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Macroeconomic model of institutional reforms' influence on economic growth of Myanmar through Economics Freedom Index [Khin Thu Thu Thein](#)

A Cluster Analysis of Households' Sanitation Facilities in Sagaing Region, Myanmar [Cho Cho Win](#)

Factors Affecting Transportation Activities of Private Trucking Industry in Mandalay [Khin Thet Htwe](#)

Factors Associated with Early Childhood Development in Myanmar [Aye Aye Htwe](#)

The Relationship between Education Expenditure and Economic Growth in Myanmar (1989-90 to 2018-19) [Aye Aye Nyein](#)

Forecasting of the Epidemiology of Tuberculosis in Myanmar (1994-2018) [Khet Khet Hnin · Thet Mar Lwin](#)

Foreign Direct Investment, Trade Openness Impacts on Economic Growth in Myanmar [Wut Hmone Phoo](#)

Organizational Factors affecting Job Satisfaction of Medical Doctors at Public Hospitals in Yangon [Theingi Nwe](#)

Factors Influencing Export Performance of Fishery Industry in Myanmar [Aye Thu Htun](#)

Role of Tourism on Poverty Reduction: A Case Study of Bagan Archeological Zone in Myanmar [Hlaing Hlaing Moe, Win Thri Aung, Hnin Hnin Aung and Khin Myat Noe Wai](#)

The Impact of Long-Term and Short-Term External Debt on Economic Growth in Myanmar [Naw Htee Mue Loe Htoo](#)

The Effect of Foreign Direct Investment on China's Economy [Nu Nu Lwin](#)

The Growth of International Tourist Arrivals in Myanmar [Sandar](#)

Effect of Organizational Support on Job Satisfaction of Employees during Covid-19 Pandemic in Myanmar [SU HLAING OO](#)

A Study on the Well-being of Elders in Yangon Region with Special Reference to Social Protection [Thu Zar Lin](#)

Factors Influencing Employee Engagement: A Study of the Yangon University of Economics [Yan Yan Myo Naing · Mar Lar Oo](#)

An Analysis of Willingness to Pay for Water Quality Conservation in the Taung Thaman Lake [Yin Myo Oo](#)

Analysis of Factors Influencing Child Mortality in Rural Area of Myanmar [Win Naing · Ei Thu Zar Htun](#)

POVERTY STATUS OF EVER MARRIED WOMAN AGED (15-49) YEARS IN MYANMAR [Tin Tin Mya, May Thu San and Thida Swe](#)

The Impact of Covid-19 on Tourist Arrivals in Myanmar: An Intervention Time-Series Analysis [Mya Thandar](#)

Internal Corporate Social Responsibility of Good Brothers' Company Limited [Cho Cho Thin](#)

Using Time Series Facebook Prophet Model on Coronavirus Disease Outbreak in Myanmar [Lwin Chan Phyo](#)

A Study on Digital Inclusion under the 4th Industrial Revolution: Focusing on the Cases of the United States and the European Union [Shinwon Kang](#)

Letter from the Editor-in-Chief

Myanmar and Korea have many similarities and are complementary relationship. Therefore, we believe that research exchange will expand mutual understanding between Myanmar and Korea, and will be the cornerstone for mutual development.

KOMYRA and YUE have co-published The Myanmar Journal since August 2014. So far, many scholars have published numerous papers through the journal, and We are sure that this journal has helped many people understand Myanmar and Korea more clearly and closely.

The Myanmar Journal covers various issues in Myanmar and Korea. It covers various topics that can promote bilateral development and mutual understanding, not limited to specific topics such as economy, industry, society, education, welfare, culture, energy, engineering, healthcare, and agriculture.

We hope that this journal will continue to promote understanding of the current status and potential capabilities of Myanmar and South Korea and promote in-depth international exchange and cooperation.

We would like to express our deepest gratitude to the editorial board and YUE and KOMYRA for their valuable support in The Myanmar Journal publication.

February 28, 2022

Youngjun Choi *yj choi*

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The Myanmar Journal (ISSN 2383-6563) is the official international journal co-published by Yangon University of Economics (YUE) and Korea Myanmar Research Institute (KOMYRA).

