MACRO-ECONOMIC FACTORS AND PUBLIC DEBTS: A CASE OF PAKISTAN

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Abstract

This study examines the macroeconomic factors and public debt as well as analyze its association in the context of a developing economy like Pakistan. In addition, the present study seeks to check how variables including GDP growth, inflation, exchange rates, government finances, and trade dynamics impact the accumulation public debt. After reviewing the studies conducted in the same domain, this research quantifies the contributions of these factors to changes in public debt levels. The outcomes indicated a significant association between fiscal deficit, exchange rate depreciation, and interest rate, impacting public debt in Pakistan. Furthermore, the findings offer insights for policymakers to formulate effective fiscal and monetary policies, ensuring sustainable public debt management while fostering economic growth. Moreover, the study enriches understanding of the Pakistani context and provides valuable lessons for similar challenges faced by developing economies.

Keywords: Macro-Economic, Public Debts, Pakistan

Introduction

The global economy has faced significant turbulence in the last two decades due to two major disruptions: the 2008 financial crisis that impacted Visegrad countries and the subsequent COVID-19 pandemic affecting a broader range of developing nations. These crises led to increased debt for many countries, particularly affecting governments of under developed economies due to their high public debt levels. Excessive debt now acts as a significant constraint on economic policy and competitiveness, especially during impending debt crises. Notable economic studies over the past decade, including (Ozoadibe & Obi, 2023; Safitri et al., 2021), have verified the idea that high public debt hampers economic growth. Countries with a public debt-to-GDP ratio surpassing 90% experience notably slower economic growth, revealing a non-linear relationship between debt-to-GDP levels and GDP growth.

Over the last thirty years, substantial attention has been directed towards effective debt management, driven by the recognition that excessive public debt has triggered economic and financial crises in numerous developing countries such as Latin America in the 1980s, East Asia in the late 1990s, and Russia in the early 2000s (World Bank, 2007). More recently, the PIGS (Portugal, Greece, Ireland, and Spain) countries found themselves entangled in debilitating debt crises (Ezzat & Hosni, 2019). The Global Financial Crisis further emphasized this concern, as unfavorable debt accumulation became a significant issue, even for advanced economies. Consequently, the financial crisis prompted a strong policy focus on creating mechanisms to stabilize high public debt-to-GDP ratios in post-crisis advanced economies (Spyrakis & Kotsios, 2019).

Pakistan's persistent budget deficits have led to a substantial rise in indebtedness, causing the debt-to-GDP ratio to increase from around 60 percent in 2010 to 72 percent

in 2022 (Shah et al., 2022). This escalating indebtedness not only contributes to macroeconomic issues but also places the country at risk of insolvency. Therefore, it is crucial to assess Pakistan's debt sustainability given the circumstances. To gain valuable insights, it would be beneficial to first identify the fundamental drivers or factors influencing a country's debt dynamics. Extensive research has explored debt dynamics, revealing a multitude of studies focused on determining the core factors behind increasing debt levels. Notable contributors to rising debt include the primary balance, interest rates, exchange rates, economic growth, the output gap, and inflation.

Hence, public debt continues to pose a persistent challenge to Pakistan's economy. The Government of Pakistan's Debt Policy Statement emphasizes the necessity of comprehensive debt management not only to manage current debt levels but also to ensure the fulfillment of future repayment obligations (Augustine & Kumar (2020) This underscores the need for alignment between macroeconomic and fiscal policies. As a result, it becomes critically important to comprehend how the matter of public debt can be addressed in both the near and distant future. Hence, this study analyze the association between macroeconomic factors and public debt in Pakistan from 2012 to 2022.

Literature review

The existing body of research concerning the drivers of public debt underscores the significance of macroeconomic, political, institutional, and structural factors. Within economic aspects, elements such as interest rates, economic expansion, inflation, debt status, budget shortfall, public spending, and the credibility of monetary policy are included (Anwar & Ahmad, 2013; Belguith & Omrane, 2017).

Public Debt - Pakistan: The Fiscal Responsibility and Debt Limitation Act of 2005 provides the following interpretation for "Total Public Debt": It encompasses the debts held by the Government, including both the Federal Government and Provincial Governments, which are covered by the consolidated fund. Additionally, it encompasses debts owed to the International Monetary Fund.

