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Assessing the Sustainability of the Jordanian Public Debt Deficit

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Abstract

This study analyzes the public debt gross domestic ratio of Jordan; this analysis covers the period of the last ten years. The reason to select this period is to analyze the issue of the current era which can be addressed by the contemporary possible solutions. One more important reason to select this period is the pandemic. The purpose of this paper is to analyze the impact of the pandemic on the deficit in public debt.This study identifies the different phases of public debt in Jordan during the period of the last ten years. This study identifies different dynamics of public debt and how the Jordanian government adjusted the fiscal policies to avoid fluctuations.The fluctuations in the public debt are observed and the other variables which are critical include economic policies and their role in the fluctuations in the public debt. Public debt sustainability is affected by the policies during different times. The sustainability of public debt is linked with the fiscal and monetary policies adopted by the government and these policies impact the economy which causes different periods.The data for the analysis consists of ten years. The longer span of data enables researchers to have robust results. The data is fresh and has the latest issue faced by the economy. The longer set of data provides more insight but the business environment is dynamic because of radical changes in the business environment from technology to geopolitical. This study provides contemporary issues that cause issues in the domain of public debt for the Jordanian government.

Keywords: *The sustainability of public debt, The Pandemic, Trade deficit, Fiscal Sustainability, Public debt deficit, Economic Development.*

1 Introduction

The issue of public debt sustainability grabs the attention of scholars who are concerned with the issues economies face as public debt and public finance (Vidal and Marshall, 2021). Public debt helps policymakers of an economy to implement a fiscal policy for better growth. Public debt enables policymakers to guide governments to adjust expenditures for sustainable output. The more reasonable public debt is to create advantages for the economy as stabilization (Fotiou, 2022). Public debt is a sign and guideline for policymakers to make policies accordingly.

Public debt is significant in economic growth as it interacts with both fiscal policies and

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monetary policies (Dhital et al., 2021). The increase in public debt provides clear indicators about the future possible outcomes of policies and what could be future events. Public debt predicts future crises (Badia et al., 2022). Public debt is not only an indicator but also a lagging indicator that indicates the changes in the economic situation and forecasts events after making economic changes (Burkholder, 1980).

The external debt and domestic debt contribute to the domestic debt. The developing economies struggle with external debt as they are challenged by low capital stocks which bring a shortage in opportunities for investment which comprises the growth of the economy (Chowdhury, 2001). There are debates and questions about which debt is better, domestic or foreign debt, there is no exact answer to this question but there are some arguments behind the policy and decision about taking loans.

The domestic debt is justified with the logic that it protects developing economies from external issues including exchange rates and helps the domestic financial markets (Barajas and Salazar, 2000). The government tries to collect capital by issuing securities, this type of internal debt helps governments to collect private investment (Kumhof and Tanner, 2005). The economies that are struggling try to receive funds through domestic or foreign funding, these economies face different issues while making economic policies.

The economies that are highly indebted and with middle or low-income struggle to make their citizens, maintain order in the society, and get able to start and grow the economy as they face high challenges of debt which are growing with everyday passing. These economies face other issues such as development, these economies don't have resources for development and look for multiple sources for loans as their options get narrowly limited choices (Clarke, Whitely, and Reid, 2022). The question of sustainability of public debt arises in such economies which are struggling.

Fiscal sustainability is challenged by the high debt of an economy, financial sustainability is important and significant. The significance of maintaining fiscal sustainability is high for any government because if any government fails to repay the debt loses its credibility and this situation leads to either default or high inflation (Akram and Rath 2021). These issues faced by governments who are struggling in payment of their debt create more challenges for the governments. The governments have narrow choices to get loans and the credibility of governments is at stake and depends on the support they can get in the form of loans.

Public deficit sustainability depends on the capacity of the government's ability to get loans. There are challenges for governments as if interest rates get higher it leads to the poor performance of the economy and the increasing ratio of debt adds to the debt of GDP. The reason for this situation is the economy is struggling and not working on its complete potential there would be less revenue for the government. The government faces issues of sustainability when government revenues are low (Afonso, 2005).

