Journal of Economic Integration jei
Vol.33 No.1, March 2018, 1141~1157
http://dx.doi.org/10.11130/jei.2018.33.1.1141

External Debt and Economic Growth : The Case of Emerging Economy

Sami Al Kharusi
Sultan Qaboos University, Muscat, Oman
Mbah Stella Ada
Federal University Oye-Ekiti, Ekiti State, Nigeria

Abstract

This study investigated the relationship between government external borrowing and economic growth, prompted by continuous increases in Oman's external debt to finance its annual budget. Time series data for the period 1990~2015 were collected from the World Bank and the Central Bank of Oman. The study employed the Autoregressive Distributed Lag cointegration approach explain the error correction mechanism to ascertain the short-run dynamic nature of external debt and economic growth. Consistent with some existing empirical evidence, the study reveals a negative and significant influence of external debt on economic growth in Oman. Further, gross fixed capital was found to be positively significant in determining growth performance in Oman. The study, therefore, recommends a more productive use of the external debt fund in order to affect positive growth.

JEL classifications: F43, E51, C32
Keywords: Economic Growth, External Debt, Government Investment, Oman, Public Investment

*** Corresponding Author: Sami Al Kharusi;** Economics and Finance Department, Sultan Qaboos University, Oman, E-mail: ksami@squ.edu.om
Co-author: Mbah Stella Ada; Department of Economics and Development Studies, Federal University Oye-Ekiti, Ekiti State, Nigeria, E-mail: Stella.mbah@fuoye.edu.ng

 pISSN: 1225-651X eISSN: 1976-5525

I. Introduction

The objective of this research was to examine whether there is a link between economic growth and external debt. For this purpose, time series data collected from the World Bank and the Central Bank of Oman for the period 1990~2015 were utilized. This study is motivated by the fact that no previous study has empirically investigated the relationship between government external borrowing and economic growth in Oman. Furthermore, the timing of the study is significant given Oman's extensive use of external debt to finance its annual budget. In recent years, Oman external debt jumped significantly due to the decline in government revenues as oil prices decreased sharply. Thus, it is important for policy makers, financial institutions and individuals in Oman to understand the relationship between the external debt and economic growth. Therefore, this research study is conducted to help and understand this relationship and the implications.

At the end of 2016, the total outstanding debt of Oman stood at 18.5 billion US dollars, 29% of the country's GDP. Government debt is expected to rise to 40% of the GDP by 2018 if oil prices continue to be within the current market range. Other countries that are members of the Gulf Cooperation Council (GCC) maintain a debt range of 15~30% of the GDP; except Bahrain and Qatar, which are at 70% and 50% of their GDPs, respectively. The price of Omani crude oil is currently between 45 US dollars and 55 US dollars per barrel. The government is facing enormous challenges to balance its budget. Furthermore, in November 2017, S&P global rating downgraded Oman's long-term credit rating into junk territory to a BB rating. Hence, managing the country's external debt will be more challenging and more expensive. Recently, Oman borrowed 5 billion US dollars from the international market through bond offerings in tranches of 5, 10, and 30 years. This marks Oman's return to the international bond market after a 20-year absence. The current breakeven oil price for Oman to balance its budget is 78.4 US dollars according to the International Monetary Fund (IMF). Further, Moody's, the credit rating agency, estimated the current account deficit for Oman at 20.1% of the GDP, significantly higher than the same deficit in Qatar, which is at 0.5% of the GDP, and Saudi Arabia and Bahrain that are both at 3.3% of the GDP. The continued increase in Oman's borrowing is the motivation for this paper. Some experts suggest that further increases in external debt could lead to a financial crisis and thus financial instability in the country. Moreover, other evidence suggests that external debt in any

form is dangerous if mismanaged. Jayaraman *et al*. (2009) studied six pacific island major countries, including Tonga, Samoa, Fiji, Solomon Island, Vanuatu and Papua New Guinea. This study concluded that there is a positive relationship between external debt and real GDP; and inverse relationship between higher fiscal deficit and GDP growth. However, Bordo and Christopher (2006) studied the relationship between foreign currency debt and the financial crises in the nineteenth and twentieth century; they found that exposure to foreign currency debt does not always generate a higher likelihood of financial crisis. They found that exposure to foreign currency debt does not lead to an increased risk of financial crisis. These include a sound fiscal, monetary and financial policies, and regulatory framework and strong institutions.