This journal aims to promote the mutual cooperation and development of Myanmar and Korea through intensive researches in the entire field of society, economy, culture, and industry.

It will cover all general academic and industrial issues, and share ideas, problems and solution for development of Myanmar.

Articles for publication will be on-line released twice a year at the end of February and August every year on the Myanmar Journal webpage (http://www.komyra.com/bbs/board.php?bo_table=articles).

The Impact of Long-Term and Short-Term External Debt on Economic Growth in Myanmar

*Naw Htee Mue Loe Htoo**
Yangon University of Economics

ABSTRACT : This study analyzes the impact of external debt on economic growth of Myanmar using time series data from 1983 to 2017. It is found that the short run external debt boosts economic growth while the long term external debt discourages economic growth of Myanmar. The repayment on the long term external debt has negative relations to economic growth but it is no significant influence on economic growth whereas interest rate as a debt serving has a positive impact on growth. In addition, it was found that any disequilibrium between the economic growth and long term external debt can be corrected and restored back economic growth to its initial position in short run. Thus, it is recommended that, as saving and net export are the most important sources of capital stock and foreign income of an economy, it should raise saving to fill up the resource gap between saving and investment so as to finance the required capital stock. It should also expand the volume of export potential and to reap the trade surplus earning for financing its investment. In term of fiscal sector, it is needed to improve fiscal measures in order to finance deficit budget. By taking care of these measures Myanmar can be further enhance its economic growth rather than reliance on the external debt that causing slower growth of its economy.

Key words : *External Debt, Short Term Debt, Long Term Debt, Debt Service*

I. Introduction

Development of a country can be affected by how much and how large the

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indebtedness of the government. There are two views of macroeconomic theory that mentioned different perspectives upon government debt which include Traditional view and Ricardian view. According to the traditional view of government debt, tax cut that finances government's debt which may have short run effect on economy because the tax cut creates an increase in total demand and higher income through the effect of stimulation of consumer spending and lowering national saving in the short term. This short run effect in turn causes reducing both capital stock and national income of the economy in the long run. By contrast, Ricardian equivalence is based on the sense of the forward-looking consumer in examining fiscal policy. Accordingly, Ricardian view mentioned that tax cut does not create stimulating effect on consumer spending. It is in fact merely the rearrangement of taxes from the present generation to future generation. The Debt Laffer Curve introduced by Sachs in 1989 indicated that a state of affairs of excessive indebtedness that steadily generates efficiency losses of an economy. On different aspects of macroeconomics, it's far posited that government's debt can probably produce other outcomes when the amount of debt is enormous. It means that huge government's debt or budget deficits can also additionally stimulate immoderate monetary enlargement and, therefore, result in more inflation. One possibility is that a nation with excessive level of debt can also additionally inspire politicians to shoulder overly burden to the future generation when assigning government fiscal policy that is spending and taxes. In addition, a nation with excessive level of debt may experience not only a situation of increasing the risk of capital flight but reducing power of influence on other nations.

II. Literature Reviews

There has been a long debatable over the effect of government debt on the economic growth. The various aspects which come from numerous literatures are reaching a different concrete solution over investigation of the effects of government debt on the economic growth. There was a distinguished example of the U.S economy which investigated two different views of government debt based on the event of Reagan tax cut of 1981. Who advocated on the traditional view of government debt illustrated that the event of 1980s proves a debt financed tax cut arouses to increase in total demand and higher income through the effect of stimulation of consumer spending and lowering national saving in the short run which in turn reduces both capital stock and national income of the economy in the long run. While those who supported Ricardian view of government debt claimed