Fiscal policy can be assessed by the framework given by the (Domar, 1944) which provides the guidelines to analyze the fiscal policy. Despite all the efforts in literature, there is no single definition that can be taken as a universal definition of public debt sustainability. The research can be conducted by keeping the national and subnational debts of a government or in other words liabilities of the government (Behl et al., 2022). There are studies that focus only on external debt and leave the importance of internal debt which creates a gap in the literature.

This study aims to analyze the Jordanian economy and the sustainability of public debt. This study analyzes the situation of the total indebtedness of the Jordanian economy and provides real insight into the situation of the Jordanian economy after the crises of the pandemic.

1.1 Problem Statement

The literature on public debt sustainability is limited and there is consensus yet about its definition (Maebayashi and Konishi, 2021). The problem regarding the definition highlights another issue about the measurement, the question that prevails in the literature: how to measure the sustainability of public deficit. There is a lack of agreement on how to measure and add the challenges in the domain to the sustainability of public debt (Werding, 2021). There are different studies that provide the definition of sustainability of public debt but there is no one single definition that is accepted overall and universally (Campos and Cysne, 2022). There is no single definition but there is one theory which is presented by Keynes "The general theory of employment interest and money" is documented by the economist.

There is another concept and issue in the context of debt is the issue of debt overhang. The literature explains two types, one is presented by (Williamson, 1986) this concept reveals that when indebted governments pay their loan natural resources are more available to the public sector instead of the private sector. The other concept presented by (Feldstein, 1986) explains that governments burden the private sector with more taxes which shrinks the economy and return on investment, this situation leads the economy to slow economic growth and investment.

A country can manage to solve the issue of solvency for a short term but this could lead to a situation of short-run imbalance, which may develop as a government unable to avoid solvency in the future. Short-term management provokes the long-run debt problem. The regime of an unstable economy is longer than the regime of a stable economy. That country can remain on the path of instability and have a higher chance of ending with a high fiscal deficit (Akram and Rath 2021).

The recent international crises that emerged from the pandemic and the attempts from governments to resolve the issue with Keynesian policies led to the public budget high and governments are in concern for fiscal sustainability. This situation raises many questions for governments such as how to deal with budget deficits and the interaction between fiscal and monetary policies (Esteve and A. Prats 2022). The situation is difficult for the developing economies and Jordan is a developing economy and not an exception in the crises of the pandemic. This study aims to analyze the public deficit of the Jordanian economy to add in the literature of public debt and literature about the public debt sustainability of Jordan.

1.2 Research Objectives

- To analyze the impact of fiscal policy on public debt sustainability.
- To analyze the impact of the pandemic on the Jordanian economy in the context of the sustainability of public debt.

1.3 Research Questions

What is the impact of fiscal policy on the sustainability of public debt?
What is the impact of the pandemic on the sustainability of public debt in the Jordanian economy?

2 Literature Review

Developing economies are different in many contexts from developed economies and political-economic structure is one of them, MENA economies are the example of developing economies. These economies are rentier economies which include Jordan (Brach, 2007). The Jordanian economy is one of the MENA economies and is facing an issue of public deficit and the government is looking to fix the issue of public debt sustainability. The issue of public debt sustainability arises because of many factors in the Jordanian economy including unemployment (Awdeh and Hamadi 2019).

2.1 Labour Market Conditions

The economic growth in the Jordanian economy is derived from the private sector and not from the government. The private sector is a source of middle-class employment. However, governments try to grow the economy through tourism, oil, entrepreneurship, and using ambition and talent (Strauss, 2015). The unemployment in the non-agriculture sector in Jordan is 42 percent. Government and public sector organizations are attractive for people and attract the most talented people and the private sector is unable to attract these talented individuals (Sullivan et al., 2014).

