Tamjeed Journal of Business Information Technology (BIT)

Volume 1(1): 2024, Page 19-28

External Debt Influence on Economic Growth: A Case Econometric Study in Jordan during (1990) till (2021)

Qasim Al-Hamouri[1,] *, Farah Yakhlef [2]

[1] Department of Economics, Faculty of Business, Yarmouk University; qasem@yu.edu.jo
[2] Master of Economics Graduate, Faculty of Economics, Yarmouk University, Jordan; farahyaklef@gmail.com
***** Correspondence: Qasim Al-Hamouri; qasem@yu.edu.jo

Abstract: This study investigated the impact of external debt on Jordan's economic growth from 1990 to 2021, employing the Vector Autoregression (VAR) Model alongside econometric and descriptive methods. The Johansen cointegration test confirmed a long-term integrative relationship between the variables, revealing that external debt negatively affected economic growth, contributing 3.04% to the forecast error for economic growth rates in subsequent periods. Furthermore, the variance decomposition analysis highlighted the divergent impacts of other variables such as FDI and domestic debt, illustrating the complexities of economic policy. The findings underscore the necessity of prudent debt management, recommending that borrowing be limited to financing productive projects and not for supporting service projects. The government is advised to rigorously assess borrowing risks through payback terms, interest rates, and loan purposes, while also exploring alternative financing methods for profitable enterprises.

Keywords: Economic Growth; External Debt; Jordanian Economy.

1. Introduction

The interaction of economic growth and external debt remains a crucial policy and economic issue worldwide because of the substantial effect external debt can have [1]. This becomes especially urgent for developing nations, where external debt can cause huge social and economic damages which could threaten the global financial system. For countries aiming to enhance their development capabilities, financing is necessary. Although borrowing from capital-abundant entities is appealing, it could be detrimental economically if not managed and utilized properly [2].

The worldwide external debt crisis originally emerged during the 1960s and lasted till the early 1980s when countries like Argentina, Chile and Mexico failed on their payments. This particular crisis deepened in the 1990s as the amount of loans grew and mismanagement became more obvious. This mismanagement resulted in an ongoing rise of indebtedness (absolute and of GDP) and raised unemployment and poverty [3].

Economic imbalances afflict Jordan like several other developing nations because financial resources are underused. This underutilization reduces savings and reduces public expenditure capability. This has left Jordan relying primarily on aid, external debt, and grants [4].

This analysis explores the impact of external debt on the economic growth of Jordan between 1990 and 2021, and its effects on Jordanian welfare. The study examines Jordan's economic challenges and development prospects, proposing viable solutions to harness external debt in a manner that promotes sustainable economic development.

2. Literature Review

Public debt typically refers to the financial obligations incurred by state entities, primarily to cover state budget deficits and to service interest on these debts, based on pre-established terms [5]. External debt, conversely, encompasses funds borrowed by a country from international entities for periods extending beyond one year. This type of debt is typically serviced through either private or public repayment mechanisms in the debtor nation, covering costs associated with services and exports [6].

External debt is defined as funds borrowed or guaranteed by a nation from international governments, international organizations, or overseas commercial banks, which are bound by terms stipulating the repayment of the principal amount along with interest and other conditions as agreed in the loan contracts [7]. Responding to varying definitions of external debt, major financial entities such as the Bank for International Settlements, the International Monetary Fund, and the World Bank convened in 1984 to standardize terms and reporting protocols [8].

External borrowing can enhance growth and elevate living standards by providing the necessary foreign currency for repaying debts or when foreign reserves are depleted [9]. Economic models that integrate savings and international finance argue that the lack of domestic savings and the reliance on foreign currency typically led to external borrowing [10].

Scholars divide their views on external debt into two primary schools of thought: the conventionalists and the revisionists. Conventionalists believe that external debt promotes economic development in emerging markets by facilitating capital accumulation and investments, thereby bridging the savings-foreign exchange gap [11]. On the contrary, revisionists assert that external debt may have negligible or adverse impacts on economies. Commonly, borrowed funds are used more for consumption than saving, shifting government expenditure from a savings-based to a consumption-based framework, which diminishes the propensity to save and increases consumption tendencies. Foreign loans are pivotal in boosting export growth as they enable the importation of capital and intermediate goods, thereby enhancing production capabilities across different financial sectors and expanding export volumes [12].