that low level of saving in the 1980s was owing to people were confident about future economic growth. Their anticipation of the tax reduction would finally lead not to raise taxes as Reagan assured to lower government spending. However, each perspectives of government debt continue to exist in a different way on this event (N.Gregory Mankiw, 2016, P.571-572). There are other numerous empirical studies which deeply investigated the effect of debt on economic growth. As indicated by Krugman (1988) and Sachs (1989), based on the debt-overhang theory, if a country perceive or optimistic about developing a large volume of debt or debt is far exceed its ability to repay, there will be a discouraged from further investment. Empirically studied on the debt overhang and crowding out effects by them show that there was a negative relationship of debt on growth or investment. In fact, an indebted country requires paying interest on debt as a debt service which will lead to reduce the investor's involvement in economic activity of indebted country and thereby discouraging economic growth Krugman (1988) and Sachs (1989). In the empirical evidence of Robert Barro (1979) stated that the public debt will turn into taxation and which will lead to a higher taxation position and then reduce potential production. Agenor and Montiel (1999) described the acceleration of the debt burden tend to cause distortion effects such as inflation tax or reductions in public investment in economy owing to increasing repayment of debt service. A lower rate of long term economic growth is associated with a higher level of public debt which was found by Reinhart and Rogoff (2010), in the case of a debt level over 90 percent and they also gave the advice that developing countries with heavy debt burden tend to cause a negative effect on economic growth. As illustrated by Bivens (2010) the large amount of annual deficit will cause higher interest rate and then it will discourage private investment and as a consequence growth potential will be lower in the future. By using the case study of some Latin American and Caribbean countries, Alfredo and Francisco (2004) found that there is an inversely association between external debt and economic growth as lower total external debt levels leads to higher growth rates. Whose examine the impact of external on economic growth using a comparative study of South Africa and Nigeria indicated that though South Africa has better performance in employing of external loans to enhance growth, external debt perform negative impact on growth both countries. On the other hand, there are several studies in the literature, which test whether indebtedness influences on the economic activity of developing countries. It is argued that if foreign loans are converted into capital and other necessary inputs, development will occur. For example, in the study of Cline (1995) revealed that if the debt has been used in effectively, or it could be justified marginal benefits and costs principle in using the debt that are borrowed; it could help to enhance economic growth of the borrowing country.

III. Rationale of the Study

Myanmar, the country is characterized by abundant human capital and natural resources; however, without having sound macroeconomic policies with smooth and stable political situation, the long run economic growth will be sluggish over the years. On the other hand, over dependence on aids, borrowing, and debts is not a solution to sustain economic growth. In examining the current macroeconomic indicators of Myanmar it is illustrated that the economic growth of Myanmar has decreased from 6.8 percent in 2017/ 18 from 8 percent in 2014/15(Myanmar Economic Monitors, 2018, p.71). The long term saving and investment gap over the year has proven the existence of domestic resource deficiency which shows that it could not meet the required investment. Saving and investment gap as percentage of GDP has become larger since 2014 with - 7.8% and it was remained at -5.7% in 2017, respectively.²⁾

On the other hand, the negative trade balance was successively increased from - 3.6% in 2014/15 to -8.5% in 2017/18³⁾, likewise, current account with negative balance of payment as percentage of GDP has increased from - 3.5% in 2014/15 to -5.5% in 2017/ 18(Myanmar Economic Monitors, 2018, p.74). The increase in the import value over export value is reflecting the condition that Myanmar has been reliance on import to meet investment and domestic consumption. In term of fiscal activity, revenue to GDP has declined to 16.5 percent of GDP in 2017/18 from 20.3 percent of GDP in 2013/14 and it has seen that inside the union government tax revenue have continuously stable at the same time non tax revenues have lessen as a consequent tax revenues have sluggish at 6.5 to 7.0 percent of GDP between 2013/14 and 2017/18 within the confined ability of tax has to fluctuated (Myanmar Economic Monitors, 2018, p.48). On one hand, there has been less profitability and exemption of the oil and gas sector which affected to the reduction of royalty payment. As a result, the non-tax revenues have declined from 5.1 percent of GDP in 2014/15 to 3.3 percent of GDP in 2014/15 and it is expected that the union government balance might increase from -3.9% in 2015/16 to -5.0% in 2018/19(Myanmar Economic Monitors,2018,p.48&77). Concern to fiscal deficits, current fiscal deficit reflected that it is lower of the target level since the actual budget deficit in 2017/18 was 2.7 percent; it is significantly below the 5.8 percent budgeted during the year but it still manifesting that many challenges in the budget administration and management (Myanmar Economic Monitors, 2018, p.37). This highlights that the subjection of spending on capital projects tend to cause the