The unemployment level needs government attention and the government spends extra budget on the development of society which results in more borrowing for the public.

2.2 Budget Deficit and Public Borrowing

Governments make budgets to manage their finances for the development of the economy but when any government fails to do so it is called the deficit in the budget. A deficit in the budget is triggered when there is a gap between the collection of planned revenue and the expenditure on the economy. This is caused by the delays in receiving revenue and low revenue and exports for an economy (Bahmani, 1999). The deficit in the budget creates problems for policymakers.

This is observed in the literature if there is a persistent deficit in the budget of a country that is added to the country's sovereign debt. The added deficit affects the economy in two ways: first, the added loan needs to be paid and its interest payment is added to the yearly spending in the budget and lowers the economic growth as this money could be added to the development fund which helps to fuel the economy. Budget deficits create a difficult situation for governments where governments face difficulties to raise funds which leads to high-interest rates from creditors. Jordan's public debt is equal to 95 percent debt against its GDP (Awdeh and Hamadi 2019). This high percentage of the public debt creates many issues and political instability is one of the leading issues triggered by high public debt.

2.3 Political Instability

Political instability can cause misinformation which leads to a decline in investment and business activities which reduce the economic growth of that country (Hamadi and Bassil, 2015). The investors hesitate to invest when they are not clear about the outcome of their investment even if the opportunity exists in the economy. The political instability in the country leads to information asymmetry and results in uncertainty. High uncertainty negatively affects the economy and results in a decline in business activities and overall economic activities (Mishkin, 2010). Jordan is facing the issue of political instability and it is affected by the geographic location. Jordan was not affected by the Arab uprising but the surrounding countries witnessed the Arab uprising which affected the Jordanian economy as well.

2.4 Trade Deficit

Trade deficit is one of the issues that contribute to the low performance of the economy and this results in the pressure on the government. This pressure leads to more debt from the government which builds more pressure. The average trade deficit of Jordan is 19.4% of its GDP. The reports of the World Bank indicate that the Jordanian economy has the potential to generate more jobs. A trade deficit is reflected in the domestic savings of the country. A trade definition of the economy may indicate a well-performing economy as well where imports are used for the processed and raw materials for the final output and for future exports (Elwel, 2007). Those economies that have weak industrial sectors and are not able to produce the alternative of importing goods are a factor in the trade deficit (El Wassal, 2012).

3 Methodology

The ability of a government in maintaining its expenditures which are collected through the taxes deprived of the fear of default in the long run indicates the sustainability of a government fiscal policy. Sustainability refers to the ability of the government to repay the debts. The possible ways to achieve the financial stability budget could be made which identifies the link between public revenues and public spending. The government collects revenue and spends on the public the difference is explained with the term public deficit in other words can be stated as a variation in the public debt.

The literature about the sustainability of debt describes the usual procedure to test government operations. This can be done by using stationarity which explains the analysis of a series of data and co-integration which describes the correlation between the time series data (Smith and Zin, 1991). Another relationship between government revenues and expenditures is called the long-run linear co-integration relationship.

These methods were adopted by many studies to test the sustainability of debts in many economies

(De Castro and Hern_andez de Cos 2002). The studies using these methods observe the gradual changes in the economy rather than the sudden changes in the economy. The studies used these methods to study the efforts done by the governments to recover control of the public deficit.

The co-integration model is also used when any study is observing a shift in the regime between the revenues collected by the government from the public and the expenditures of the public. This model is also better when analyzing public debt and public expenditure.

There are different tests and methods to check the sustainability of a fiscal policy and the right-tailed unit test is one of the tests as it measures the complete sample and also highlights the fluctuations in different periods of the data (Evans, 1991). This problem is detected and another method is presented PSY henceforth and PWY henceforth is to detect the real-time bubble (Phillips et al., 2015a, 2015b).