Numerous studies have assessed the implications of external debt on economic growth. Al Nuweiran and Bani Khalid (2015) explored the impact of external debt on Jordan's economic growth from 1991 to 2015 through linear regression, finding no significant connection to economic development [13]. Similarly, Aissani and Thabit (2015) employed econometric methods and the Error Correction Model (ECM) to demonstrate how external debt adversely affected Algerian economic growth from 2000 to 2015 [14].

Senadza et al. (2017) studied the effect of external debt on thirty-nine Sub-Saharan African nations from 1990 to 2013 using the Generalized Method of Moments (GMM), concluding that external debt restricts economic growth [15]. Al Tamimi and Jaradat (2019) assessed the impact of external debt on the Jordanian economy from 2010 to 2017 [16].

In Pakistan, Ud Din et al. (2020) utilized ECM and ARDL models from 1976 to 2018 to examine the effects of external debt on development, revealing that while external borrowing and debt servicing increased, they inhibited growth [17]. Awan & Qasim (2020) also explored the adverse effects of external debt in Pakistan from 1980 to 2017 with ECM and ARDL, noting negative impacts on population growth, imports, debt service, and external debts versus exports, capital formation, and labor force size [18].

Lastly, Ibrahim (2021) applied ARDL to analyze the relationship between economic growth and external debt in Egypt between 1994 and 2018, identifying a negative correlation. In a linear regression analysis covering 2010 to 2021 [19], Al Qassas (2023) found that external debt impeded growth [20]. Focusing on Jordan from 1990 to 2021, this analysis employs a range of economic drivers and impacts, which includes external debt. Additionally, it conducts econometric assessments of short-and long-term effects.

3. Methodology

The practice and theory of how external debt impacts economic growth are examined. On the theoretical front, it conducts a comprehensive review of literature including studies, research papers, and journals in Arabic and English concerning external debt and economic growth. Practically, the study applies a descriptive-analytical approach to evaluate just how external debt impacted Jordan's economic growth between 1990 and 2021. This analysis utilizes E-views software for proper statistical tests. The research evaluates the following hypotheses:

- **H0-1**: External debt does not, at 0.05 significance, impact economic growth in Jordan.
- **H0-2**: At the significance level, the inflation rate has no statistical effect on economic development in Jordan.
- **H0-3**: Domestic debt has no statistical significance over the economic growth of Jordan at the 0.05 significance level.
- **H0-4**: At 0.05 significance amount, foreign direct investment (FDI) doesn't influence the economic development of Jordan statistically.
- **H0-5**: The capital stock has no statistically significant effect on economic growth in Jordan at 0.05 significance.

This research evaluates the interaction of these economic variables with Jordan's growth dynamics over the specified period.

3.1 Practical Application of the Study

This The developed econometric model is based on economic theory and previous studies including Abdel Rafaie (2012). This model has economic growth as the dependent variable. The model also incorporates variables which earlier researches identified as key growth drivers. These variables are recognized in literature as driving forces of economic growth. Consequently, the measurement equation for this research is:

$$RGDPG_t = \beta_0 + \beta_1\, EDGDP_t + \beta_2\, INV_t + \beta_3\, INF_t + \beta_4\, K_t + \beta_5\, INTD_t + \beta_6\, L_t + U_t \quad (1)$$

RGDPG (Real GDP Growth Rate%): It is the annual rise in a nation's gross domestic product (GDP) at market prices, adjusted for inflation (to keep a constant currency value). GDP is the aggregate market value of all the created services and goods in a nation's territory by most inhabitants. It includes product taxes and excludes subsidies not associated with product values (World Bank, various reports).

EDGDP (External Debt to GDP Ratio%): This ratio displays the external debt to GDP ratio of a nation. External debt includes World Bank-calculated public and publicly guaranteed debt. It reveals how much a nation depends on borrowing funds from overseas relative to its output.

INV (Foreign Direct Investment to GDP Ratio%): It assesses the foreign direct investment (FDI) as a proportion of the GDP of a nation. FDI is border capital flows where an investor from a single country has a sizable say in how a business is run in another country. It shows how foreign investment helps the nation's economy (World Bank, different reports).

