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UNLOCKING PAKISTAN'S DEBT CONUNDRUM: A DEEP DIVE INTO THE DYNAMICS OF DEBT SERVICING AND EXTERNAL DEBT STOCK

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ABSTRACT

Pakistan stands at a crossroads where the burgeoning debt servicing cost of Rs 7.3 trillion is going to swallow the lion's share of the projected revenue of Rs 9.2 trillion. This revenue also includes the Rs 5.2 trillion share allocated to the provinces. It is essential to study the causes of such a high debt stock rate, which requires a large outflow of foreign reserves. This study took 50 years of data about Pakistan and analyzed certain determinants of debt stock including debt service cost, budget deficit, military expenditure, import bill, and population. ARDL was used after finding a mixed order for stationery. The short and long-run analysis is undertaken. The Result shows that debt cost has a significant negative impact on debt stock, whereas budget deficit, military expenditure, import, and population have a significant positive impact on national debt. Based on the results, this study suggests that military expenditure and imports should be decreased to control national debt. The population must be maintained at an optimal level. The government should not go for a budget deficit as it requires further loans. The Results were checked for robustness and the model was stable.

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INTRODUCTION

In a world where economic stability is as volatile as the markets that drive it, the intricate dance between national debt and its determinants needs a closer look. Budget deficits stretch the fabric of fiscal policies, debt services limit the nation's financial foundations, military expenditures demand a lion's share of the budget, population growth strains resources, and imports challenge domestic production. Together, they weave a complex web that ensnares the national debt, dictating the economic future of nations. This article delves into the depths of this entanglement, unraveling the threads to reveal how each factor exerts its influence on the tapestry of national economics. The economic landscape of Pakistan has been characterized by a persistent struggle with its national debt, a reflection of the country's ongoing fiscal challenges. Pakistan's national debt to GDP is shown in Figure 1.

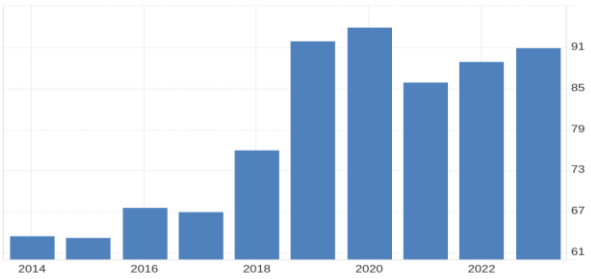

Figure 1. Graphical illustration of National Debts (to GDP) of Pakistan; Source: State Bank of Pakistan.

Borrowing is a technique used by both the public and private sectors to finance sustainable development projects. Borrowing is used to fill a deficit (a difference between revenue and expenses). High amounts of governmental debt may impair economic growth and development. Effective debt management is essential for both the public and private sectors. The international bodies regularly help heavily indebted poor nations (HIPCs) lower their debt. Domestic borrowing increases lending opportunities and decreases currency mismatches between local lenders and borrowers. Domestic debt may be costly and requires careful management, just like any other type of debt.

Public debt sustainability is crucial for both emerging and established nations. Short-term fluctuations in default likelihood based on market pricing make assessing public debt challenging. Analysts must include public debt structure, political risks, and macroeconomic factors when assessing sustainability (Carnevale et al., 2018; Shabeer and Rasul, 2024b). Public defaults have become rare in both emerging and industrialized economies. This research tries to examine the sustainability of public and foreign debt in Pakistan and India. Traditionally, debt sustainability has been assessed using two approaches: stationary debt analysis and fiscal response budget balance to debt ratio (Looney, 1987; Szybowski, 2018; Kirichenko, 2021). Fiscal response functions often analyze sustainability based on total public debt, without considering its composition or peculiarities.

Tesic et al. (2014) investigated the relationship between debt and the impact of fiscal policy. Some believe that ignoring debt

reactions may result in erroneous estimations of the active consequences of economic shocks.