Economic theories suggest that a reasonable level of debt should help both developing and developed countries enhance their economic growth. The liquidity constraint hypothesis and debt overhang theory have formerly been used to better understand the implications of debt on economic growth (Krugman 1988, Saches 1989, and Cohen 1992). These theories posit that higher debt levels crowd out economic growth because of increased government internal borrowing. This increase in borrowing will, in turn, increase the interest rate, which makes the cost of borrowing for both investment and consumption more expensive, which is called a crowding effect. Moreover, poor management in developing countries has resulted in borrowing having a negative impact on both the economic growth and financial sustainability of these countries. It is important to use the borrowed money to finance productive investments that will generate future income. The key risk associated with accruing external debt is that the external debt may exceed a sustainable level vis-à-vis national repayment capabilities. Hence, the main cost associated with foreign borrowings is the debt service cost, which is an expensive tax bill that developing countries must pay from their future income. It represents fixed contractual charges on savings, income, and foreign reserves.

Our study findings have implications on government monetary and fiscal policy. The remainder of the paper is organized as follows. Section II contains a review of the literature. Section III provides the data and methodology, and section IV presents the results and implications. Finally, section V concludes.

II. Literature Review

Chenery and Strout (1966) explained that the fundamental reason why developing and emerging countries amass external debt is lack of saving and investment. Countries with insufficient savings will approach the local or international debt market to borrow money for consumption smoothing and maintaining economic growth. Moreover, low government revenue, low levels of investment, and balanced budget deficits are additional reasons why developing countries approach the debt market (Gohar *et al*. 2012). The external debt of the government is the debt owed to holders of government securities such as treasury bills, treasury notes, and treasury bonds. The government borrows by issuing bills, notes, bonds, and securities. The following are the two principal reasons for government borrowing: (1) expected government revenue falling short of expected expenditure and (2) paying off maturing government debt (Babu *et al*. 2015).

Government external borrowing may have negative as well as positive impacts on economic growth. Presbitero (2012) found that industrialized countries are better than developing countries at using debt in a productive way. Hence, developed countries are better at managing the side effects of large debt such as (1) crowding-out effects, (2) disincentive environment to investment, (3) market and policy volatility, and (4) capital moving out of the country due to concerns over currency devaluation. External debt has negative consequences due to poor management in developing countries, and these negative consequences are likely to offset any possible benefits from utilizing debt in more productive projects that will add value to the economy. Moreover, Presbitero (2012) found that public debt has a negative impact on economic growth when the debt is more than 90% of the GDP. His study was based on a sample of 114 developing countries over the period 1980~2004.

Another study by Calderón and Fuentes (2013) in Latin America revealed the negative impact of external debt on economic growth over the period 1970~2010. Tchereni et al. (2013) discerned a negative but statistically insignificant relationship between economic growth and foreign debt for Malawi for the 1975~2003 period using time series analysis. Hence, they suggested that the government should provide more incentives to local producers to help them compete in the local and the international markets rather than relying on borrowing to expand their economy. Moreover, another study in Jamaica showed a negative relationship between total public debt and productivity growth. This study concluded that crowding-out by government adversely affected

productivity growth (Panth *et al*. 2006). Furthermore, Iyoha (1996) found the same inverse relationship between external debt and economic growth in sub-Saharan African countries due to the same crowding-out effect. Akram (2011) and Rais and Anwar (2012) also came to a similar conclusion for Pakistan for the 1972~2009 period and for the 1972~2010 period, respectively. Hence, huge public debt led to poor social and economic conditions. Isu (2010) and Chikuba (2003) found the same results for Nigeria and Zambia, respectively. Umaru *et al*. (2013) and Mbah *et al*. (2016) also supported this stance based on the results of their studies in Nigeria, finding negative impacts of debt on economic performance for the 1970~2011 and the 1970~2013 periods, respectively.