INF (Inflation Rate%): The inflation rate is normally expressed as an annual percent increase on the Consumer Price Index (CPI), which measures changes in the cost of a fixed basket of services and goods in the long run. It is the rate of rise in the general price index for services and goods which decreases purchasing power (Central Bank, various yearly reports).

K (Total Capital Formation): This includes the amount invested in a nation's fixed assets in addition to changes in inventories. It entails expenditures on infrastructure (roads, hospitals, schools, railways, commercial facilities & equipment and machinery). Additionally, it includes investments in the country's defense infrastructure, including protective installations (World Bank, numerous reports).

INTD (Domestic Debt to GDP Ratio%): This ratio measures domestic debt to GDP. Domestic debt is borrowings by the authorities from regional banks including commercial banks and the central bank. It demonstrates just how much internal borrowing is funded and how it impacts the nation's economy.

L (Labor Force): The Labor force is defined by the ILO as the economically active population between 15 and sixty-four years of age. This group includes employed and unemployed individuals who contribute to the production of services and goods in the market for a certain period (World Bank, numerous reports). Together these variables give an upstanding indication of what drives economic growth and are thus necessary to analyze the functioning of an economy like Jordan's.

3. Findings

4.1. Unit Root Test

The stationarity of the variables was determined by the Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests. These tests evaluate if the data series are non-stationary by evaluating the null hypothesis that every variable has a unit root in the 5% significance level. Table (1) summarizes the result of the Augmented Dickey-Fuller (ADF) test which is crucial to know the attributes of the data series utilized in the evaluation.

Table 1. Results of the Augmented Dickey-Fuller (ADF) Test

Variable	At Level I (0)				At First Difference I (1)			
	t-test	Critical Level			t-test	Critical Level		
		1%	5%	10%		1%	5%	10%
ED	5.18	3.66*	2.96*	2.62*	3.02	3.67*	2.96*	2.62*
GRGDP	3.81	3.66*	2.96*	2.61*	7.85	3.67*	2.96*	2.62*
INF	5.64	3.66*	2.96*	2.61*	9.02	3.67*	2.96*	2.62*
INTD	0.49	3.66	2.96	2.61	3.22	2.64*	1.95*	1.61*
INV	1.95	3.66	2.96	2.61	5.58	3.67	2.96*	2.62*
K	0.77	3.67	2.96	2.62	2.94	3.67	2.96	2.62*
L	3.97	3.67*	2.96*	2.62*	9.15	3.67*	2.96*	2.62*

(Source:) Compiled by the researcher using E-views 10 software).

Augmented Dickey-Fuller (ADF) test results (Table (1) show that a few of the variables in the study - external debt (ED), real GDP growth (GRGDP) inflation rate (INF), and labor force (L) - are stationary at level values. This means their time series have no unit roots and are stable. For the other variables, stationarity is attained upon taking the very first difference, indicating the variables are stationary upon difference. This particular conclusion is derived from the observation that the complete value of the computed t-statistic is higher than the absolute critical value from a table.

The Phillips-Perron (PP) test was additionally carried out to verify the ADF results on stationarity of the time series. The PP test results in Table (2), the stationarity of the ADF test and validate the data series stability following required transformations.

Table 2. Results of the Phillips-Perron (PP) Test

Variable	At Level I (0)				At First Difference I (1)			
	t-test	Critical Level			t-test	Critical Level		
		1%	5%	10%		1%	5%	10%
ED	4.40	3.66*	2.96*	2.61*	3.02	3.67	2.96*	2.62*
GRGDP	4.00	3.66*	2.96*	2.61*	7.8	3.67*	2.96*	2.62*
INF	5.79	3.66*	2.96*	2.61*	11.8	3.67*	2.96*	2.62*
INTD	0.22	3.66	2.96	2.61	3.2	3.67	2.96*	2.62*
INV	1.99	3.66	2.96	2.61	5.5	3.67*	2.96*	2.62*
K	3.94	2.64*	1.95*	1.61*	2.97	3.67	2.96*	2.62*
L	5.54	3.66*	2.96*	2.61*	28.7	3.67*	2.96*	2.62*

(Source: Constructed by the researcher using E-views 10 software)

The results of the Phillips-Perron test (shown in Table (2)) are consistent with the results of the Augmented Dickey-Fuller test. Both tests show that all the time series variables in the study reach stationarity when used first difference. This consistency for both tests validates the robustness of the stationarity results because of the analyzed data.