Pakistan's government debt to GDP averaged 73 percent of GDP from 1994 until 2023 (State Bank of Pakistan, 2023). Although higher than the 2007 trough, the present ratio remains lower than it was in the 1980s and 1990s. Pakistan's debt-to-GDP ratio is lower than India, Brazil, Sri Lanka, and Egypt, but greater than most East Asian and Latin American nations (Arshed et al., 2022; Shabeer and Rasul, 2024a). Pakistan's national debt-to-GDP ratio exceeds the FRDL Act's 2005 limitations. Although previous comparisons are useful for understanding debt levels, they do not indicate long-term sustainability.

Pakistan's national debt is neither necessarily greater nor less sustainable than that of Sri Lanka, Egypt, or India. Similarly, statutory slippage does not always signify debt hardship. Pakistan's GDP growth climbed from 5% in the 1970s to 6.5% in the 1980s. However, a decrease to 4.4% in the 1990s, along with a large budget deficit of 6-7% of GDP, negatively impacted debt ratios.

The central problem addressed by this research is the escalating national debt of Pakistan and its multifaceted relationship with key economic variables such as budget deficit, debt services, military expenditure, population, and imports. This issue is of paramount importance due to its profound implications for the country's economic sovereignty, fiscal stability, and developmental prospects. The rising debt presents a difficult challenge to policymakers, limiting their capacity to allocate resources efficiently and jeopardizing the country's long-term economic security.

The study seeks to answer the following pivotal questions:

1. How does the budget deficit influence the national debt of Pakistan?
2. What is the impact of debt services on the country's ability to manage its national debt?
3. In what ways does military expenditure affect the fiscal balance and contribute to national debt?
4. How does population growth correlate with the rising national debt?
5. What role do imports play in the expansion of Pakistan's national debt?

In this research, the basic aim is to investigate the factors influencing the national debt of Pakistan, with a particular focus on the relationship between the national debt and several key explanatory variables. Our approach includes a thorough evaluation of a variety of economic and demographic indicators, such as the budget deficit, debt services, military spending, population trends, and import volumes. A budget deficit is assumed to be a major factor for borrowing. Figure 2 shows the budget deficit of Pakistan.

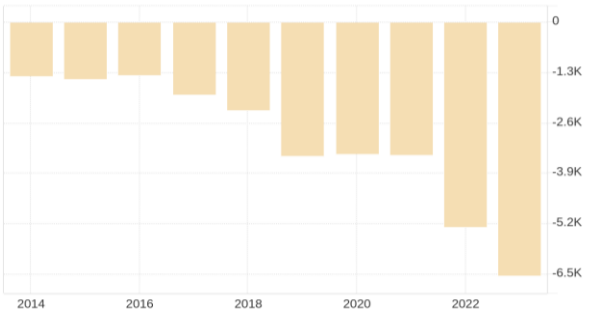

Figure 2. Budget Deficit (in Billion Rs); Source: Economic Survey of Pakistan (2023).

The objectives of this research are to:

1. Analyze the causal relationships between the national debt and each explanatory variable.
2. Quantify the extent to which each factor contributes to the national debt.
3. Identify potential policy interventions that could mitigate the impact of these variables on the national debt.
4. Propose a sustainable economic framework for managing national debt in the context of Pakistan's economic environment.

Analyze, Quantify, Identify, and Propose are our research objectives, the research aims to provide a comprehensive understanding of the determinants of national debt in Pakistan, offering valuable insights for economic reform and policymaking.

The article's structure is simultaneously designed to facilitate a comprehensive understanding of the subject matter. The second section delves into a literature review, where we critically analyze existing research to establish a foundation for our study. This is followed by the third section, which outlines our methodology—the backbone of our research—detailing the systematic approach and techniques employed in the investigation. The fourth section presents a discussion of the findings, interpreting the data within the context of our initial hypothesis and the broader field. Finally, the fifth section concludes, summarizing the insights gained and their implications, while also suggesting avenues for future research. This logical progression ensures that each section builds upon the previous, culminating in a well-rounded and substantiated scholarly article.

This section of the study has observed the existing literature about national debts and their explanatory variables. The world economy is currently experiencing a severe crisis that has not been seen before. This is sometimes referred to as the "mother of all crises." The episode's main explanations include a weak regulatory environment, global imbalances, and mounting budget deficits in the lead country, the United States. Combating the crisis has resulted in increased budget deficits internationally. According to GDF 2009 predictions, budget deficits in industrialized nations are expected to expand by 3% and in poor countries by 4.4%. The global economic slump has lowered export profits, making it tougher to finance fiscal stimulus measures.