Given these extant empirical findings, it can be concluded that poor management could lead developing countries to exhibit and suffer the consequences of a negative relationship between the debt level and economic growth. Hence, it is important to maintain a healthy level of external debt and to utilize savings, investment, and reserves.

III. Data and Methodology

Time series data are utilized from the World Bank's World Development Indicators database and the Central Bank of Oman, covering the years from 1990 to 2015. The temporal scope of the study is restricted due to the unavailability of the data prior to 1990.

To examine the impact of external debt on economic growth in Oman, a simple open macroeconomic debt growth model employed by Mbah *et al*. (2016) was adopted with some modifications. The model explores the linear relationship between output growth, an external debt burden indicator, and other relevant control variables as highlighted in the literature. The model is expressed as Equation (1).

$$GDPGR_t = \beta_0 + \beta_1 DEBT/GDP_t + \beta_2 POPGR_t + \beta_3 GFCF_t + \beta_4 TRD/GDP_t + \beta_5 INF_t + \beta_6 HC_t + \mu_t \quad (1)$$

Where,
GDPGR = gross domestic product growth rate
DEBT/GDP = ratio of external debt to GDP

POPGR = population growth rate (proxy for labor)
GFCF = gross fixed capital formation (proxy for capital)
TRD/GDP = ratio of trade to GDP
INF = inflation
HC = human capital proxied by primary school enrolment
β_0= intercept
β_1,..., β_6 are coefficients; *U* is the error term; and *t* represents time.

In accordance with economic theory, it is expected that (i) β_2 , β_3 , β_4 , and β_6 are positive; (ii) β_5 is negative; and (iii) β_1 can be either positive or negative.

The paper adopts the Autoregressive Distributed Lag (ARDL) bound testing framework (Pesaran and Shin 1995 and 1999, Pesaran *et al*. 1996, Pesaran 1997) to estimate the long-run equilibrium relationship among the variables and the Error Correction Mechanism (ECM) in order to determine the impact of external debt on the economic growth of Oman. ARDL model is a model that has both lagged values of the dependent variables (autoregressive) and lagged values of the independent variables (distributed lag) as one of the explanatory variables. The ARDL cointegration is used to establish whether there is a long-run equilibrium relationship among the variables under review when the variables are integrated of both order zero I(0) and order one I(1). The advantages of using the ARDL technique instead of the conventional Johansen (1998) and Johansen and Juselius (1990) cointegration approach are that while the latter estimates the long-run relationships within the context of a system of equations, the former employs only a single reduced form equation (Pesaran and Shin 1995). In addition, the ARDL method avoids configuring a larger number of specifications in the standard cointegration test. These include decisions regarding the number of endogenous and exogenous variables to be included and the treatment of deterministic elements. Furthermore, the ARDL approach allows the use of different optimal lags for the different variables, which is not possible in the standard cointegration test.

Since time series data could be vulnerable to unit root problems, Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) unit root tests are implemented on the series to avoid spurious regressions. Unit root tests are first conducted to determine the stationarity of the variables, which must be a combination of I(0) and I(1) series. Following Pesaran *et al*. (2001), the ARDL approach to cointegration is done as shown in Equation (2).