4.1.1 Lag Length Selection Test

A lag length selection test was conducted to deal with the serial correlation in the residuals. Results Table (3) show the model lag length is one period. This particular conclusion is supported uniformly across all the selection criteria.

Table 3. Results of the Lag Length Selection Test

HQ	SC	AIC	FPE	LR	Lag L	Lag
69.26443	69.48269	69.15888	2.56e+21	NA	-1064.9	**0**
57.59375*	59.33976*	56.74933*	1.13e+16*	358.1293*	-823.6147	**1**

(Source: constructed by the researcher employing E-views 10 software)

4.1.2 Results of the Cointegration Test

After verifying stationarity for certain variables at their levels and also for others in the first difference, we examined if the variables have a long-term cointegration relationship. Such a relationship can help to identify the right approach to further econometric analysis. Because of this purpose, the Johansen cointegration test was conducted to test the null hypothesis that no long-term

cointegration amongst study variables prevails at 5% significance. This test is described in Table (4).

Table 4. Results of the Johansen Cointegration Test

Eigen Value test			Trace Test			Eigen Value	Number of Cointegration Vectors
Prob.	Critical Value 5%	Max-Eigen Statistic	Prop.	Critical Value 5%	Trace statistic		
0.0000	46.23142	113.3252	0.0000	125.6154	242.8550	0.977120	**None***
0.0081	40.07757	46.58858	0.0000	95.75366	129.5297	0.788378	**At most 1***

(Source: Researcher's Construction using E-views 10 software)

Findings of the Johansen cointegration test (Table (4) show one cointegration vector among examined variables. This is supported by the Trace and Max Eigen Value Tests which depict a strong long-term relationship between the variables. Therefore, the null hypothesis (H0) claiming no cointegration relationship was rejected. Conversely, the alternative hypothesis (H1) of the cointegration relationship at 5% significance was accepted. This result warrants continuing with the analysis to estimate the long-term equilibrium relationships among the variables with a Vector Autoregression (VAR) model.

4.2 Vector Autoregression Model (VAR Model)

The optimal lag length being identified as one, the model was estimated based on a Vector Autoregression (VAR) framework. This particular VAR model investigates dynamic relationships among the variables and is examined using two primary tools: Variance Decomposition & Impulse Response Function analysis. The following equation defines the structure of the Vector Autoregression model applied herein.

$$GRGDP = 0.50*GRGDP(-1) + 0.0416*ED(-1) - 0.1445*INF(-1) + 0.09601*INTD(-1) + 0.224*INV(-1) - 3.398*K(-1) - 0.00101*L(-1) - 0.959 \quad (2)$$

t-Stat (1.55,1.13, -0.99,1.1, 1.69, -0.34, -1.76, -0.15)
R^2=52%

Equation (2) from the primary model illustrates several relationships among economic variables. Specifically, it indicates that external debt has a weak positive effect on economic growth, where a 1-unit increase in external debt is associated with a modest increase of 0.0416 units in economic growth. Conversely, the inflation rate has a negative correlation with economic growth; a 1-unit increase in inflation leads to a 0.1445 unit decrease in economic growth.

The model additionally shows that domestic debt goes up with economic growth by one unit, whereas economic growth improves by 0.09601 units. Foreign direct investment (FDI) additionally boosts economic growth by 0.224 devices per unit increase.

In comparison, both capital size and the labor force are inversely related to economic growth. Specifically, a 1-unit increase in capital size leads to a decrease of 3.398 units in economic growth, while a 1-unit increase in labor force size results in a marginal decline of 0.00101 units in economic growth.

The R-squared value of the model reveals the explicatory variables explain 52% of the variation in economic growth and that 48% is unexplained. In examining the t statistics, the values for real GDP growth (GRGDP), external debt (ED), inflation rate (INF), household debt (INTD), and capital (K) suggest that these factors do not influence economic growth because their t-stat values don't reject the null hypothesis. Nonetheless, t-statistics for foreign direct investment (INV) and

labor force (L) demonstrate that these factors are statistically significant and therefore impact economic growth.