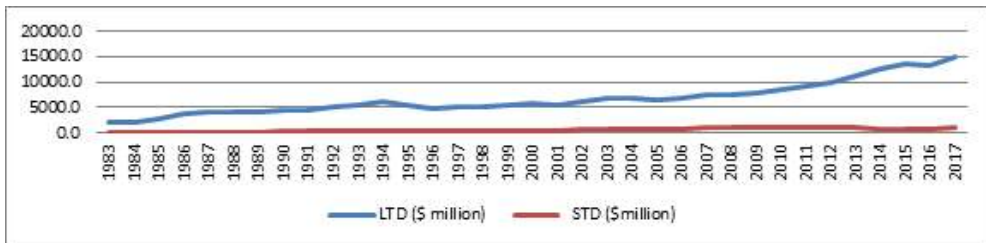
2) Key indicators, ADB (2019), www.adb.org/statistics

3) www.WB.org/statistics, Trade data, Myanmar

unceasing challenges and confrontations in budget administration. Thus, issuing the Treasury bills and bonds become a source of an increasingly financing to the deficit budget in this scenario. The projection of approved budget within the overall spending mix expected to increase budget deficit to 6.0 % of gross domestic product (GDP) in 2018/19 due to the focus is given on capital spending which would drive up the deficit to increase (Myanmar Economic Monitors, 2018, p.41). Owing to facing feeble fiscal and capital measures, over the years, external debt both short term and long term has been taken place as a financial source of Myanmar to fulfill its economic growth. In addition, aid and grants from multiple creditors such as from developed countries and international organizations become the supplementary and external financial sources of Myanmar to be able to support its augmented growth encouragement. The sources of external debt has been taken from multiple sources IBRD loans, IDA credits, ADB and the use of IMF credits while aids and grants are mainly received from the UN agencies and bilateral aid flow from DAC donors countries such as EU, U.S, Germany, Japan, Switzerland, Sweden, Canada and Norway. There are many other bilateral donors such as Australia, New Zealand, Korea, Spain, France, and Belgium etc. They also contribute to aid and assistance to Myanmar over the years. The main aim for owing debt to Myanmar is to enhance not only its economic growth but for the improvement of its macroeconomic adjustment like higher investment in infrastructures, projects, agriculture, education, health and even to assist poverty reduction.

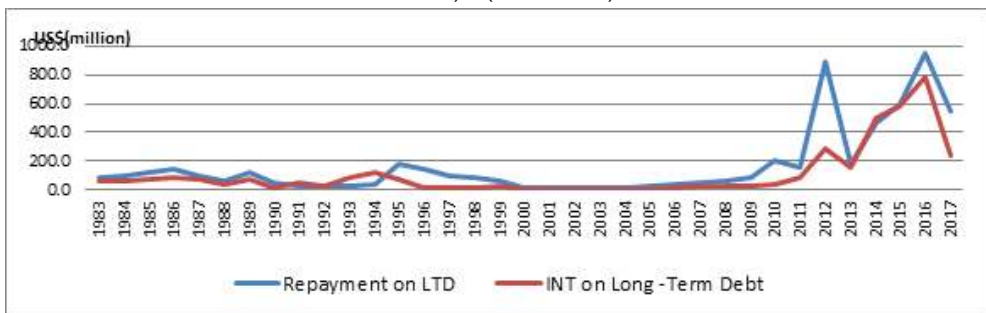
From the following Figure (1) it can be observed the external debt condition that Myanmar owed to the multiple creditors over the years; and Figure (2) and (3) shows how much and how long the repayment and interest Myanmar has to pay for the debt as debt service to the creditors. Figure (1) indicates the long term and short term external debt in term of current US \$ -million from 1983 to 2017. The amount of long term external debt has been increasing over the years but it has been rising substantially after 2010. As illustrated in figure (2), the debt service and repayment on the debt has the same trends with the change in the amount of external debt. It is implied that the debt service increases as long as the increases in external debt. From figure (1) and (2), it can be understand that there is a positive relationship between external debt and debt services. And both increasing trend shows the requirement of high level of external finance as a result of weaknesses of fiscal measures which contributed to worsening the external account imbalances and to further contracting new loans.