This study developed the methodology in PWY and PSY which enable to test of the hypothesis. The ADF test is used to check the which check the unit root in the collected data. The supremum Augmented Dickey- fuller (SADF) test is run to check the bubble period in the collected data and the variation in the impact of fiscal policy. PSY is developed which enables highlighting the bubble in the given period of data as a sample, this is helpful when there are multiple episodes in the data.

3.4 Research Hypothesis

$\boldsymbol{H_0}$: *Public deficits have no impact on the sustainability of the economy.*

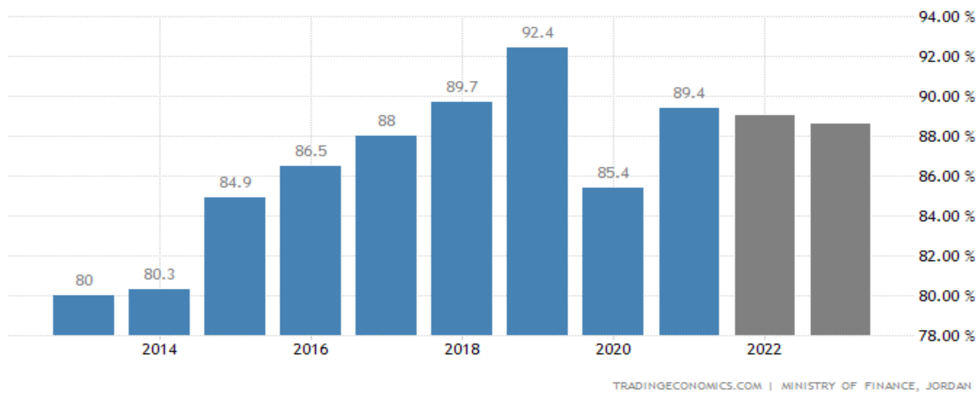
$\boldsymbol{H_1}$: *The sustainability of public deficit is critical for the sustainability of the economy.*

4 Analysis

This study analyzes the last ten years of the Jordanian economy data, the data reflecting the percentage of debt against the GDP. Figure 1 explains that public debt is consistent with an average of 80 percent since 2013. The Jordanian economy is developing with different challenges. Figure 1 shows the high debt of more than 90 percent of its GDP during the time of the pandemic. The pandemic affects all the economies, especially the developing economies. Economies like the Jordanian economy are not only developing but also facing the challenge of sustainability of public debt.

The global economic prospect report indicates that the Jordanian economy is expected to increase its public debt from 115.6 percent this year to 117.9 percent in the next year of 2024. Government revenue is expected to rise because of high taxes on the incomes and profits of companies. The collected revenue is not helping as this increased revenue increases taxes and people hesitate to invest more because they pay more tax which reduces the income and profits which result in less investment. This situation made the opportunity narrower and decreased the GDP.

The pandemic made the situation worse because the government needed to pay more for the development of the economy and the debt increased as a result. During the pandemic government received less revenue because of the closure of industries and on the other hand expenditure of the government got high to compensate the organizations and individuals, and other expenses including health expenses became higher.



The methodology of this study was developed to analyze the data which consists of the last ten years of the Jordanian economy. The data consist of multiple episodes represented by different periods in the form of years. SADF analyzed the variation in the data and PSY analyzed the bubbles in the period of data as there are many episodes of data.

The methodology used in this paper is to analyze whether the Jordanian market reflects the bubble behavior at any point of collected data. In this study, data was used from the Jordanian economy for the period of 2013 to 2022. The collected data was analyzed to review the GDP ratio of the Jordanian economy.

The numbers in Table 1 are the values of SADF which reflect the unit root test values to analyze the null hypothesis. The other values of the test also reflect in the table. The Monte Carlo simulation generates the statistics presented in Table 1 values at the level of 10%, 5%and 1percent.

The null hypothesis is rejected through unit root analysis as the values exclude from respective 10% and 5% right-tail values. These values provide evidence that the public debt to Jordanian GDP reflects bubbles in different periods. To conclude this, it is stated that the analysis of the test reflects bubbles in the public debt to the GDP ratio.