Debt is a long-term issue that can lead to problems in an economic downturn. These examples emphasize the importance of a cautious regulatory framework and pragmatic decision-making for effective economic management. Whether managing individual or national accounts, it's important to avoid spending more than one's income and draw a 'Laxman Rekha', regardless of the outcome. This understanding is especially important for managing government budgets and debt (Szybowski, 2018; Shabeer and Rasul, 2024b).

Tesic et al. (2014) noted that the global economic slump has lowered export profits, making it tougher to finance fiscal stimulus measures. In 2009, the GDF predicted that developing nations' borrowing needs would exceed net capital inflows by $350-$635 billion. Ironically, it was stated that all countries would not take up fiscal stimulus on the scale needed to rescue the global economy from present challenges. This might be due to fear of the after-effects. This is also concerning since it may require monetary accommodation, perhaps contributing to inflationary pressures. Rising inflation and interest rates can lead to more debt and slower economic development.

Debt services have significant implications on national debts and economies. Studies show that debt servicing, including interest

payments and repayments, can act as a real leakage from an indebted country, hindering long-term economic growth (Ekperiware et al., 2023). Additionally, debt service can lead to a transfer of resources from the domestic economy to foreign creditors, impacting national savings negatively (Lira and Kalebe, 2015; Moyo and Le Roux, 2019). Furthermore, the burden of debt service can crowd out fiscal projects for development, reducing the capacity for economic expansion and revenue generation (Rodrik, 1988; Shabeer et al., 2021b). The dual transfer involved in servicing foreign debt, both internally and externally, can complicate matters further by deteriorating the public sector's terms of trade and necessitating fiscal retrenchment (Alechenu, 2022; Shabeer et al., 2021a). Overall, effective debt management strategies and prudent allocation of borrowed funds towards productive ventures are crucial to mitigate the adverse effects of debt services on national debts and economies.

Debt servicing in Nigeria consumes a significant portion of revenue, impacting fiscal projects. While foreign debt negatively affects economic growth, debt servicing surprisingly has a positive impact on GDP (Arshed et al., 2022; Gul et al., 2022; Huang et al., 2023; Zubair et al., 2023; Wang et al., 2023; Gill et al., 2023; Shabeer et al., 2024; Zain ul Abedeen et al., 2024). Increased debt servicing in Argentina led to cuts in social services like education and health, exacerbating budgetary constraints. This impact highlights the tradeoff between debt servicing and government priorities (Looney, 1987).

Military expenditure has a significant impact on national debts in various regions. Studies on developing nations like Greece, sub-Saharan Africa, and Asian countries reveal that increased military spending can lead to higher public debt levels (Ghulam and Saunby, 2023). Excessive military spending beyond a certain threshold has been shown to increase the risk of sovereign debt default, emphasizing the need for countries to evaluate and potentially reduce their military expenses to mitigate default risks (Azam and Feng, 2015). The relationship between military spending and external debt is particularly pronounced in highly indebted developing countries like India, Pakistan, Brazil, and the Philippines, where military expenditures consume a significant portion of government funds, impacting external debt levels. Overall, these studies suggest that rationalizing military expenditure could help in managing and reducing national debts effectively (Durucan and Yeşil, 2022). (Paleologou, 2013) concluded that military expenditure has a large positive impact on general government debt in the EU countries, as indicated by a dynamic panel data model analysis.

Population aging has a significant impact on national debts. As retirees accumulate more wealth, the private sector becomes a net creditor, while the public sector becomes a net debtor (Dieppe et al., 2015). This imbalance is exacerbated in rapidly aging countries, where public debt may outpace private credit due to increased spending on seniors (Sordi, 2022). Despite forecasts predicting a sharp rise in public debt due to aging populations, empirical evidence until 2015 showed little impact on public debt, suggesting a future effect (Nicolas, 2014). In India, the fiscal impact of aging is forecasted to increase public expenditure on the elderly, mainly driven by pensions, cash transfers, and social protection, leading to a decline in the debt-to-GDP ratio due to increased tax revenues.