Figure 1. Long-Term and Short-Term External Debt (Current US \$ -million)
(1983-2017)



Source: Author's calculation based on ADB, key indicators for Asia and the Pacific, 2019

Figure 2. Repayment on Long-Term Debt and Interest on the Long-Term Debt (US \$ million) (1983-2017)

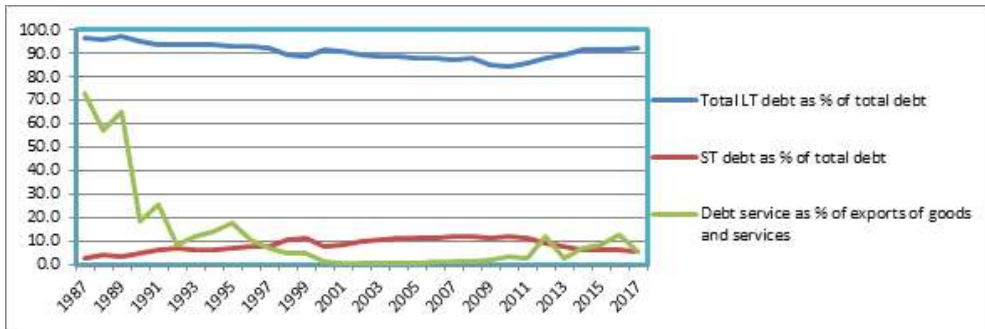


Source: Author's calculation based on ADB, key indicators for Asia and the Pacific, 2019

Figure (3) shows total long term and total short term debt as percentage of total debt and the debt services as percentage of export of goods and services from 1987 to 2017. The total long term external debt had been taken place as huge percentage as compare to the total short term debt. The debt services as percentage of export of goods and services decreased substantially from 1987 to 1999 and then this ratio fell to negligible amount as the volume of export increased gradually but it performs increasing trend again after 2010. This implies that the debt stock increases along with decreasing amount of export create less ability to repay the debt and then the accumulation of debt causing declining investment and high interest rate which in turn create slow growth. As revealed by above literatures, the traditional view of government debt finally leads to a lower capital stock and lower income in the long run. As proposed by the debt-overhang theory, an indebted country requires paying interest on debt as a debt service which will lead to reduce the investor's involvement in economic activity of indebted country and thereby discouraging economic growth. In the case of Myanmar, it is needed to consider the fact that even though the interest to pay on the debt is rather low the accumulation of debt

in long run highlights the over debt burden which will be affected to the future growth and generation.

Figure 3. Total Long -Term Debt and Total Short -Term Debt as Percentage of Total Debt and Debt Services as Percentage of Export of Goods and Services (1987-2017)



Source: Author's calculation based on ADB, key indicators for Asia and the Pacific, 2019

IV. Objective of the Study

Based on the rationale of study, the interested research questions of this study is to find out how is the impact of external debt and debt services on economic growth of Myanmar. To perform this aim, the two specific objectives are constructed as follows.

(1) To investigate the impact of long term and short term external debt on economic growth of Myanmar.

(2) To examine how the debt services impact on economic growth of Myanmar Economy.

V. Data and Methodology

There are four main variables namely economic growth, long term and short term external debt, and repayment of debt and interest of debt as debt services employed in this study. The required time series data from 1983 to 2017 are taken from a series of data reported from the key indicators for Asia and Pacific, Asian development Bank (ADB). Time series analysis, Co-integration test, Chow test, and short run model of Vector Error Correction Model (VECM) are applied as the main econometric tools in this study. In addition, diagnostic tests such as Breusch-Godfrey

Serial Correlation LM test, Heteroskedasticity test and Normality test are used to confirm whether the model outcomes are efficient, certain and reliable for this study.

VI. Model Specification

Based on the traditional assumption of government debt, the model is constructed as follows.

$$GDP = f (LTD, STD, RED, INTD) + \varepsilon$$

Where RGDP is Real Gross Domestic Product, LTDEBT is Long term external debt, LOGSTDEBT is Short term external debt, RELTD is Repayment on debt, INTD is Interest on debt and ε is errors term. The value of Gross Domestic Product (GDP), Long term external debt, Short term external, and Repayment on debt are measured in term of current US dollar and the unit of interest rate is percentage based on the amount of dollar to pay back on long term loan. Then all variables are transformed into Natural logarithm and the model is rewritten as follows.

$$LOGGDP = f (LOGGDP, LOGLTDEBT, LOGSTDEBT, LOGRELT, LOGLTINT) + \varepsilon$$

Where LOGRGDP is natural logarithm of Gross Domestic Product, LOGLTDEBT is natural logarithm of Long term external debt, LOGSTDEBT is natural logarithm of Short term external debt, LOGLTINTD is natural logarithm of Interest on debt and LOGRELTD is natural logarithm of Repayment on debt.