Table 1:

Public Debt of Pakistan

(Rs in billion)	Jun-13	Jun-18	Jun-19	Jun-20	Jun-21	Mar-22
Domestic Debt	9,520	16,416	20,732	23,283	26,265	28,076
External Debt	4,771	8,537	11,976	13,116	13,601	16,290
Total Public Debt	**14,292**	**24,953**	**32,708**	**36,399**	**39,866**	**44,366**
Total Debt of the Government[1]	**13,457**	**23,024**	**29,521**	**33,235**	**35,669**	**39,882**
(In percent of GDP)						
Domestic Debt	42.5	41.9	47.3	49.0	47.1	-
External Debt	21.3	21.8	27.3	27.6	24.4	-
Total Public Debt	**63.8**	**63.7**	**74.7**	**76.6**	**71.5**	**-**
Total Debt of the Government[1]	**60.1**	**58.7**	**67.4**	**69.9**	**63.9**	**-**
(Memorandum Items)						
GDP (current market price)	22,386	39,190	43,798	47,540	55,796	66,950
US Dollar, last day average exchange rates	99.1	121.5	163.1	168.2	157.3	183.5

[1] As per Fiscal Responsibility and Debt Limitation Act, 2005 amended in June 2017, "Total Debt of the Government" means the debt of the Government (including the Federal Government and the Provincial Governments) serviced out of the consolidated fund and debts owed to the International Monetary Fund (IMF) less accumulated deposits of the Federal and Provincial Governments with the banking system.
Note: PBS has changed the National Accounts base year from 2005/06 to 2015/16. The new GDP numbers are available from 2015/16

Source: Pakistan Economic Survey, 2022).

Following the tenets of Modern Monetary Theory, public debt is perceived as constituting private wealth, with the interest payments on this debt being regarded as private income within a nation (Polbin, 2020). This consequential theory hinges upon the representation of prior accumulated budget deficits, which have been incorporated into the private sector's financial assets, thereby stimulating demand for goods and services (Ozoadibe, & Obi, 2023). In the realm of business economics, this stands as a pivotal and substantial debt-centered theory, instrumental in appraising the financial

standing of a nation. Preceding researchers have also employed this theoretical framework to critically examine the interplay between fiscal appropriation and capital regeneration within a country (Mustapha, 2020), as well as to scrutinize Marx's theory of capital economy through an exploration of the political economy inherent in public debt within a nation (Carcanholo, 2017).

Public Domestic Debt and GDP Growth: To substantiate the detrimental consequences of excessive public debt on economic growth, Jibran, et al., (2016) conducted research published in the Pakistan Business Review Journal. According to their findings, both excessive public domestic and external debt exert starkly contrasting effects on a nation's sustainable growth. This is primarily due to the debt ratio's direct decelerating impact on the Gross Domestic Product (GDP) and Gross National Product (GNP), which complicates the government's efforts to stabilize the economic milieu (Shittu, Hassan, & Nawaz, 2018).

Public External Debt and GDP Growth: To comprehend the implications of external debt on a nation's overall economic landscape. Lester et al., (2023) conducted a study that posited a direct linkage between these variables in the context of developing nations. Employing the Autoregressive Distributed Lag (ADL) model and correlation analysis, their research underscores the inhibitory role of elevated external debt levels on Economic Growth (EG) within developing and underdeveloped countries. Furthermore, this elevated debt burden places significant challenges upon a nation's government to stabilize its economic milieu (Mohsen, et al., 2021).

In alignment with this line of investigation, a parallel informative study was undertaken by economists focusing on Investment Management and Financial Management-related economic studies. This research predominantly accentuated the impact of foreign debt and its repercussions on the sustainable, long-term economic growth of a nation (Shittu et al., 2018). These economists concentrated their efforts on the developing Asian states, and their findings highlighted that while a reasonable quantum of external debt may, in certain critical junctures, contribute to stabilizing a nation's economy, it tends to exert a negative influence on the stabilization of long-term developmental initiatives within a nation (Kharusi & Ada, 2018).

Similarly, parallel studies have been undertaken by other groups of researchers, albeit focusing on different developing and underdeveloped countries such as Jordan and Sri Lanka. In these contexts, scholars posit that while external debt occasionally contributes positively to balancing a nation's internal Economic Growth, domestic debt predominantly yields adverse outcomes for a nation's overall EG (Akram, 2017).

