

# THE DETERMINANTS OF THE PUBLIC DEBT SUSTAINABILITY: A REVIEW

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## ABSTRACT

Public debt is a widely used macroeconomic concept in the economy. Given the resources required in development, the need to achieve minimum standards of living, and the urgency to alleviate poverty, governments may, at times, run up expenses that exceed their income. When governments face resource constraints, they often resort to borrowing to finance their expenditure plans. Debt sustainability has become a popular topic among countries with the advanced consequences of the recent global economic recession and debt crisis. The objective of this paper was to review existing literature on determinants of public debt sustainability. Public debt sustainability is an important element of overall fiscal development. Its impact also extends to the country's overall economy, including the monetary sector. Therefore, assessing the debt sustainability of a country is very important. Thus, this study examined the key fiscal and macroeconomic variables that affect debt sustainability and identified theoretical approaches. The papers were reviewed using a thematic approach, based on the available past literature related to the theoretical and empirical analysis of public debt sustainability. In this context, a comprehensive search of the literature published in English between 2000 and 2023 was conducted. The paper was reviewed by examining over twenty-seven research studies after the screening process was completed. Quantitative, qualitative, and mixed-methods study reports were also used. Previous literature highlighted that there is a positive relationship between public debt and macroeconomic variables. Therefore, the study determined that public debt sustainability influenced primary balance, economic growth, exchange rate, and real interest rate behavior. Furthermore, improvements in the macroeconomic factors to increase revenue and minimize expenditure will also contribute to reducing the Debt-to-GDP ratio. The government should try to formulate a strategic plan to develop a mechanism and debt-sustainable policy. Thereby, a country can ensure a sustainable debt level over the medium term.

***Keywords: Debt Ratio, Economic Growth, Exchange Rate, Primary Balance, Public Debt Sustainability***

## 1. INTRODUCTION

Public debt is crucial for economic growth and development, especially for countries lacking savings and investments. However, public debt could harm the economy if not managed properly (Rahman et al., 2019). Debt sustainability is among the most used and abused concepts in recent discussions on preventing and resolving debt crises. It is an art rather than a science. Debt sustainability has become popular among policymakers in light of the recent global economic recession and debt crisis in the Euro Zone and the United States. Countries worldwide have focused on debt sustainability, which is critical to achieving fiscal sustainability. With the negative impact of the COVID-19 pandemic, achieving fiscal sustainability has been a challenge since most countries were focused on running fiscal deficits to finance higher public expenditure required to stimulate economic activity, resulting in higher indebtedness. Debt sustainability perfectly illustrates the difficulty of deriving simple operational definitions from well-defined economic concepts (Debrun et al., 2019). In other words, debt sustainability is a situation in which a borrower is expected to be able to continue servicing its debt with available resources, and it is a vexing issue. It is important and immediately obvious; however, it escapes any easy definition. This situation is familiar in economics; while price stability and full employment can both be measured with a reasonable degree of precision, sustainability cannot even be measured (Wyplosz, 2005).

Conceptually, debt sustainability is given if the debt does not accumulate at a rate considerably exceeding the government's capacity to service it (Eller and Urvová, 2012). A debt sustainability analysis assesses how a country's current debt and prospective borrowing level affect its present and future ability to meet debt service obligations. There is consensus that macroeconomic stability is critical to achieving external and public debt sustainability. Debt sustainability is a situation in which the borrower is expected to be able to continue paying its debt without any fiscal adjustment to government policies (International Monetary Fund [IMF], 2002). Regarding the standard definition of fiscal sustainability, the ratio of outstanding debt and debt servicing to gross domestic production (GDP), in a steady state, should not increase over time (World Bank and IMF, 2010). Debt sustainability refers to a country's ability to meet its current and future debt obligations without requiring major fiscal adjustments. Debt sustainability is widely interpreted as the capacity of a country to fulfill its financial responsibilities without being subject to external assistance (Ogbeifun and Shobande, 2020).

According to the IMF, debt sustainability is the need to satisfy conditions without being subject to correction or additional financing costs. Government borrowings facilitate consumption smoothing and help a country's development by generating opportunities to finance public investment. Though it appears to be a virtuous force, it could grow vicious if not managed prudently. In other words, high indebtedness makes a country more vulnerable to shocks and crises. It can also reduce the effectiveness of fiscal and monetary policies. High indebtedness can reduce the financial authority's ability to raise monetary policy interest rates due to its impact on the deficit and debt. Monitoring debt at a sustainable level is important, as a high and

rising debt level can reduce fiscal and monetary policy effectiveness. For example, expansionary fiscal policy during a slowdown in economic growth may not have the desired impact if a country already has a high outstanding public debt (Central Bank of Sri Lanka [CBSL], 2019).