Population growth and its impacts on government debt: with slowing growth and longer retirements, countries may need substantial debt. In some scenarios, debt near zero is needed, but high debt can be required. The aging population can increase external debt due to higher healthcare and social security costs, impacting national debts. However, the old-age dependency ratio shows an insignificant relationship with debt levels (Rahman et al., 2020). Population change, particularly aging, affects national debts by altering the costs of providing benefits like Social Security and Medicare, impacting fiscal policy through changing age distributions (Ali Gill et al., 2023; Gill et al., 2023).

Imports play a crucial role in shaping national debts, as evidenced by various studies. Import cutbacks during debt crises primarily affect capital goods, while increased imports directly contribute to higher foreign debts. Import competition can also impact national debts indirectly by influencing household leverage, with regions exposed to higher import competition experiencing significant growth in household debt. Furthermore, the inflow of debt-type capital from core EU countries to periphery countries led to liquidity crises and increased non-performing loans, highlighting the intricate relationship between capital imports and debt levels (Sitepu and Nainggolan, 2024).

Import competition significantly increases household debt, especially through home equity extraction, highlighting the distributive effects of globalization on household finances. The national debt impact is not directly addressed in the paper. Overall, the dynamics between imports and national debts are complex, with imports affecting both macroeconomic debt levels and household borrowing patterns.

METHODOLOGY

Theoretical Framework

The theoretical framework explores the relationship between budget deficits and national debts in an economy. According to Keynesian, government spending is a crucial tool for managing economic cycles. Keynesians argue that during economic downturns, increased government spending is necessary, even if it results in a budget deficit. Such deficit financing can help stabilize the economy. However, persistent deficits can lead to a rise in national debt. Keynesians believe that if the government borrows in its currency, it can maintain higher levels of debt without immediate economic instability. The main concern is when debt grows faster than the economy, leading to higher interest rates and crowding out private investment.

In contrast, classical economic theory focuses on the long-term effects of budget deficits and national debt. Classical economists argue that ongoing budget deficits can lead to higher interest rates, as the government competes with the private sector for limited funds. This crowding-out effect can reduce private investment and slow economic growth.

The Ricardian equivalence hypothesis suggests that consumers are forward-looking and consider the government's budget constraints. When the government runs a budget deficit, rational consumers anticipate future tax increases to pay off the debt. As a result, they increase their savings to offset future tax liabilities, leaving aggregate demand unchanged. They believe that budget deficits do not affect national savings or interest rates because private savings adjust to compensate for the government's borrowing.

The sustainability of fiscal policy is a critical aspect of understanding the impact of budget deficits on national debt. Fiscal sustainability refers to the government's ability to maintain its current spending, tax, and other fiscal policies without risking solvency or default. The debt-to-GDP ratio is often used as an indicator of fiscal sustainability, with higher ratios signaling potential problems.

Governments must balance the short-term benefits of deficit spending with the long-term costs to ensure that fiscal policies do

not unfairly disadvantage future generations. This consideration is particularly relevant in the context of aging populations and increasing healthcare and pension costs.

Study Framework

This study took fifty years data of from Pakistan to study the external debt stock and its determinator. 50 years of data is sufficient for long-term analysis. The selected variables and their data source are given in Table 1.

Estimation Model

Autoregressive Distributed Lag (ARDL) is a technique used to analyze the long-term relationship between variables that exhibit both short-term dynamics and long-term equilibrium. It combines autoregressive and distributed lag models to capture both short-term and long-term effects. ARDL models can be used when dealing with nonstationary time series data with mixed order of integration as was the case in this study (Arshed et al., 2022).