VII. Model Specification

The vector error correction model (VECM) is applied to examine the dynamic relationship of the model. The property of the error correlation model is to produce the speed of adjustment from short run dynamic to the long run equilibrium state and estimate the effect of the government's external debt to the level of economic growth so as to reach the objective of this study. For this, the VECM is constructed as follows.

$$\begin{aligned} \Delta LOGGDP_{t-1} = & \delta_0 + \delta_1 \Delta LOGGDP_{t-1} + \delta_2 \Delta LOGLTDEBT_{t-1} + \delta_3 \Delta LOGSTDEBT_{t-1} \\ & + \delta_4 LOGLTINT_{t-1} + \delta_5 LOGRELTD_{t-1} + \Delta DUM96 + Ect_1 + \varepsilon_{t1} \end{aligned}$$

Where: Δ is the difference operator.

ε_{t-1} is the lagged residual term.

ECT_{t-1} is the coefficient of the lagged error correction term.

$\delta_1, \delta_2, \delta_3, \delta_4, \delta_5$, and δ_5 are the coefficients of the short run parameters.

$\Delta \text{LOGGDP}_{t-1}$, $\Delta \text{LOGLTDEBT}_{t-1}$, $\Delta \text{LOGSTDEBT}_{t-1}$, LOGLTINT_{t-1} , LOGRELTD_{t-1} and ΔDUM96 are short-run parameters, which measure the speed of adjustment back to the equilibrium. The following Table (5) indicates the estimated results of VECM model which makes the short-run dynamic adjustment between economic growth and external debts.

Table 5. Estimated Result of VECM Impact of External Debt on Economic Growth

Dependent Variable: D(LOGGDP)				
	Coefficient	Std. Error	t-Statistic	Prob.
ECM	-0.008723**	0.003190	-2.734395	0.0113
LOGGDP_1	0.570806***	0.111530	5.117952	0.0000
LOGLTDEBT_1	-0.315016***	0.076763	-4.103772	0.0004
LOGSTDEBT_1	0.036397*	0.018775	1.938596	0.0639
LOGRELTD_1	-0.009757	0.008574	-1.137944	0.2659
LOGLTINTD_1	0.01714**	0.007843	2.186311	0.0384
DUM96_1	-0.016201	0.014015	-1.155941	0.2586
C	0.018295***	0.004339	4.216190	0.0003
R-squared	0.778516	Mean dependent var	0.029150	
Adjusted R-squared	0.716501	S.D. dependent var	0.023271	
S.E. of regression	0.012391	Akaike info criterion	-5.736515	
Sum squared resid	0.003838	Schwarz criterion	-5.373725	
Log likelihood	102.6525	Hannan-Quinn criter.	-5.614447	
F-statistic	12.55359	Durbin-Watson stat	2.482903	
Prob(F-statistic)	0.000001			

Source: Author's calculation

Note: ***, **, * indicate the significant level at 1%, 5% and 10%, respectively.

Firstly, it is indicated that the coefficient of error correct term - ECT_{t-1} has a negative sign and p-value is significant at 5 % level. The coefficient of error correction term shows that the speed of adjustment is at 8%. Thus, any shock that causes disequilibrium situation can be corrected by 8%. To be specific, the disequilibrium between the economic growth and long term and short term external debt can be corrected and it can be restored back economic growth (GDP) to its initial position by 8% adjustment in each time. This result is expected result in term of economics and econometric model.

Secondly, it is found that the main variable long term external debt shows a negative relationship to economic growth since the coefficient of long term external

debt produces a negative sign and p-value is highly significant at 1 % level. Specifically, a one percent change in long run external debt generates 32% decrease in economic growth. This means that long term debt discourages economic growth of Myanmar. On the other hand, the coefficient of short term debt shows a positive sign but the p-value is significant at 10% level. This result points out that the short debt support economic growth. Precisely, a one percent increase in short term debt generates an increase in economic growth by 3.6%. Thus, it can be concluded that short term debt encourages economic growth of Myanmar.