For a country to maintain its government debt at a sustainable level, the future primary balances of the government, which are the difference in total government revenue and total government expenditure, excluding interest payments, should be large enough to meet all its debt obligations. If a government runs a primary deficit, it implies that government expenditure, excluding interest payments, is higher than revenue collection, and this shortfall would need to be financed through borrowings. Accordingly, the total debt stock of the government in the current year would be equal to last year's debt stock plus interest payments on that debt stock minus the primary balance of the current year (CBSL, 2016).

A primary deficit or higher interest rate will increase the current year's debt stock. If the primary balance is zero, that is, if government revenue is sufficient to meet its total expenditure, excluding interest payments, the borrowing in the current year would be necessary only to service the past debt stock, and if the government can achieve a primary surplus, those savings could be utilized to service past debt. In an open economy, the behavior of the major macroeconomic variables, such as economic growth, real interest rate, primary balance, and exchange rates, provide valuable inputs for debt sustainability. A high real interest rate will lead to higher debt and additional borrowings for budgetary financing. A high-level interest rate will lead to higher debt servicing costs, while a primary deficit will lead to additional borrowings for budgetary financing.

The Debt-to-GDP ratio is one of the major indicators of government debt sustainability. A high Debt-to-GDP ratio makes a country more vulnerable to shocks and crises in the future. If the real interest rate is higher than the growth rate, the interest burden on the existing debt stock increases, while the debt stock as a percentage of GDP would also increase (CBSL, 2019). A major task in the debt stabilization exercise is determining the right level of primary surplus, which could deliver the envisaged reduction in the debt stock over time (CBSL, 2019). Hence, the results highlight the importance of the interest rate and growth differential in determining the required level of primary balance for debt stabilization. If the interest rate and GDP growth gap widen over time, the government may need to maintain a large primary surplus. Public internal and external debt has a significant positive long-run impact on real GDP growth (Rathnasiri and Soysa, 2020). Kumarasinghe and Paranakumbura (2015) concluded that the increase in debt will create an initial impact on growth.

However, if the government can maintain a primary balance sufficient to meet the interest cost under a given growth rate, then the Debt-to-GDP ratio will stabilize at the existing level since there is no need for new borrowing. If the primary balance exceeds the established primary balance, the outstanding government debt will fall over time if the real interest rate equals the growth rate. Then, the primary balance required for debt sustainability will remain constant. If the real interest rate exceeds

the growth rate, the primary balance required for debt sustainability will increase over time (CBSL, 2019).

Different countries and economies have done studies related to this topic, and they have used different macro-economic variables for their analysis. Therefore, conclusions drawn from those studies become difficult to generalize in the contexts of different economies. The researcher needed to identify what are the most influential common macroeconomic factors for determining public debt sustainability. Therefore, this analysis has been mainly conducted to fill this gap. As a result, the purpose of this paper was to review existing literature on factors that determine public debt sustainability. At this juncture, the paper focuses on the two main points:

- (1) Theoretical approach
- (2) Empirical Review

The method of analyzing the facts is descriptive, as the paper is based on past literature on public debt sustainability. An extensive review of relevant information gathered from journal papers, research articles, and reports has been undertaken.

The paper is organized as follows. The paper reviews the theoretical basis of public debt sustainability. The next section discusses the empirical evidence that identifies the factors or determinants of public debt sustainability, and a small part provides the Sri Lankan situation. Finally, the paper summarizes the findings and conclusion.

## **2. REVIEW OF LITERATURE**

The public debt sustainability issue is widely debated in theoretical and empirical literature, and there are different perspectives on debt sustainability depending on the economic targets and the consideration of lender and borrower behavior. However, the notion of debt sustainability is quite complex, and it should generally consider both the behavior of the borrower and the lender. Debt sustainability is achieved by the interaction of the debtor country's economy and investment. The literature presents different approaches to debt sustainability.

### ***2.1 Theoretical Review***

There are three broad theoretical views on debt/deficit financing in the literature: (i) Classical view (Ricardian equivalence theorem), (ii) Keynesian view, (iii) Neo-classical view (Renjith and Shanmugam, 2020). Taxes and public debt are two instruments of financing government expenditures. Current taxes burden the present generation, while deficits or public debt are taxes on future generations. Both taxes and debt have an impact on the welfare of current and future generations. The generational welfare neutrality of these two fiscal instruments. If taxes and debt financing have a differential or non-neutral impact on current and future generations, public finance policy is uneven in a generational welfare context and, hence, unsustainable. Therefore, understanding the Ricardian Equivalence Approach (REA) to fiscal sustainability is the same as the generational accounting approach (Pradhan,

2019). In other words, no burden of public debt gets shifted to the future; hence, the welfare neutrality of taxes cuts deficit financing. According to the Ricardian approach, fiscal policy is sustainable if the choice of financing instrument for public expenditure does not have a negative impact on generational welfare.