An ARDL model of this study can be expressed as follows for a single dependent variable. Note that Y indicates the dependent variable and X_1, and X_2 are the independent variables.

$$Y_t = \alpha + \sum_{i=1}^{p} \beta_i Y_{t-1} + \sum_{j=0}^{q} \gamma_j X_{t-j} + \varepsilon_t \quad (1)$$

In Equation (1), Y_t is the dependent variable at time t. α is the intercept. β_i are the coefficients of the lagged dependent variable. X_{t-j} are the independent variables lagged by j periods. γ_j are the coefficients of the lagged independent variables. ε_t is the error term. p and q are the lag lengths of the dependent and independent variables,

This study has completed the various steps of the ARDL model like checking stationarity which has indicated a mixed order by applying ADF and PP tests. The order was I(0) and I(1) but not I(2) or higher. Lag Length Selection determines the optimal lag length for the ARDL model using criteria AIC and the Model is estimated using the chosen lag lengths. Bound Testing for Cointegration is also conducted to check the existence of a long-run relationship. The null hypothesis (no cointegration) is tested against the alternative hypothesis (cointegration exists).

As co-integration is found, estimate the long-run coefficients and the Error Correction Model (ECM) to capture short-run dynamics. The ECM can be represented as:

$$\Delta Y_t = \alpha + \sum_{i=1}^{p} \beta_i \Delta Y_{t-1} + \sum_{j=0}^{q} \gamma_j \Delta X_{t-j} + \lambda ECM_{t-1} + \varepsilon_t \quad (2)$$

In Equation (1), ECM_{t-1} is the error correction term, which represents the speed of adjustment back to equilibrium.

RESULTS AND DISCUSSION

Descriptive statistics presents summary measures used to characterize datasets. These include measures of central tendency like the mean. Measures of variability such as the range, variance, and standard deviation indicate the spread or dispersion of the data around its central tendency. Descriptive statistics facilitate a quick understanding and interpretation of datasets, aiding in decision-making and further analysis. Table 2 shows the descriptive statistics of this study.

The Correlation Matrix

A correlation matrix is a concise summary that shows the relationships between variables in a dataset. It displays the correlation coefficients. It indicates the strength and direction of the linear relationship between pairs of variables. Values range from -1 to 1. Minus 1 represents a perfect negative correlation, 1 represents a perfect positive correlation, and 0 indicates no correlation. Table 3 shows the correlation matrix of this study.

The Variance Inflation Factor (VIF)

The Variance Inflation Factor (VIF) is used to assess multicollinearity among explanatory variables. It quantifies how much the variance of an estimated regression coefficient is increased due to collinearity. A high VIF leads to unreliable coefficient estimates. Typically, a VIF value exceeding 10 suggests multicollinearity. Table 4 indicates the VIF of this study.

Table 1. Detail of selected variables.

Variable	Abb	Detail	Source
External Debt Stock	eds	External Debt Stock, Value	WDI, The World Bank
Debt Services External	dse	Debt Services External, Value	WDI, The World Bank
Military Expenditure	more	Military Expenditure as % of GDP	WDI, The World Bank
Population	pop	Population, total	WDI, The World Bank
Import	imp	Import	WDI, The World Bank
Budget Deficit	bdg	Revenue - Expenditure as % of GDP	WDI, The World Bank

Table 2. Descriptive statistics.

Variable	Obs	Mean	Std. dev.	Min	Max
eds	49	39.6589	10.91015	23.27626	58.02813
dse	49	3.48e+09	3.27e+09	2.37e+08	1.66e+10
mte	49	4.884552	1.454948	2.63074	6.991656
pop	49	1.47e+08	5.27e+07	6.61e+07	2.36e+08
imp	49	18.93835	2.831717	11.83034	23.3061
bdg	50	2.0686	6.296724	-8.8	8.8

Table 3. Correlation matrix.

Variable	eds	dse	mte	pop	imp	bdg
eds	1.00					
dse	-0.36	1.00				
mte	0.81	-0.65	1.00			
pop	-0.72	0.78	-0.89	1.00		
imp	0.21	-0.06	0.37	-0.29	1.00	
bdg	0.64	-0.71	0.81	-0.84	0.14	1.00

Table 4. The Variance inflation factor (VIF).

Variable	VIF	1/VIF
pop	8.04	0.124418
mte	5.90	0.169522
bdg	3.94	0.253804
dse	2.91	0.343518
imp	1.33	0.751031
Mean VIF	4.42	

Estimation Results

Table 5 shows the long-run estimation and Table 6 shows short-run estimation results. The R-squared value of 0.873 indicates that approximately 87.3% of the variability in the national debts can be explained by the model. The Adjusted R-squared value of 0.853 is a modified version of R-squared that has been adjusted for the number of predictors in the model. It shows a high level of explanatory power. The F-statistic value of 43.65 and the Prob > F value of 0.0000 suggest that your model is statistically significant.