$$\begin{aligned}\Delta GDPGR_t = {} & \beta_0 + \beta_1 \Delta DEBT/GDP + \beta_2 \Delta POPGR + \beta_3 \Delta GFCF + \beta_4 \Delta TRD/GDP \\ & + \beta_5 \Delta INF + \beta_6 \Delta HC + \beta_7 (GDPGR)_{t-1} + \beta_8 \Delta (DEBT/GDP)_{t-1} \\ & + \beta_9 \Delta (POPGR)_{t-1} + \beta_{10} \Delta (GFCF)_{t-1} + \beta_{11} \Delta (TRD/GDP)_{t-1} \\ & + \beta_{12} \Delta (INF)_{t-1} + \beta_{13} \Delta (HC)_{t-1} + ECT_{t-1}\end{aligned} \tag{2}$$

To obtain the optimal number of lags for each variable, a lag length test is conducted by estimating single equation Vector Autograssive (VAR) and using the lag length criteria. This is followed by the estimation of a single equation unrestricted Error Correlation (EC) model with the number of estimated lags as shown in Equation (3). This differs from the unrestricted error correction model in Equation (2) which includes only lags of all the variables including the dependent variable without difference.

$$\begin{aligned}\Delta GDPGR_t = {} & \beta_0 + \sum_{i=1}^{p} \beta_1 \Delta (GDPGR)_{t-i} + \sum_{i=0}^{p} \beta_2 \Delta (DEBT/GDP)_{t-i} \\ & + \sum_{i=0}^{p} \beta_3 \Delta (POPGR)_{t-i} + \sum_{i=0}^{p} \beta_4 \Delta (GFCF)_{t-i} + \sum_{i=0}^{p} \beta_5 \Delta (TRD/GDP)_{t-i} \\ & + \sum_{i=0}^{p} \beta_6 \Delta (INF)_{t-i} + \sum_{i=0}^{p} \beta_7 \Delta (HC)_{t-i} + \beta_8 (GDPGP)_{t-1} \\ & + \beta_9 (DEBT/GDP)_{t-1} + \beta_{10} (POPGR)_{t-1} + \beta_{11} (GFCF)_{t-1} \\ & + \beta_{12} (TRD/GDP)_{t-1} + \beta_{13} (INF)_{t-1} + \beta_{14} (HC)_{t-1} + v_t\end{aligned} \tag{3}$$

Here, Δ is first difference operator, p is the optimal lag length, and all other variables remain the same. Wald tests on the coefficients of unrestricted ECT variables are conducted to obtain F-statistics, which are used to test the existence of a long-run relationship. The F-test has a non-standard distribution, which depends on whether the variables included in the model are I(0) or I(1), the number of regressors, and whether the model contains an intercept and/or a time trend. The F-statistics are compared with Pesaran's critical value at the 5% level of significance. The test involves asymptotic critical value bounds depending on whether the variables are I(0) or I(1) or a mixture of both. Upper and lower bound critical values derive from the I(1) and I(0) series, respectively. When an F-statistic is above the upper bound value, we reject the null hypotheses of no cointegration among the variables and therefore conclude that there

is evidence of a long-run relationship among the variables regardless of the order of integration of the variables. If it falls below the lower bound value, we do not reject the null hypotheses of no cointegration, and if it lies between the bounds, the result is inconclusive. When it is established that variables are co-integrated (i.e., there is a long-run or equilibrium relationship between them), in the short-run there may be disequilibrium. Error correction mechanism is used to correct the dis-equilibrium. The short-run dynamics can be derived by estimating the Error Correlation Term (ECT) with the specified lags as shown in Equation (4).

$$\begin{aligned}\Delta GDPGR_t = \beta_0 &+ \sum_{i=1}^{p} \beta_1 \Delta(GDPGR)_{t-i} + \sum_{i=0}^{p} \beta_2 \Delta(DEBT/GDP)_{t-i} \\ &+ \sum_{i=0}^{p} \beta_3 \Delta(POPGR)_{t-i} + \sum_{i=0}^{p} \beta_4 \Delta(GFCF)_{t-i} + \sum_{i=0}^{p} \beta_5 \Delta(TRD/GDP)_{t-i} \\ &+ \sum_{i=0}^{p} \beta_6 \Delta(INF)_{t-i} + \sum_{i=0}^{p} \beta_7 \Delta(HC)_{t-i} \\ &+ \beta_8 ECT_{t-1}\end{aligned} \tag{4}$$

where ECT_{t-1} is the error correction term defined as Equation (5).