In general significance terms the model is acceptable according to Fisher's test. This test evaluates two hypotheses: the null hypothesis (assuming that all parameters are zero, implying that model parameters are not significant); And also, the alternate hypothesis that at least one parameter is not zero. While the model's numerous parameters limit degrees of freedom and may weaken individual parameter significance, this is less pertinent in the VAR model. The basic objective of the VAR model would be to analyze dynamic interactions among variables and evaluate the time effects of economic shocks.

4.2.1 Variance Decomposition Analysis

We analyzed the variance elements of the economic growth rate to figure out just how much variance exists in forecasting the impact of external debt on the economic growth rate when compared with the prediction errors from various other explicatory variables in the model. The results from this variance decomposition are detailed in Table (5).

Table 5. Results of Variance Decomposition Analysis

L	K	INV	INTD	INF	ED	GRGDP	Period
0.000	0.000	0.000	0.000	0.000	0.000	100	**1**
3.53	2.67	13.21	2.40	0.05	3.04	75.06	**2**
3.51	2.61	16.23	2.60	0.16	2.88	71.98	**3**
3.66	2.67	17.61	2.65	019	2.92	70.27	**4**
3.70	2.67	18.14	2.64	0.20	2.96	69.67	**5**
3.72	2.67	18.32	2.63	0.19	3.00	69.43	**6**
3.73	2.67	18.34	2.63	0.20	3.04	69.37	**7**
3.72	2.67	18.32	2.64	0.21	3.05	69.35	**8**
3.72	2.68	18.33	2.65	0.22	3.06	69.32	**9**
3.72	2.70	18.34	2.66	0.23	3.05	69.27	**10**

(Source: constructed by the researcher employing E-views 10 software)

The data in Table 5 clarify the relationship between variations in external debt and economic growth rates. Specifically, changes in external debt during the initial period were responsible for approximately 3.04% of the variance in economic growth rates, indicating the stochastic nature of these variations. By the tenth period, this figure slightly increased to 3.05%, suggesting a growing, albeit variable, influence on economic trajectories over time.

Moreover, the inflation rate also plays a significant role in economic dynamics. Initially, fluctuations in the inflation rate accounted for only 0.05% of the variance in economic growth predictions. Over time, this impact gradually increased, reaching 0.23% by the tenth period, which suggests that the effect of inflation on economic growth becomes more pronounced with time.

The study also underscores the role of domestic debt in economic performance. changes in domestic debt were found to explain about 2.40% of the forecast error in economic growth rates. This influence grew to 2.66% by the end of the study period, underscoring a persistent and increasing impact of domestic debt on economic development.

Foreign direct investment (FDI) has emerged as a pivotal factor influencing economic growth. In the early stages of the study, FDI changes explained approximately 13.21% of the variance in economic growth rates. This percentage notably increased to 18.34% by the tenth period, emphasizing the substantial and growing impact of FDI on economic development.

Furthermore, the labor force was identified as a crucial determinant of economic outcomes. Initially, variations in labor force metrics accounted for about 3.53% of the prediction errors in

economic growth rates, which increased to 3.72% by the study's conclusion, indicating a consistent influence of labor force dynamics on economic growth.

Lastly, the capital size was analyzed for its impact on economic growth. Initially, variations in capital size explained about 2.67% of the variance in economic growth rates. This figure slightly rose to 2.70% by the tenth period, suggesting a sustained influence of capital size on economic development patterns over the studied period. Together these results reveal the various amounts by which economic factors influence the forecast error of economic growth rates at various time horizons.

4.2.2 Impulse Response Function

This particular analysis monitors how changes in 1 variable abruptly impact the other variables in the study model as time passes. It especially investigates precisely how the economic growth rate reacts to unexpected changes in external debt - the primary subject of the research. The graph illustrates the way the economic growth rate reacts to changes in external debt (see Figure (1). Notably, the response curve dips below the horizontal axis indicating the response multiplier values are negative. This indicates an inverse relationship: As external debt rises; Jordanian economic growth rates tend to reduce.