The theoretical aspect of public debt sustainability connects with technology, Domar's approach. Domar (1944) was the first economist to discuss the issue of fiscal sustainability in the context of a growing economy. Domar's concept of fiscal sustainability is known as Domar's stability condition. He defined fiscal sustainability as stabilizing Debt-to-GDP or Deficit-to-GDP ratios (Pradhan, 2019). Continuous government borrowing results in an ever-rising public debt, which will require higher and higher taxes to service. This would eventually destroy the whole economy and result in outright debt repudiation (Sucharita, 2014). Domar (1944) demonstrated that a constant overall Deficit-to-GDP ratio ensures that the debt-to-GDP ratio and the Interest-to-GDP ratio converge to finite values. Consequently, taxes needed to service interest payments converge to a finite value as a share of GDP (Curtasu and Ruxandra, 2011). Domar's condition states that sustainable fiscal policy requires the growth rate of national output to exceed the cost of government borrowing or the growth rate of public debt if there is no fresh borrowing. However, if the cost of borrowing exceeds the growth rates of national output, any deficit can lead to a perpetually unsustainable fiscal policy. The novelty of Domar's approach is that it helps to compute the required primary surplus or deficit in stabilizing the debt-to-national output ratio at a particular level for a given growth-interest rate differential (Pradhan, 2019). According to that, Domar assumed that the indebtedness needs to concentrate on a fixed value to avoid further increasing the tax burden. Buiter (1985) assumed that the indebtedness must converge to its initial level. Sustainable policy is defined as one adequate to keeping the ratio of public sector net worth to output at its current level (Curtasu and Ruxandra, 2011).

It is important to note that such projections provide invaluable signposts to help the government respond gradually to fiscal pressure and risk. To know the sustainability based on comprehensive fiscal projections, it is important to know the concept of fiscal gap analysis (Dimitris, 2013). Fiscal gap is defined as the immediate and permanent increase in primary surplus to attain a predetermined or current level of Debt-to-GDP ratio in the future. The fiscal gap conveys through a single number the magnitude of the primary surplus necessary to avoid the unsustainable increase in the Debt-to-GDP ratio. Fiscal gap is also calculated in finite and infinite time horizons to assess sustainability (Pradhan, 2019).

Fiscal projection to know the future dynamics of fiscal policy is called a forward-looking approach. The forward-looking approach is important in assessing the fiscal sustainability of the government-funded program's specific expenditures regarding the projected Debt-to-GDP ratio. If the projected Debt-to-GDP ratio does not rise rapidly or does not exceed certain recommended levels, the program is said to be fiscally sustainable. The forward-looking approach mainly assesses the fiscal implication of proposed program-specific expenditure by the government (Pradhan, 2019).

Intergenerational approaches do not pay explicit attention to generational equity, which can add another dimension to fiscal sustainability analysis. Generational equity is defined as when all generations pay the same amount of net transfer or share of their income to the government. It can also be defined based on the ability to pay the principle of different generations to the government or that after net transfer, the utility of all generations remains the same (Pradhan, 2019). Auerbach, Kotlikoff and Leibfritz (2007) pioneered the methodology of generational accounting, which is used for fiscal policy analysis and planning. According to them, the government, at each point in time, requires that the subsequent net tax payments of the living current and the yet-to-be-born future generations be sufficient in present value terms to cover the present value of future government consumption expenditures, as well as pay off the government's net indebtedness.

The Balance Sheet Approach addresses the shortcomings of traditional debt sustainability analysis to fiscal sustainability by considering the disaggregated analysis of existing fiscal and external structures of the economy to account for the risk and vulnerability of financing deficits or rollovers of debt. Balance Sheet Approach is the perception of financial markets about the risk involved in financing a country's external financing needs or financing the government's budgetary deficit. This is because borrowing from the financial market exposes the entity's balance sheet weakness or vulnerability. The origin of the Balance Sheet Approach can be traced to the re-genesis and resolution of episodes of various types of macroeconomic crises (Pradhan, 2019). According to an IMF study, the Balance Sheet Approach is an analytical framework to identify the sources of vulnerabilities and imbalances in different macroeconomic sectors of a country. The Balance Sheet Approach assesses the risk of financial ability, repayment obligations, and financing needs of interlinked macro sectors like fiscal and external sectors and their possible transmission risk to cause a crisis. Finance ability risk implies how easily a country or a government can finance its funding needs to avoid any payment or repayment obligation crisis (Debrun, 2020).