The coefficient for Debt Services is -0.36. This negative coefficient suggests that an increase in Debt Services reduces the national debts or loans. The p-value is 0.003, indicating statistical significance. The negative relationship has been noted by various studies debt (Szybowski, 2018; Shabeer and Rasul, 2024b; Tesic et al., 2014).

Table 5. Long run estimation.

Variables	Coefficient	Std. Err.	Prob
Debt Services	-0.36	0.31	0.003
Military Expenses	0.53	0.11	0.002
Population	0.43	0.41	0.001
Import	0.07	0.26	0.000
Budget Deficit	0.95	0.21	0.000
_cons	-13.83	11.92	0.005
F (6, 38)	43.65	R-squared	0.873
Prob > F	0.0000	Adj R-squared	0.853
Years	1978-2022	Number of Obs	45

Table 6. Short run estimation.

Variables	Coefficient	Std. Err.	Prob
Debt Services	-0.06	0.05	0.065
Military Expenses	0.87	0.71	0.035
Population	0.32	0.23	0.024
Import	0.54	0.43	0.000
Budget Deficit	0.67	0.36	0.000
ECMt-1	-0.38	0.32	0.001

The coefficient for Military Expenses is 0.53. This positive coefficient indicates that higher military expenses are associated with an increase in national debts. The p-value is 0.002 which shows a significant relation. Countries that allocate more resources to military spending may experience an increase in national debts. This result is consistent with the findings of Lira and Kalebe (2015), Moyo and Le Roux (2019), Alechenu (2022), and Shabeer et al. (2021a).

The population has a coefficient of 0.43 showing a significant positive relationship with the national debts. This suggests that as the population size increases, there is a corresponding positive effect on the national debts. Countries with larger populations tend to have higher national debts, all else being equal. The positive relationship between population and debt stock has also been found by various scholars such as (Rahman et al., 2020; Ali Gill et al., 2023; Gill et al., 2023). Imports have a coefficient of 0.07. It is statistically significant given the standard error of 0.26 and a p-value of 0.000. This implies that an increase in imports is associated with a slight positive effect on the national debts/loans. It suggests that as a country's import levels rise, there may be a corresponding modest increase in its national debts/loans. It happens as the financial outflows are required to purchase foreign goods. Sitepu and Nainggolan (2024) have noted this relationship. The coefficient for Budget Deficit is 0.95. It indicates a robust positive relationship with national debts/loans. The statistical significance of this relationship is confirmed by a p-value of 0.000. This result suggests that as the budget deficit widens there is a substantial increase in the national debts/loans. This could be interpreted as the government possibly needing to borrow more funds to cover its deficit which leads to an increase in the national debt (Szybowski, 2018).

Short-run results show that debt services have a negative significant impact on debt stock whereas budget deficit, imports, population, and military expenditure have a positive significant impact on national debts. When all other variables are held at zero, the expected value of the dependent variable is significantly different from zero. Various diagnostic tests are also done to check the stability of the model.

CONCLUSION AND POLICY IMPLICATIONS

This study concluded that debt services hurt the national debts. Military expenditure has a positive influence on national debts and the increase of military expenditure increases external debt stocks. The population also increases national debts because there is a need to feed and fulfill the requirements of the larger number of populaces. Higher populations require resources to fulfill their needs. Similarly, import also increases national debt stock as more cash outflow in terms of dollars is needed to pay import bills. The most important factor that contributes positively to national debts is the budget deficit. Budget deficits compel the government to borrow to meet the budget requirements.