$$\begin{aligned}ECT_t = \Delta \mathrm{GDPGR}_t &- \beta_0 - \sum_{i=1}^{p} \beta_1 \Delta(GDPGR)_{t-i} - \sum_{i=0}^{p} \beta_2 (DEBT/GDP)_{t-i} \\ &- \sum_{i=0}^{p} \beta_3 (POPGR)_{t-i} - \sum_{i=0}^{p} \beta_4 (GFCF)_{t-i} - \sum_{i=0}^{p} \beta_5 (TRD/GDP)_{t-i} \\ &- \sum_{i=0}^{p} \beta_6 (INF)_{t-i} - \sum_{i=0}^{p} \beta_7 (HC)_{t-i}\end{aligned} \tag{5}$$

All coefficients of the short-run equation relate to the short-run dynamics of the model's convergence to equilibrium, and β_8 in Equation (4) represents the speed of adjustment.

IV. Results

In accordance with standard procedure in time series econometrics, a stationarity test is first conducted using ADF and PP tests to determine the order of integration for each variable (Table 1).

Table 1. Unit root tests

	Augmented Dickey–Fuller			Phillips–Perron		
Variables	**Level**	**First Difference**	**I(d)**	**Level**	**First Difference**	**I(d)**
GDPGR	−4.217515*	–	I(0)	−4.217515*	–	I(0)
DEBT/GDP	−2.620023**	−4,531926	I(1)	−2.620023**	−4.526280	I(1)
POPGR	−1.083656**	−9.824179	I(1)	−1.775824**	−9.56362	I(1)
GFCF	−3.081332**	−4.912187	I(1)	−3.083438**	−7.469290	I(1)
TRD/GDP	−1.660826**	−4.240142	I(1)	−0.869482**	−4.934189	I(1)
INF	−5.483112*	–	I(0)	−5.474165*	–	I(0)
HC	−3.874192**	−3.874192	I(1)	−1.443598**	−3.844154	I(1)

(Note) * indicates a model with a constant but without a deterministic trend; ** indicates a model with both a constant and a deterministic trend.
(Source) Author's own calculation.

Since the stationarity property of the variables under consideration is a mixture of I(1) and I(0), the ARDL bound testing technique was deemed appropriate for estimation.

Thus, the first step in the ARDL approach is to estimate Equation (2) and conduct a lag length test to estimate the optimum lag length for the variables. Following Pesaran and Shin (1995), we set the maximum order of lags as two in the ARDL. The Schwarz Bayesian Criterion (SBC) is used to determine the optimum lag length to be included in the unrestricted ECM while ensuring there is no evidence of serial correlation and the stability of the model as emphasized by Pesaran *et al*. (2001). The results suggest that the optimum lag length for *GDPGR, DEBT/GDP*, and *HC* is zero; for *TRD/GDP* and *INF* it is one; and for *POPGR* and *GFCF* it is two.

The next step is to estimate Equation (3), which examines the long-run relationships among the variables. Conducting a Wald test on the coefficients of unrestricted ECT variable in Equation (4), we obtain an *F*-statistic for the joint significance of lagged levels of the variables (Table 2).

Table 2. Cointegration testing

(H0: No cointegration among the variables)

Wald test			
Equation: Untitled			
Test Statistic	**Value**	**Degrees of Freedom**	**Probability**
F-statistic	24.11330	(7, 3)	0.0122
Chi-square	168.7931	7	0.0000

(Source) Author's own calculation.

