time onwards, more than

Table 8
Trade Agreement with the Neighboring Countries

Agreement Contract	Signing date
Myanmar – India	21. 1. 1994
Myanmar – Bangladesh	18.5.1994
Myanmar – China	13.8.1994
Myanmar – Thai	17.3.1996
Myanmar – Lao PDR	6.12.2000

Source: Ministry of Commerce, Myanmar

100,000 vehicles have been imported to Myanmar.[4] Increase in importing vehicles became one of the major factors of Myanmar trade deficit. Therefore, Myanmar witnessed trade deficits of 304 million US $ and 809 million US $ in 2012 and 2013 respectively.

Trade Reforms (2010-2014)

Since 2011, Myanmar started a series of gradual and radical changes of economic reforms, aiming to accelerate sturctural changes and comprehensive economic development. As the new government planned to tranform Myanmar from a centrally-planned to a market-oriented and more open economy, the role of state in trade sector had been considerably reduced. Private sector activities have massive dominance on the international trade of Myanmar. One of the main steps, which were taken to encourage and uplift private sector participation in international trade, was the privatization of state trading monopolies in November 2011. By doing so, almost all products can now be imported and exported by private enterprises and individuals (Naing, 2014).

Export policies of Myanmar under the new government are to explore and spread out the foreign markets by utlizing the human and natural resources efficiently and effectively; and to stimulate the exports of traditional and value-added products. Myanmar's import policy is to give priority to importing capital goods which are required by the State, raw materials which are needed for production, other important essential goods and the goods which can be used to support the public health and export promotion (Asian Development Bank, 2014).

Border Trade

Foreign trade of Myanmar has been primarily with the Asian countries. Export to Asian region is more than 70% of total export and import from Asian countries is more than 90% of total import. China, Thailand, Singapore, India, Japan and South Korea

are the major trading partners of Myanmar (Naing, 2014). Based on the data that show the dominant condition of Asian countries on Myanmar's foreign trade, in discussing about the foreign trade of Myanmar, border trade cannot be left behind. Border trade has more than 35% of the total foreign trade of Myanmar.

China, India, Thailand, Laos and Bangladesh are the five neighboring countries of Myanmar. Myanmar has a long boundary with these five countries. Among these five countries, China and Thailand are the trading partners of Myanmar. The government of Myanmar has signed border trade agreements with these countries. All these agreement contracts and their signing date are illustrated in Table 4.6. Thirteen border trade posts had been opened by the Department of Border Trade of Myanmar, which was established in 1996 and supervised the border trade activities under the guidance of the Ministry of Commerce.

The important objectives of Border Trade agreements are

- to enhance bilateral relationship with the neighboring countries;
- to encourage and promote trade; and to keep it on the right track of conventional trade;
- to make sure of the full realization of revenues gained through border trade to be leived by the state;
- to provide favorable conditions for the private companies and businessmen through which to earn reasonable benefit; and
- to help facilitate the flow of goods (Naing, 2014).

Until 1988, when the junta group took over the power from one-party socialist government, border trade was informal. At that time, illegal trade was smuggling between Myanmar and her neighboring countries.

Then the military government tried to stop illegal border trades and black market; and started to launch the legal trade along the border areas. The government of Myanmar also improved the security, transportation facilities and the social sectors in the border regions in order to promote the border trade. By doing so,

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[4]   http://www.mmtimes.com/index.php/special-features/162-wheels-2013/5786-lifting-the-lid-on-imported-cars.html

the benefits of border trade have risen substantially in inocme and employment. Table 4.7 shows total border trade with neighboring countries from 1997 to 2012 due to the availablity of the data.

Myanmar's broder trade with China is the highest in total border trade among the neighboring countries.

It is because China is the biggest trade partner of Myanmar. Second largest trade partner is Thailand; India and Bangladesh are third and fourth respectively.