In the third, repayment on debt and interest on long term debt are the debt service-variables. It is observed that the coefficient of repayment on the long term debt has negative and it is expected result but p-value is not significant at any level 1%, 5% and 10% respectively. Thus, it can be described that repayment on long term debt and economic growth has a negative relationship in this case.

On one hand, the coefficient of interest on long term debt creates a positive sign and the significant level of p-value is at 5%. By this mean, interest on long term debt and economic growth has a positive relationship. In term of magnitude, a one percent increase in interest payment on the long term debt lead to an increase in economic growth at 1.7 percent. This result does not in line with the theoretical assumption but it is possible that whether the amount of interest rather small or negligible pay back to the creditors.

There is a structural break in this model. Chow test break point shows that there is a structural break in 1996. It is included in structural break in 1996 as a dummy. The coefficient of this dummy possesses a negative sense related to economic growth but it is not significant meaning that this structural break occurs in 1996 does not have any fundamental effect on economic growth. Finally, R-squared and adjusted R-squared indicates that the explanatory variables such as long term and short term external debt and the debt services can be explained on economic growth by 78%. The probability of F statistic is statistically significant at 1%. The value of DW statistics is 2.5 which mean that this estimation is free from autocorrelation problem. Overall, it can be concluded that the VECM is a fitted for this estimation. Besides, to confirm whether the model is efficient, normal and reliable, the following diagnostic tests have done.

VIII. The Diagnostic Test Results

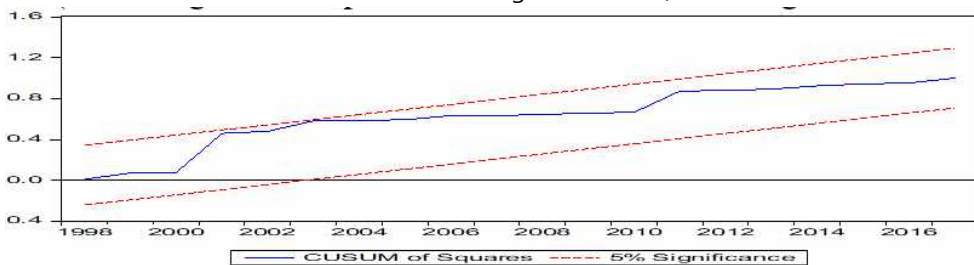
As illustrated in Table (6), Breusch-Godfrey Serial Correlation LM Test result confirms that residual serial correlation does not exist in this estimation whereas

there is no Heteroskedasticity problem proved by the result of Heteroskedasticity test. Moreover, figure (4) shows that there is stability existed in the estimated parameters since the plot of CUSUM lies within the critical value-line. Finally, it is concluded that model has goodness of fit, efficiency and stability.

Table 6. Diagnostic Test Results

Test Statistics	F- statistic	Prob.(p-value)
Breusch-Godfrey Serial Correlation LM Test	1.697588	0.2053
Heteroskedasticity Test: Breusch-Pagan-Godfrey	1.774089	0.1240
Residual Normality test (J-B)with 1.12256		0.570594

Figure 4. Cumulative Sum of Recursive Residuals (The straight lines represent critical bounds at 5% significant level)



Source: Author's calculation

IX. Conclusion and Recommendation

This study analyzes the effect of external debt on economic growth of Myanmar based on the two objectives. In the first, it is found that the short run external debt can boost economic growth but the long term external debt discourages economic growth of Myanmar. This finding supports the first objective. The view of traditional assumption on government external debt indicates that debt overhang or large debt burden leads to a lower capital stock and the lower income in the long run. In this study, the investigation on the time series data from 1983 to 2017 of Myanmar pointed that the long term external debt that burdensome on Myanmar which should be considered as it is one of the reasons that had been sluggish an economic growth of Myanmar.