Theoretical: Mohsen et al. (2021) documented that the fundamental concept behind increasing public debt lies in the government's need to address revenue shortfalls by acquiring loans from both domestic and international sources. This borrowing is aimed at funding the country's developmental requirements. Classical economists like Smith (1776) and Mill (1845) initially opposed public debt, but David Ricardo (1820) later introduced the idea that consumers consider future needs, establishing equivalence between taxation and debt in the long term, termed Ricardian Equivalence. This concept, despite traditional economists' aversion to public debt, persisted. Keynes (1933) advocated for public debt during the Great Depression. Keynesian theory posited that if the private sector views government debt as added wealth, fiscal deficits and consequent government spending stimulate private consumption, transaction demand, interest rates, and prices. Neo-classical economists, led by Barro, refined Ricardian Equivalence, proposing the tax smoothing model.

Empirical: Barro (1979) suggested that debt is countercyclical, positively impacted by temporary increases in government spending, and negatively affected by temporary income increases. Therefore, fiscal deficits occur during periods of high government

spending or temporary productivity slowdowns. However, the endogenous growth theory, also known as "New Growth Theory" (Romer, 1986; 1990; Lucas, 1988;), did not embrace public debt with enthusiasm, in contrast to neo-classical economic growth theory. The endogenous growth theory highlighted negative growth outcomes of public debt in discrete-time overlapping generations models (Ullah et al., 2021).

Alessandria, & Choi, (2021) empirical study reveals that public debt growth in Poland is notably affected by variables tied to public sector finance and local governments, such as capital costs. Conversely, government support for various entities like businesses, microcredit organizations, and educational institutions through mechanisms like Government Loan Guarantees and Direct Government Loans (Ahiabo, G., & Amoah, A. (2019) could contribute to public debt expansion.

Aini, Aziz, & Azmi, (2017) conducted an analysis of the repercussions of financial openness, establishing that the interlinkages within international financial markets prompt governments to opt for heightened levels of public debt. Azam et al., (2021) undertook an examination of the interrelationship between external debt and export competitiveness, revealing that once external debt surpasses a specific threshold, it exhibits an adverse correlation with export expansion. In a similar vein, Zhang, and Zhang, (2018) delved into the intricate interplay between trade, debt, and finance. The study posited that the liberalization of trade constraints can exert a beneficial influence on external debt and debt service obligations. This positive effect emanates from the impetus imparted to domestic growth, productivity enhancement, and exports as a consequence of trade liberalization.

The literature on determinants of public debt reveals that macroeconomic, political, institutional, and structural variables can influence its trajectory. Economic factors like interest rates, economic growth, inflation, debt stock, budget deficits, public spending, and monetary policy credibility play roles (Ullah, 2020). Political instability and polarization can impact debt size; higher instability often leads to larger budget deficits (Toyyib et al., 2023). Institutional stability, including lack of corruption and bureaucracy quality, significantly affects public debt levels (Tariq et al., 2020). Corruption tends to correlate with higher public debt (Shah et al., 2022).

Semuel, Hatane & Nurina, (2015) employed a comparative experimental approach in their publication to analyze shifts in the sources of public debt across the European Periphery countries (Greece, Italy, Spain, Portugal, and Ireland), the European Core (Germany and France), and the G7 countries (Japan, the United Kingdom, Canada, and the USA). The study's monitoring period was bifurcated into two intervals: 2000-2007 and 2008-2015. The research outcomes demonstrated a positive relationship between primary deficit and public debt subsequent to a crisis, except for Italy and Germany.

Within a similar vein, Kudla (2018) adopted a dynamic panel data econometric methodology to delineate the explanatory variables of public debt. These variables encompassed: (a) direct influencing factors related to distinct expenditures, interest payable ratios, subsidies, and general government expenditure to GDP ratios; (b) economic social factors encompassing unemployment rates, the proportion of social security expenditures to total government expenditures, and population growth; and (c) factors influencing the economy's appeal to foreign partners, such as net foreign direct investment (FDI) inflow, FDI stock within the economy, and the openness factor (the ratio of exports plus imports to GDP). Hašková, Volf, and Machová (2019) concur with a similar perspective.

Sayari, Sari, & Hammoudeh, (2018) formulated an integrated perspective encompassing financial, social, governance, and institutional factors. Their research highlights economic growth, interest rates, life expectancy at birth, unemployment, government efficiency, and the last sovereign debt crisis as primary determinants of public debt

evolution over the past two decades. This evaluation was conducted through dynamic econometric testing on Eurozone countries.