There is no border trade relation with Laos PDR because of the mountainous area at the border. By processing highways and road transportation, China gets the favorable conditions concerned with the border trade with Myanmar. One main benefit is the goods imported from China. It is because all those goods are relevant to the Myanmar people. As China is the country of advanced technology, imported goods from China have the variety of choices such as machine and accessories, electronic goods and technological products (Myat, 2014).

TABLE 9
Total Border Trade with Neighboring Countries (US $ Million)

Year	Total Border Trade	China	Thailand	Bangladesh	India
1997	257.66	145.81	83.86	22.25	5.74
1998	246.46	194.29	39.34	3.61	9.22
1999	170.92	96.39	43.70	8.55	22.28
2000	411.74	267.63	107.59	16.00	20.57
2001	497.44	276.35	170.59	19.34	31.13
2002	444.36	331.18	74.04	11.80	26.72
2003	501.16	387.12	78.57	10.28	25.19
2004	656.61	496.71	121.94	15.20	22.76
2005	716.66	481.36	199.02	15.41	20.87
2006	1092.62	749.76	300.23	15.77	26.86
2007	1329.50	977.43	304.74	14.83	32.50
2008	1348.48	986.60	327.35	9.88	24.65
2009	1383.67	1076.81	274.65	13.74	18.47
2010	2130.19	1800.30	299.08	16.45	14.36
2011	3368.73	2985.45	343.31	24.50	15.45
2012	3453.00	3110.90	574.16	13.00	38.00

Source: Ministry of Commerce, Myanmar

CONCLUSION

The main objective of this study is to examine and find out the relationship between foreign trade and economic growth of Myanmar over the period of 1990-2014 primarily with the empirical analysis and general descriptive statistics. The data set employed in this study is secondary data of annual Gross Domestic Product (GDP), Export and Import of Myanmar during the period of 1985-2014. All these three variables are converted into growth rate term.

This study adopts two main methodological approaches in order to find out the appropriate answers to the research problem. Firstly, econometric methods such as Augmented Dickey-Fuller unit root test and Granger causality test within the framework of Vector Autoregressive (VAR) model. Empirical results are mainly based on the above econometric methods. Secondly,

foreign trade trend of Myanmar during the period of 1990-2014 is analyzed by using descriptive analysis.

The results of this study are somewhat contrary to conventional belief that foreign trade has significant impact on the economic growth of Myanmar. The empirical results show that there is no significant positive relationship between foreign trade and economic growth, meaning that foreign trade can not generate a significant effect to enhance economic growth. The same result has been found by Toshihiro Kudo & Fumiharu Mieno (2007). Therefore, we have to reject the first hypothesis that foreign trade had an impact on economic growth of Myanmar over the period of 1990-2014. Rather, we can accept the alternative hypothesis that foreign trade did not have a significant impact on the economic growth of Myanmar over the period of 1990-2014.

It is concluded from both of the two analyses that during the period 1990-2014, the economic growth of Myanmar had

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negative impact on the import growth. The results of those two analyses are reasonable because during the studied period, Government of Myanmar had been applying the export promotion and import substitution strategy. Therefore, the more the country had growth, the lower the import growth became.

However we have to reject the second hypothesis that export is the main factor which leads the economic growth of Myanmar compared to import, and accept the third hypothesis that growth-led export proposition has been applied in Myanmar over the period of 1992-2014. Because evidence shows that economic growth of Myanmar did not depend on the growth of export, rather export growth depended on the economic growth of Myanmar. Therefore, growth-driven export proposition can be addressed for Myanmar. This result is also reasonable because under the military rule, export promotion strategy had been applied in Myanmar.

For the last hypothesis that two-way causality runs between export and import, we cannot accept the hypothesis. The results point out that there is only one-way causality that runs 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.

The results of this study may be useful for Myanmar policy makers in external sector to help make decisions in promoting foreign trade. They can understand that in order to have positive impact from foreign trade, Myanmar should have trade surplus which means that export income should be greater than import expenses. Rather selling the products mainly based on the natural resources, value-added goods should be produced and exported to the international markets. In order to improve the quality of the export product, technological know-how from abroad should be adopted in producing goods.

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— This article does not have any appendix. —