In addition to this, the repayment on the long term debt has negative relations to economic growth which is the answer to the second objective. There is a problem when a country is less ability to pay on its external debt or no ability to create the repayment over the years, this absence of repayment causes accumulation

of the debt of indebted country. The accumulation of debt leads to reduction in investment and capital because investors are unwilling to invest or the investors are less involve in investment activities in such indebted country. This event is a kind of crowds out private investment and which in turn causes a lower income and slow economic growth. This finding is in line with the view of Krugman (1988) and Sachs (1989) which explained that if a country perceive or optimistic about developing a large volume of debt or debt is far exceed its ability to repay, there will be a discouraged from further investment. On one hand, there are several studies in the literature, which test whether indebtedness influences the economic activity of developing countries. It is argued that if foreign loans are converted into capital and other necessary inputs, development will occur. But from this study, the finding supports the traditional view of the effect of debt discourages economic growth for the case of Myanmar. Thus, it is recommended that over reliance on loans and debts in not a perfect solution to expending expenditure and filling the resource gap to boost economic growth. Saving and net export are the most important sources of capital stock and foreign income of an economy. Since Myanmar has resource gap, it should raise saving to fill up the gap between saving and investment so as to obtain and finance the required capital stock. In addition to this, it should expand the volume of export potential so as to cover not only the volume import but for the trade surplus earning to finance its investment. In term of fiscal sector in Myanmar, the fiscal aggregates show that declining or stagnant revenue at the same time rising expenditure create a large fiscal deficit. This reflects that the income tax revenue as a share of GDP does not tend increase as the economy grows. Thus, it is needed to improve fiscal measures in order to finance deficit budget and it should be taken place as a central issue in the fiscal sector of Myanmar.

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“To God who always blesses His Eternal Love to us” & To My Parents & Family”

REFERENCES

- Alfredo, S and Francisco, I. 2004. Debt and Economic Growth in Developing and Industrial Countries. An Empirical Investigation. IMF Working Paper.
- Asian Development Bank (ADB). 2019. Key Indicator for Asia and the Pacific, Lower middle income, Fiscal year end: March 31; reporting period for national accounts data: FY, Myanmar, www.adb.org/statistics.
- Barro. R. J. 1990. Government Spending in A simple Model of Endogenous Growth.

- Journal of political economy, 98, pp. 407-444.
- Cline, W. R. 1995. "International Debt Re-examined" Institute for International Economic. Washington DC, ISBN.
- C. M. Reinhart and K. S. Rogoff, 2010. "Growth in a time of debt," The National Bureau of Economic Research, no. 15639, pp. 2-25.
- H. R. Carter, William E. Griffiths & Guay C. Lim. 2001. Principles of Econometrics, 3rd ed. John Wiley & sons, Inc. United States of America & Pesaran, M. H., Shin, Y. and Smith, R. J.
- J. Bivens and J. Irons, "Government debt and economic growth," Economic Policy Institute. 2020. Retrieve from <http://www.epi.org/publication/bp271>, Retrieved from <http://www.financialtaskforce.org/wpcontent>
- Krugman, P. 1988. "Financing vs. Forgiving A debt Overhang: Some Analytical Notes". Journal of Development Economics. 29. 253-268.
- Krumma, K. L. 1985. "The External Debt of Sub-Saharan Africa: Origins, Magnitude and Implications for Actions". World Bank staff working paper. No.741. Washington. D.C.
- N. Gregory Mankiw. 2016. Macroeconomics, 9th edition, Harvard University, Worth Publishers 41 Madison Avenue New York, NY 10010 www.worthpublishers.com (Ch-19, p.555- 577).
- Sachs, J. 1988. "The Debt Overhang of Developing Countries". In Debt, Stabilization and Development: Essays in Memory of Carlos Diaz Alejandro. Calvo, A. Guillermo et al. (Eds.). Oxford: Basil Blackwell. 80-102.
- Sachs, J. 1989. Developing Country Debt and the World Economy. National Bureau of Economic Research. The University of Chicago. United State of America.
- Were, M. 2001. The Impact of External Debt on Economic Growth in Kenya: An Empirical Assessment, UNU-WIDER Research Paper, DP2001/116.
- World Bank Group. 2018. Myanmar Economic Monitor: Navigating Risks, the World Bank; Macroeconomics, Trade and Investment. [https:// www.worldbank. org](https://www.worldbank.org).
- World Development Indicator (WDI). 2020. The WB, World Development Indicator, Data extract from database.

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