From Table 2, the calculated *F*-statistic of the Wald test on the level variables is 24.11330 and is higher than the upper bound critical value of 3.21 at the 5% level of significance using an unrestricted intercept and no trend. Thus, the null hypothesis(H0) of no cointegration among the series can be rejected. This implies that there is a long-run relationship among all the variables. In order words, economic growth measured by the growth rate of real GDP, ratio of debt to GDP, population growth rate, gross fixed capital formation, ratio of trade to GDP, inflation, and human capital co-move in the long-run. This is followed by the estimation of the ECM short-run dynamics (Table 3).

Table 3: Short-run error correction model

Dependent Variable: *D(GDPGR)*				
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Probability**
C	0.433048	1.303564	0.332203	0.7473
D(DEBT_GDP)	−0.047741	0.015818	−3.018144	0.0361
D(GFCF)	0.182586	0.065188	2.800914	0.0291
D(GFCF(−1))	−0.619837	0.371981	−1.666315	0.1300
D(GFCF(−2))	−0.092185	0.281488	−0.327492	0.7508
D(INF)	−0.095747	0.085153	−1.124414	0.2899
D(INF(−1))	−0.115375	0.084803	−1.360509	0.2068
D(POPGR)	2.963653	4.503891	0.658021	0.5270
D(POPGR(−1))	−5.536214	8.254898	−0.670658	0.5193
D(POPGR(−2))	2.643730	5.010015	0.527689	0.6105
D(HC)	0.437188	0.625870	0.698528	0.5025
D(TRD_GDP)	0.056064	0.150152	0.373378	0.7175
D(TRD_GDP(−1))	0.180977	0.168940	1.071250	0.3119
ECT(−1)	−0.161362	0.062844	−2.567660	0.0108

(Note) R^2 = 0.704833; Adj. R^2 = 0.678481; *D.W* = 2.266708; *F*-Test = 14.16789; Prob. (*F*-statistics) = 0.025033
(Source) Author's own calculation.

The results of the ECM presented in Table 3 show that two variables (*DEBT/GDP* and *GFCF*) are significant. However, *DEBT/GDP* is the major variable of interest which is used to achieve the major objective of this study. *DEBT/GDP* is significantly and negatively related to output growth at 5% level of significance in the short-run. Specifically, the *DEBT/GDP* coefficient of −0.047741 suggests that a 1% increase in *DEBT/GDP* is associated with a 0.04% decrease in GDP growth rate. This result suggests the existence of the liquidity constraint hypothesis and debt overhang theory of Krugman (1989). The theory posits that a rise in accumulated debt stock results in higher tax on future output and thus crowds out private investment and retards growth. This evidence of a significant negative relationship between economic growth and external debt in Oman is also consistent with the findings of Akram (2010), Presbitero (2012), and Mbah *et al*. (2016), implying that foreign debt does not promote economic growth.

There is evidence of a significant positive relationship between *GFCF* and economic growth at the 5% level of significance, suggesting that a 1% increase in capital investment is associated with a 0.18% increase in economic growth in Oman. This corroborates the findings of Safdari and Mehirizi (2011) who used private and public investments to capture the stock of capital.

All the estimated coefficients of the other variables in the model as represented in Table 3 exhibit the anticipated signs, though all are insignificant. Overall, the model performs well in terms of goodness of fit: $R^2 = 0.704833$ and the *F*-test.

Results also reveal a coefficient value for ECT (−1) of −0.161362, implying rejection of the null hypothesis of no cointegration. This represents the speed of adjustment from the short-run equilibrium to the long-run equilibrium and suggests that 16% of the error is corrected annually. This adjustment speed implies that it will take approximately six years to bring the economy back to equilibrium. Next, the Breusch–Godfrey serial correlation LM test is applied (Table 4); we cannot reject the null hypothesis of no autocorrelation and thus, the model satisfies this assumption.