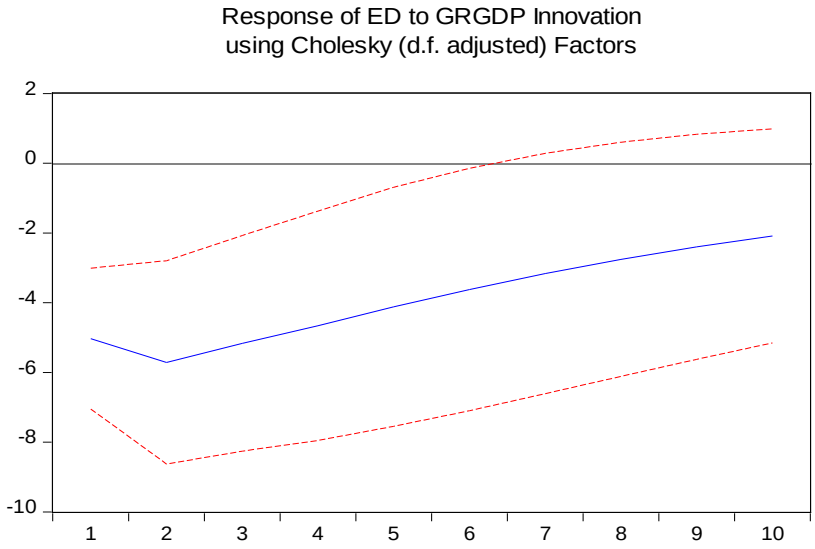

Figure 1. Response of Economic Growth Rates to External Debt. **(Source:** prepared by the researcher employing E-views 10 software)

5. Findings and Recommendations

This research explored how external debt influenced economic growth in Jordan from 1990 to 2021 using a Vector Autoregression (VAR) model. The key outcomes and insights from the study are summarized below:

5.1 Findings

1. Economic Growth and External Debt Impact: The variance decomposition analysis demonstrated that external debt drives economic growth rates. In the second period of the study, shifts in external debt accounted for about 3.04% of the forecast error for economic growth rates, a proportion that gradually increased.
2. The role of Foreign Direct Investment (FDI): The evaluation also demonstrated that FDI significantly affects economic growth rates. During the 2nd half, FDI modifications accounted for a number of 13.21% of the forecast error on economic growth rates.
3. Domestic Debt Influence: Domestic debt influences economic growth rates over the examined period, the study discovered. Its impact spread over time, contributing 2.40% to the forecast error by the tenth period, implying a longer run impact of domestic debt on growth.

4. Labor Force Contribution: The study found a growing dependency of economic growth rates on labor force size over the study period. Changes in the labor force originally made up approximately 3.532% of the forecast error and reached 3.72% at the conclusion of the year.
5. Capital Size Effect: Capital size also impacted economic growth rates. Within the 2nd half of the research, variations in capital size explained roughly 2.67% of the predicted error on economic growth rates, reaching 2.70% by the 10th year.
6. Inflation Rate Influence: Inflation changes also influenced economic growth rates. During the 1st time, inflation had account for approximately 0.05% of the forecast error and hit 0.23% in the 10th time.
7. Positive Association with External Debt: The impulse response function resulted in a positive relationship between economic growth and external debt. Improved external indebtedness positively stimulated economic growth. This is consistent with earlier studies by al Qassas (2023), Ibrahim (2021), Eissani 1and1 Thabit (2015), Ud Din et al., Awan & Qasim (2020), Jaradat and Al-Tamimi (2019) and Senadza et al. (2017). [20,19,18] and [16,15,14].

5.2 Recommendations

The study offers some key recommendations to relieve Jordan's economic challenges.

1. Stimulate Domestic Savings: Initiatives must be directed towards promoting domestic savings to minimize external debt.
2. Economic Stability & Control: The government must handle financial fluctuations and tackle issues such as inflation and unemployment while maintaining economic stability.
3. Increase Employment Opportunities: Expanding employment is a requirement for social welfare and economic growth, the workforce being the foundation of economic and societal advancement.
4. Prudent Loan Management: Avoiding draconian loan conditions and managing borrowings carefully is vital, particularly for foreign loans.
5. Prioritise Productive Borrowing: Loans ought to be utilized for profitable projects and not for service-oriented ones. That entails evaluating borrowing risks - along with repayment schedules, interest rates, and loan purposes.
6. Other Funding for Productive Projects: Policymakers must explore non-debt financing for productive initiatives.
7. Attract Foreign Direct Investments: Facilitating foreign direct investment is necessary to augment domestic savings and also to replace external debt.