To tackle debt services, the government should increase the interest rate to discourage private borrowing. It will decrease national debts. At higher interest rates, the cost of borrowing will increase, and profits fall leading to lower demand for loans. The government should control the unnecessary expenditure to decrease the deficit budget. A deficit budget is the main stimulus for borrowing as the government needs funds to meet its target expenditure. Although, it should be noted that the govt. control non-development expenditure rather than development expenditure. It is suggested that military expenditure should be managed and there must be a certain balance between military expenditure and resource availability for other projects. Imports should also be managed. Pakistan needs to have certain checks and balances on imports. Import substitution industries can be developed. Only essential items should be imported such as fuel, technology, etc. Development of export-oriented industries can also help to gain dollars that can be added to foreign reserves and will reduce demand for dollars for foreign payments. Population should be managed to align with resources. The optimal population size should be a target to stay within the limit for loan demand.

Disclosures

Author contributions statement: Conceptualization and original writing by Shabeer, data analysis performed by Dr. Azra and Rabia, under the supervision of Dr. Ayesha Anwar.

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REFERENCES

Alechenu, B.E., 2022. An in-depth analysis of government debt to GDP of the three selected African countries and its effects on their Economy. Eurasian J. High. Educ. 3, 26–37. https://doi.org/10.31039/ejohe.2022.6.69.

Ali Gill, A., Farrokh, S., Haider, M.U., Zubair, R., 2023. Think Green: Impact of Green Human Resource Management on the Green Performance of Employees through the Mediating Role of Green Work Engagement. Pakistan J. Humanit. Soc. Sci. 11, 2189–2195.

Arshed, N., Awan, M.Z., Mirza, A., Riaz, F., Shabeer, M.G., 2022. China Pakistan economic corridor (CPEC), its role in Pakistan economy and its social and environmental status. J. Appl. Res. Multidiscip. Stud. 2, 1–15.

Azam, M., Feng, Y., 2015. Does military expenditure increase external debt? Evidence from Asia. Def. Peace Econ. 28, 550–567.

Carnevale, C., Ferrari, F., Guariso, G., Maffeis, G., Turrini, E., Volta, M., 2018. Assessing the economic and environmental sustainability of a regional air quality plan. Sustainability 10, 3568.

Dieppe, A., Guarda, P., Albani, M., Pandiella, A.G., Grech, O., Irac, D., ... Gordo Mora, E., 2015. Public debt, population ageing and medium-term growth. ECB Occasional Paper No. 165, Available at http://dx.doi.org/10.2139/ssrn.2665731.

Durucan, A., Yeşil, E., 2022. The Impact of Defence Expenditures on Government Debt, Budget Deficit, and Current Account Deficit: Evidence from Developed and Developing Countries. Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilim. Derg. 17, 686–701.

Ekperiware, M.C., Adewusi, A., Oyetade, J.A., Ogullah, S.B., Mayor, A., 2023. Present Implication of Debt and Debt Service in Nigeria. J. Econ. Manag. Trade 1–8. https://doi.org/10.9734/jemt/2023/v29i11070.

Ghulam, Y., Saunby, B., 2023. Does Increase in Defence Spending Lead to More Risk of Sovereign Debt Defaults? Def. Peace Econ. 1–19. https://doi.org/10.1080/10242694.2023.2188386.

Gill, A.A., Farrokh, S., Haider, M.U., Zubair, R., 2023. Do Green Human Resource Practices Influence Employee Environmental Performance? The Mediating Effect of Proactive Environmental Management Maturity. Pakistan J. Humanit. Soc. Sci. 11. https://doi.org/10.52131/pjhss.2023.1101.0386.

Gul, A., Shabeer, M.G., Abbasi, R.A., Khan, A.W., 2022. Africa's Poverty and Famines: Developmental Projects of China on Africa. Perenn. J. Hist. 3, 165–194.

Huang, X., Khan, Y.A., Arshed, N., Salem, S., Shabeer, M.G., Hanif, U., 2023. Increasing social resilience against climate change risks: a case of extreme climate affected countries. Int. J. Clim. Chang. Strateg. Manag. 15, 412–431.

Kirichenko, E.V., 2021. Growing budget deficit and national debt: estimates, problems, risks. Mezhdunarodnaja jekonomika. The World Econ. 812–825. https://doi.org/10.33920/vne-04-2111-01.

Lira, P.S., Kalebe, M.K., 2015. Savings, investment and economic growth in Lesotho: An empirical analysis. J. Econ. Int. Financ. 7, 213–221. https://doi.org/10.5897/jeif2015.0708.