Table 4. Autocorrelation test

Breusch–Godfrey serial correlation LM test		
F-statistic	0.217502 Prob. F(2,17)	0.8067
Obs*R^2	0.648700 Prob. Chi-Square(2)	0.7230

(Source) Author's own calculation.

Figure 1. Stability test

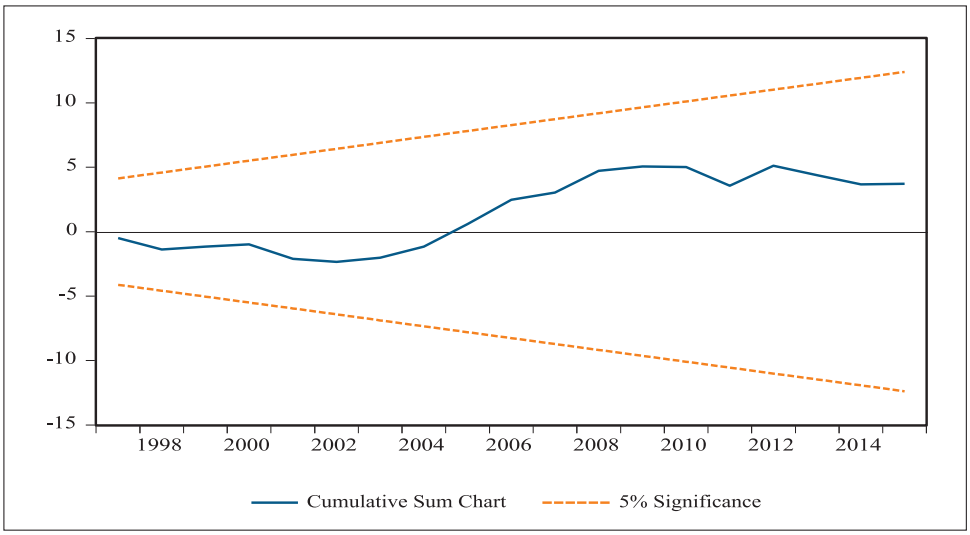

Figure 1 provides evidence from Cumulative Sum Chart (CUSUM) stability test supporting the stability of the model at the 5% level because the blue line never deviates beyond the critical red lines.

V. Conclusion

We investigated the impact of external debt on the economic growth of Oman. This is motivated by the fact that Oman has been making extensive use of external debt to finance its annual budget in recent years. The study is able to offer the implications of the external debt on the emerging economy.

Specifically, the study utilized an ARDL cointegration approach to explain the long-run relationship among the variables of interest. An ECM is also employed to ascertain the short-run dynamic nature of the relationship between external debt and economic growth in Oman. The results of the ARDL cointegration established a long-run relationship among the variables applied. In addition, estimation results from the short-run ECM revealed a negative relationship between foreign debt and economic growth in

Oman, which explains the possibility of a debt overhang and a crowding-out problem in the growth model. This also corroborates the neoclassical view that external debt crowds out private investment and therefore impedes national growth. Investment proxied by Gross Fixed Capital Formation (GFCF) was also found to have a positive and significant impact on economic growth, which conforms to appropriate expectations.

Considering that Oman is an emerging economy, the study recommends that Oman needs external debt to bridge its resource gap with sound management of external debts. Ensure that external debt funds are channeled to the value added sectors of the economy and utilized optimally to affect growth performance in a positive manner. It is the way that external debts serve the Oman economy by financing valuable projects.

Received 21 November 2017, Revised 1 January 2018, Accepted 8 February 2018

References

Akram, N. Impact of Public Debt on the economic growth of Pakistan. *The Pakistan Development Review*, (2011): 599-615.

Babu, J. O., Kiprop, S., Kalio, A. M., and Gisore, M. Effect of domestic debt on economic growth in the east African community. *American Journal of Research Communication*, 3(9) (2015): 73-95.

Bordo, M. D., and Meissner, C. M. The role of foreign currency debt in financial crises: 1880–1913 versus 1972–1997. *Journal of Banking & Finance*, 30(12) (2006): 3299-3329.