Table 1

Unit root tests	Estimated value	1 (%) (%)	Finite critical value		10
		5 (%)			
SADF		1.123*** 1.082	1.729	1.322	
GSADF		2.307** 1.721	2.316	2.053	

5 Conclusion

Developing economies are under the great threat of facing the issue of sustainability of public debt. Sustainability of public debt is important for the government and issues arise when governments are unable to pay their debt which may result in high inflation or default. The situation in which governments are unable to pay their debt creates mistrust for the governments and these governments lose their credibility. To avoid such situations governments, keep the taxes high to collect high revenue while making fiscal policies. The high taxes cause a situation where the income of individuals and the profit of companies get low and companies lower their investment which results in low GDP.

The trade deficit balance is significant to maintain for the governments. The gap between the imports and exports of a country represents the trade deficit of the country. The developing economies are in great pressure to maintain a trade deficit and the revenue they get from exports goes into the payment of loans and some portion left to contribute to the economy. The gap in trade deficit contributes to building more pressure on the issue of sustainability of public debt.

Developing economies like Jordan which were facing the issue of paying the instalments of loans and maintaining the balance of the trade deficit were badly hit by the pandemic. During the pandemic, governments spend more money on development and health issues but receive extremely low amounts because of the closure of business activities.

This study reflects the Jordanian public debt ratio to GDP for ten years which reflects that there are bubbles in the collected data which indicates that there is a need to take measures to create sustainability in the public debt. The Jordanian government needs to take aggressive steps to minimize the trade deficit and to make the public debt ratio with GDP a reasonable figure.

5.1 Recommendations

This study analyzed the ten years of the Jordanian economy data. The data consist of the GDP of the country. The GDP of a country heavily depends on the fiscal policy of the country and monetary policy. The government decides what kind of taxes are needed to collect maximum revenue. The imposing policy of taxes is critical as well as critical as not every industry is able to pay high taxes in certain situations.

The fluctuation in the data reflects that there is a need to understand ground realities in a better way to formulate strategies for fiscal and monetary policy. The data reflect the gap between the understanding of the real situation and economic policies.

This study suggests implementing different tax relief and subsidies to those sectors which need any form of relaxation and government support. The first-hand knowledge of the economy enables policymakers to identify the sectors which can bear the burden of an increase in taxes. Those sectors need to be targeted which can afford to pay more taxes and other sectors which are struggling should be compensated with government support programs to maintain the growth of the economy.

References

Akram, V., & Rath, B. N. (2021). Fiscal sustainability in India: Evidence from Markov switching and threshold regression models. *Studies in Economics and Finance*, *38*(2), 227-245.

Badia, M.M., Medas, P., Gupta, P. and Xiang, Y. (2022), "Debt is not free", Journal of International Money and Finance, Vol. 127, p. 102654.

Barajas, S. and Salazar, N. (2000), "The impact of liberalization and foreign investment in Colombia's financial sector", Journal of Development Economics, Vol. 46 No. 2, pp. 157-196.

Bahmani, M. (1999), "The federal budget deficits crowd-out or crow-in private investment", Journal of Policy Modeling, Vol. 21 No. 1, pp. 633-640.

Brach, J. (2007), "Die Wettbewerbsfähigkeit der arabischen Mittelmeerländer im internationalen Vergleich", GIGA Focus Nahost, No. 12, GIGA, Hamburg.

Burkholder, A.A. (1980), "New approaches to the use of lagging indicators", Business Economics, Vol. 15 No. 3, pp. 20-24.

Campos, E.L. and Cysne, R.P. (2022), "Sustainability of Brazilian public debt: a structural break analysis", International Journal of Emerging Markets, Vol. 17 No. 3, pp. 645-663, doi: 10.1108/ IJOEM-11-2019-0936.