Apart from these notable macroeconomic variables that exert substantial influence on public debt, there are several other vital factors. Studies by (Rehman and Jan, 2022; Safitri, Mutiara, & Srihastuti, 2021) investigate the effects of corruption, shadow economy, and political instability on the public debt rate. Research findings reveal that all these factors contribute positively to the elevation of public debt levels, thereby exacerbating its magnitude. Furthermore, the level of political instability and polarization in a country can also impact the extent of public debt. Presently, the phenomenon of population aging, exerting significant pressure on the growth of public expenditures and public debt, is manifested through increased health-related spending due to aging and augmented pension-related government outlays (Raghutla, 2020).

Structural factors also drive public debt growth. Population aging elevates public expenditures and debt through health care and pension costs (Creel et al., 2012). Spending and revenue structures, unemployment rates, and other indicators influence debt Proietti et al., 2021). reveal varied effects of growth, interest rates, inflation, trade, FDI, and other factors on public debt. Prabhakar and Rentala, (2019) emphasizes Poland's debt growth dependence on public finance, local government, and capital cost variables. However, empirical studies addressing public debt determinants remain limited in number.

Discussion

Previous research has predominantly examined external debt due to two key factors. Initially, external borrowing has the potential to augment a nation's resource access, as opposed to domestic borrowing which merely reallocates resources within the country. As a result, solely external debt gives rise to a "transfer" predicament as articulated by Keynes in 1929. Subsequently, since central banks in developing nations lack the ability to print the requisite foreign currency needed for repaying external debt, borrowing from external sources often entails susceptibilities that can lead to debt crises.

Nonetheless, this paper asserts that within the contemporary landscape of heightened financial integration and open capital accounts, the traditional demarcation between external and domestic debt may hold diminishing significance. To elucidate, let us initially contemplate the argument concerning resource access from external sources. This rationale would remain valid if countries possessed the capability to trace the ultimate holders of their bonded debt. However, the majority of countries lack means to identify debt holders. Consequently, they classify all debt issued on the international market as external debt and categorize debt issued on the domestic market as domestic debt. Consequently, "external" debt data may inadequately mirror the actual cross-border resource transfer.

The second rationale supporting the conventional dichotomy is notably weaker. In nations with open capital accounts, disparities in currency and maturity pose genuine vulnerabilities. Countries such as the United States, possessing substantial quantities of long-term domestic currency external debt, demonstrate comparatively lower susceptibility to financial crises compared to nations with significant stocks of foreign currency or short-term domestic debt.

The compositional structure of debt is of significance, yet a departure from the conventional external/domestic debt classification is warranted. Excessive preoccupation with this classification may divert attention from the core origins of vulnerabilities, namely disparities in currency and maturity. The dichotomy between

domestic and external debt holds merit only if it effectively represents these vulnerabilities.

The recent transition from external to domestic borrowing could inadvertently lead nations to exchange one form of vulnerability for another. For example, countries shifting from external to domestic debt could potentially trade a currency disparity for a maturity mismatch. Alternatively, such a shift might exert pressure on institutional investors and banks to absorb an excessive amount of government debt, potentially impinging on financial stability. Furthermore, while broadening the domestic government bond market could yield positive spillovers for the domestic corporate bond market, there's the concurrent risk of the public sector overshadowing private issuers. Political economy factors could also render the restructuring of domestic debt more challenging. Some highly indebted countries that have addressed external debt concerns through debt relief initiatives still grapple with elevated levels of domestic debt.

A precise assessment of borrowing costs across different currencies is imperative. In a context where numerous emerging currencies are expected to appreciate relative to the US dollar, the retrospective interest rate in domestic currency might ultimately surpass that denominated in dollars.

Conclusion

The Government's approach to achieving a sustainable reduction in its debt load encompasses the following elements: consistent pursuit of primary budget surpluses, upholding a state of low and stable inflation, fostering policies that bolster enduring and sustainable economic expansion, and adhering to an exchange rate framework grounded in economic fundamentals. Furthermore, the Government is dedicated to upholding fiscal responsibility by increasing revenue generation and optimizing expenditure. A narrower fiscal deficit projection is expected to initiate a robust downward trajectory for public debt, with concurrent endeavors to optimize the maturity structure of the debt portfolio anticipated to fortify the sustainability of public debt.

This study's core aim is to analyze the primary determinant of public debt in Pakistan using a Vector Error Correction Model approach spanning. Findings from a comprehensive review of the entire studies demonstrate that inflation and investment act to diminish public debt, while real interest rates, budget deficits, and trade openness are pivotal contributors to its escalation in Tunisia. This underscores the imperative for continuous fiscal adjustment to curb the ongoing debt accumulation trend through the reduction of the primary deficit.

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