Calderón, C., and Fuentes, J. R. *Government debt and economic growth*. Inter-American Development Bank 2013.

Chenery, H. B., and Strout, A. M. Foreign assistance and economic development. *The American Economic Review*, (1966): 679-733.

Chikuba, S. M. The Impact of External Debt on Zambia's Economic Growth. National Graduate Institute for Policy Studies, Lusaka (2003).

Cohen, D. Large external debt and (slow) domestic growth a theoretical analysis. *Journal of Economic Dynamics and control*, 19(5) (1995): 1141-1163.

Gohar, M., and Butt, F. The Impact of External Debt Servicing on the growth of Low-Income Countries, Sukkur Institute of Business Administration. *In Proceedings of 2nd International Conference on Business Management (ISBN: 978-969-9368-06-6)* (2012).

Isu, J. Nigeria's External Debt and Economic Growth: An Error Correction Approach. *International Journal of Business and Management*, 6(5) (2010): 107-113.
Iyoha, M. A. (1996), 'External Debt and Economic Growth in Sub–Saharan African Countries: An Econometric Study', paper presented at AERC workshop in Nairobi, Kenya, March, 1999.

Johansen, S. Statistical Analysis of Cointegration vectors. *Journal of Economic Dynamics and Control*, 12 (1998).

Johansen, S. and Juselius, K. Maximum likelihood estimation and inference on cointegration with applications to the demand for money. Oxford Bulletin of Economics and Statistics, 52 (1990).

Krugman, P. Financing vs. forgiving a debt overhang. *Journal of development Economics*, 29(3) (1988): 253-268.

Mbah, S. A., Agu O. C. and Umunna G. Impact of External Debt on Economic Growth in Nigeria: An ARDL Bound Testing Approach. *Journal of Economics and Sustainable Development.* Vol.7, No.10 (2016).

Panth, S., R. Blavy, G. Kwon, R. Romeu, L. McFarlane, W. Robinson & M. Morgan (2006), Jamaica: Selected Issues, International Monetary Fund, Country. Report No. 06/157, Washington, DC. Retrieved January 2011 from: www.imf.org/external/pubs/ft/scr/2006/cr06157.pdf

Pesaran, H. M. and Shin, Y. (1995). Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis. DAE Working Paper Series No. 9514 (Cambridge: Department of Applied Economics, University of Cambridge).

Pesaran, H. M. The role of economic theory in modelling the long-run. *Economic Journal*, 107 (1997): 178-191.

Pesaran, H. M. and Shin, Y. Autoregressive distributed lag modelling approach to cointegration analysis, in: S. Storm (Ed.) Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium, chapter 11 (Cambridge: Cambridge University Press) (1999).

Pesaran, H. M. et al. Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16 (2001): 289-326.

Presbitero, A. F. Total public debt and growth in developing countries. *The European Journal of Development Research*, 24(4) (2012): 606-626.

Rais, S. I., & Anwar, T. Public debt and economic growth in Pakistan: A time series analysis from 1972 to 2010. *Academic research international*, 2(1) (2012): 535.

Sachs J (1989). The Debt Overhang of Developing Countries. In Debt, Stabilization and Development: Essays in Memory of Carlos Díaz Alejandro. Oxford: Basil Blackwell, 50-529.

Safadari, M. and Mehrizi, M. A (2011). External debt and Economic growth in Iran. *Journal of Economics and International Finance*. Vol. 3

Tchereni, B. H. M., Sekhampu, T. J., and Ndovi, R. F. The impact of foreign debt on economic growth in Malawi. *African Development Review*, 25(1) (2013): 85-90.

Umaru, A., Hamidu, A. A., and Musa, S. External Debt and Domestic Debt impact on the growth of the Nigerian Economy. *International Journal of Educational Research*, 1(2) (2013): 70-85.