Chowdhury, A.R. (2001), "External debt and growth in developing countries; a sensitivity and causal analysis", WIDER Discussion Paper No. 2001/95, WIDER, Helsinki.

Clarke, C., Whitely, P., & Reid, T. (2022). Fiscal sustainability in highly indebted countries: evidence from Jamaica. *International Journal of Development Issues*, (ahead-of-print).

de Castro, F. and Hern_andez de Cos, M. (2002), "On the sustainability of the Spanish public performance", Hacienda Pública Espa Ñola, Vol. 160 No. 1, pp. 9-27.

Dhital, S., Gomis-Porqueras, P. and Haslag, J.H. (2021), "Monetary and fiscal policy interactions in a frictional model of fiat money, nominal public debt and banking", European Economic Review, Vol. 139, p. 103861.

Domar, E. (1944), "The burden of debt and national income", The American Economic Review, Vol. 34 No. 4, pp. 798-827.

El Wassal, K. (2012), "The impact of trade liberalization on trade balance in Arab countries", Journal of Economic and Social Research, Vol. 14 No. 2, pp. 1-26.

Elwel, C. (2007), "The US trade deficit: causes, consequences, and cures", Congressional Research Service Report No. RL31032, Washington, DC.

Evans, G.W. (1991), "Pitfalls in testing for explosive bubbles in asset prices", American Economic Review, Vol. 81, pp. 922-930.

Feldstein, M. (1986), "Budget deficits, tax rules, and real interest rates", Working Paper No. 1970, National Bureau of Economic Research, Cambridge.

Fotiou, A. (2022), Non-linearities in Fiscal Policy: The Role of Debt, European Economic Review, p. 104212.

Kaur, A., Kumar, V., Sindhwani, R., Singh, P. L., & Behl, A. (2022). Public debt sustainability: a bibliometric co-citation visualization analysis. *International Journal of Emerging Markets*, (ahead-of-print).

Kumhof, M. and Tanner, E. (2005), "Government debt: a key role in financial intermediation", IMF Working Paper No. 05/57, IMF, Washington, DC.

Maebayashi, N. and Konishi, K. (2021), "Sustainability of public debt and inequality in a general equilibrium model", Macroeconomic Dynamics, Vol. 25 No. 4, pp. 874-895.

Mishkin, F. (2010), The Economics of Money, Banking and Financial Markets, Prentice Hall, Boston.

Phillips, P.C.B., Shi, S. and Yu, J. (2015a), "Testing for multiple bubbles: historical episodes of exuberance and collapse in the S&P 500", International Economic Review, Vol. 56 No. 4, pp. 1043-1077.

Phillips, P.C.B., Shi, S. and Yu, J. (2015b), "Testing for multiple bubbles: limit theory of real time detectors", International Economic Review, Vol. 56 No. 4, pp. 1079-1134.

Sachs, J.D. and Williamson, J. (1986), "Managing the LDC debt crisis", Brookings Papers on Economic Activity, pp. 397-440.

Smith, G.W. and Zin, S.E. (1991), "Persistent deficits and the market value of government debt", Journal of Applied Econometrics, Vol. 6 No. 1, pp. 31-44.

Strauss, J. (2015), "MENA economic environment", Middle Eastern Business Environments, available at: https://daniels-pull-universityofdenv.netdna-ssl.com/assets/research-jack-strauss-2015.pdf (accessed 20 November 2017).

Sullivan, A., Rey, E. and Mendez, G. (2014), "Opportunities and challenges in the MENA region", available at: www.oecd.org/mena/investment/49036903.pdf (accessed 16 September 2017).

Werding, M. (2021), "Fiscal sustainability and low interest rates: what an indicator can('t) tell", Empirica, pp. 1-18, doi: 10.1007/s10663-021-09531-8.

Vidal, G. and Marshall, W. (2021), "When and why does public debt become a problem?", Journal of Economic Issues, Vol. 55 No. 2, pp. 559-564.