Looney, R.E., 1987. Impact of increased external debt servicing on government budgetary priorities: The case of Argentina. Socioecon. Plann. Sci. 21, 25–32. https://doi.org/10.1016/0038-0121(87)90050-4.

Moyo, C., Le Roux, P., 2019. Interest rate reforms and economic growth in SADC countries: The savings and investment channel. Sci. Ann. Econ. Bus. 66, 507–523. https://doi.org/10.47743/saeb-2019-0039.

Paleologou, S.M., 2013. A dynamic panel data model for analyzing the relationship between military expenditure and government debt in the EU. Def. Peace Econ. 24, 419–428.

Rahman, N.H., Ismail, S., Ridzuan, A.R., 2020. Ageing Population and Economic Growth: An Empirical Investigation. Int. J. Acad. Res. Bus. Soc. Sci. 10. https://doi.org/10.6007/ijarbss/v10-i5/7234.

Rodrik, D., 1988. The Welfare Economics of Debt Service. National Bureau of Economic Research. https://doi.org/10.3386/w2655.

Shabeer, M.G., Rasul, F., 2024a. Aligning innovation and information with development: a comparative analysis of developed and developing nations. Environ. Dev. Sustain. 1–15. https://doi.org/10.1007/s10668-024-04478-9.

Shabeer, M.G., Rasul, F., 2024b. Energy, Forests and Environmental Sustainability: A Comparative Analysis of Developed and Developing Economies. J. Econ. Impact 6, 14–20. https://doi.org/10.52223/econimpact.2024.6102.

Shabeer, M.G., Riaz, S., Riaz, F., 2021a. Critical Factors of Patient Satisfaction in Private Healthcare Sector of Lahore. J. Econ. Manag. Sci. 2, 1–14.

Shabeer, M.G., Riaz, S., Riaz, F., 2021b. Energy Consumption and Economic Growth Nexus: a Comparative Analysis of Us, China and Japan. J. Econ. Manag. Sci. 2, 58–74. https://doi.org/10.52587/jems020205.

Shabeer, M.G., Zafar, Q., Anwar, S., Majeed Nadeem, A., 2024. Evaluating Innovation and Institutions for Tech-Trade: A Global Assessment in the Quest for Sustainable Economic Prosperity. J. Asian Dev. Stud. 13, 163–175. https://doi.org/10.62345/jads.2024.13.1.14.

Sitepu, I., Nainggolan, M.L.W., 2024. The sustainability of production and the US Dollar exchange rate influence Indonesian Cocoa and Pepper exports and their competitiveness. IOP Conf. Ser. Earth Environ. Sci. 1302, 12142. https://doi.org/10.1088/1755-1315/1302/1/012142.

Sordi, C., 2022. O javali, o capim-annoni e as paisagens ferais do Brasil Meridional. RURIS (Campinas, Online) 13, 76–107. https://doi.org/10.53000/rr.v13i2.17039

State Bank of Pakistan, 2023. Pakistan's Debt and Liabilities-Summary. Retrieved online from: https://www.sbp.org.pk/reports/stat_reviews/Bulletin/2023/Apr/DomesticExternalDebt.pdf.

Szybowski, D., 2018. Effects of a public debt and deficit budget. Int. J. New Econ. Soc. Sci. 8, 140–144. https://doi.org/10.5604/01.3001.0012.9935.

Tesic, A., Ilic, D., Djelic, T., 2014. Consequences of fiscal deficit and public debt in financing the public sector. Ekon. Poljopr. 61, 177–194. https://doi.org/10.5937/ekopolj1401177t.

Wang, Y., Arshed, N., Shabeer, M.G., Munir, M., Rehman, H. ur, Khan, Y.A., 2023. Does globalization and ecological footprint in OECD lead to national happiness. PLoS One 18, e0288630. https://doi.org/10.1371/journal.pone.0288630.

Zain ul Abedeen, S., Shabeer, M.G., Azra, Mazhar Rauf, M., 2024. Unravelling Fin-Tech Influence on Financial Penetration: The Global Assessment. J. Asian Dev. Stud. 13, 208–218. https://doi.org/10.62345/jads.2024.13.1.18.