5. Conclusions

With the economic difficulties becoming increasingly severe for developing nations, external debt remains a crucial problem that calls for careful thought to evaluate influences on the growth of the economy. Using the Vector Autoregression (VAR) model, this research examines precisely how external debt has shaped Jordan's economic growth between 1990 and 2021.

The economic analysis found a long-range cointegration between external debt and several financial indicators showing that debt has a long-term effect on economic growth. Research revealed that external debt fluctuations are a significant reason for forecast errors in economic growth rates. Domestic debt and foreign direct investment (FDI) also impacted economic growth considerably.

Such insights underscore that policymakers must rethink debt management and leverage financial opportunities in a fashion that encourages sustainable economic growth. The study recommends prudent borrowing, particularly with external loans, increasing household savings, and attracting foreign investment for economic growth and stability.

References

1. Didia, D., & Ayokunle, P. (2020). External debt, domestic debt and economic growth: The case of Nigeria. Advances in Economics and Business, 8(2), 85-94.
2. Omar, M. A., & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. Journal of Economic Structures, 9(1), 37.
3. Roniger, L. (2021). Transnational perspectives on Latin America: The entwined histories of a multi-state region. Oxford University Press.
4. Buhbe, M. (2019). Jordan's economy. In Income distribution in Jordan (p. 191).
5. Baba, Q., & Al-Mahal, A. (2019). The impact of some economic indicators on external debt in Sudan for the period 2002-2017. Journal of Economic, Administrative and Legal Sciences, 3(12), 35-61.
6. Hariti, F. (2006). The problem of external debts and their impact on economic development in developing countries – Case of some indebted countries. Faculty of Economic Sciences and Management Sciences, University of Algiers.
7. Matthew, A., & Mordecai, B. (2016). The impact of public debt on economic development of Nigeria. Asian Research Journal of Arts & Social Sciences, 1(1), 1-16.
8. Wonzniak, P. (2013). International debt (Edition Quesais-Je).
9. Al-Ali, A. (2007). Public finance and tax legislation. Dar Al-Hamed for Publishing and Distribution, Jordan.
10. Akande, E., & Ola-David, O. (2010). The two-gap model of economic growth in Nigeria: Vector autoregression (VAR) approach. Presented at the 13th Annual Conference on Global Economic Analysis, Penang.
11. Chenery, H., & Carter, N. (1973). International external aspects of development plans and performance. Washington.
12. Griffin, K. B., & Enos, J. L. (1970). Foreign assistance: objectives and consequences. Economic Development and Cultural Change, 18(3), 313-327.
13. Al-Nuweiran, T., & Bani Khalid, H. (2015). The impact of external debt on economic growth in Jordan: An analytical econometric study for the period (1991-2015). Journal of Economics and Finance, 3(2), 48-58.
14. Aissani, A., & Thabit, N. (2015). The impact of external debt on economic growth: An econometric analysis of the case of Algeria (2000-2015). Mediterranean Dialogue Journal, 10(1), 321-337.
15. Senadza, B., Fiagbe, A., & Quartey, P. (2017). The effect of external debt on economic growth in Sub-Saharan Africa. International Journal of Business and Economic Sciences Applied Research (IJBESAR), 11(1), 61-69.
16. Al-Tamimi, K., & Jaradat, M. (2019). Impact of external debt on economic growth in Jordan for the period (2010–2017). International Journal of Economics and Finance, 11(4), 114-118.
17. Ud-Din, M., Khan, M., & Tariq, M. (2020). External debt - Blessing or curse: Empirical evidence from Pakistan. International Journal of Economics and Financial Issues, 10(4), 235-246.
18. Awan, A., & Qasim, H. (2020). Impact of external debt on economic growth in Pakistan. Global Journal of Management, Social Sciences and Humanities, 6(1), 30-61.
19. Ibrahim, M. (2021). The impact of external debt on economic growth in Egypt 1994-2018. Scientific Journal of Commercial and Environmental Studies, 12(2), 93-140.
20. Al-Qassas, J. (2023). The impact of external public debt on Egyptian economic growth during the period (2010-2021). Scientific Journal of Commercial Research (Menoufia University), 50(3), 579-604.