Creditors' assessment of the soundness of government finance, irrational behavior of investors, or speculation about the government's ability or the capacity to absorb exogenous negative shocks like banking crises or other contingent liabilities are important factors determining fiscal vulnerability. Sometimes, even if government finance is in bad shape with a high level of debt and deficits persisting for a long time, it might not invoke a debt crisis if other macro variables like high levels of savings, investments, growth, and comfortable forex reserves are maintained (Hausman and Purfield, 2004). Ricardian Equivalence argues that the mode of financing government expenditure has no impact on economic outputs. The theory further argues that families will save in full anticipation of future increases in taxation when debt is used to finance economic growth (Gladys et al., 2023).

External borrowing is awash with the perceived negative relationship between foreign debt and investment, which consequently results in lower capital formation. Krugman (1988) defined this negative relationship as a "debt overhang" (Abdullahi, et al., 2016). In economies with heavy indebtedness "debt overhang" is considered a leading

cause of distortion and slowing down of economic growth (Bulow and Rogoff, 1990). Further, servicing of debts exhausts so much of the indebted country's revenue to the extent (Levy-Livermore and Chowdhury, 1998). The crowding-out effects concept explains that government debts expend a greater part of the national savings meant for investment due to an increase in demand for savings while supply remains constant; the cost of money therefore increases. Crowding-out effects occur at a point when only the government would be able to borrow due to excessive interest charges. Economic growth is thus affected by the economies' inability to generate enough capital for investment (Abdullahi et al., 2016).

## ***2.2 Empirical Review***

For a country to maintain its government debt at a sustainable level, the future primary the government's balance, which is the difference between total government revenue and total government expenditure, excluding interest payment, should be large enough to meet its debt obligations. There are several studies on public debt sustainability. Researchers have developed various models to estimate the sustainable level of debt.

There are many investigations into the sustainability of Sri Lanka's fiscal imbalance and public debt. Some researchers have used general equilibrium models. One of the studies revealed the use of the symmetric Autoregressive Distributive Lag (ARDL) technique to estimate a government intertemporal budget constraint and test for the sustainability of public debt and fiscal imbalance. The researcher investigated the situation using two models. The first model investigates the fiscal imbalance's sustainability using the intertemporal fiscal budget constraint. Model two is used to test public debt sustainability using Bohn's FRE framework. The results for symmetric ARDL estimation indicate that Sri Lanka's fiscal imbalance is consistent with the strong form sustainability condition. A nonlinear approach to estimating Sri Lanka's fiscal policy response to shocks reveals an asymmetry between positive and negative shocks. Studies find that Sri Lanka's fiscal consolidation efforts show a lack of dedication and a tendency to dawdle without serious pressure (Rathnayake, 2019).

Wyplosz (2011) examined the debt sustainability assessment procedure and why it is mission impossible. The researcher argues that sustainability is entirely forward-looking, that any practical definition is arbitrary, and that any sustainability indicator will be arbitrary and too imprecise to serve as a tool for policy prescription. In addition, the researcher examined the IMF's procedure, reviewed other debt sustainability analysis approaches, and developed a series of principles that lead to a simpler and less systematic procedure for dialogue between the official lenders and the recipient countries. The IMF approach combines simple and transparent procedures with more elaborate ones and emphasizes debt thresholds. The IMF said that all approaches to debt sustainability assessment must rely on assumptions about the future evolution of budget balances, GDP, interest rates, etc. Many researchers tried to evaluate the effects of fiscal policy on macroeconomic adjustment in developing countries (Dimitrios, 2011).

CBSL (2010) focused on estimating the impact of macroeconomic variables on the Debt-to-GDP ratio and debt sustainability. That study aimed to assess the debt sustainability in Sri Lanka. The Structural Vector Auto-Regressive (SVAR) model is estimated to determine the interrelation between the relevant macroeconomic variables that are important in assessing debt sustainability. Based on the SVAR model, medium-term projections of all the endogenous variables were made. This baseline projection covers the period from 2010 to 2015. The study concluded that in the long run, the economic growth rate is affected only by its innovations, while the interest rate is affected by economic growth shock and variance.

Begiraj et al. (2018) studied the government's reaction to the accumulation of debt and looked at whether the government should take corrective measures when the Debt- to-GDP ratio starts rising or let the debt grow, with important and well-known consequences for public debt sustainability. To achieve this goal, a panel of 21 Organization for Economic Co-operation and Development (OECD) countries from 1991 to 2015 investigated the existence of a systematic relationship between debt and primary balance service. The paper investigated the impact of public debt on the fiscal balance of sub-Saharan countries. The results indicate that fiscal governance is required to constrict fiscal deficits whenever debt levels approach a certain threshold and growth (Gladys et al., 2023).

IMF and World Bank (2009) examined the background and current context, macroeconomic variables, public debt sustainability, external debt sustainability, and staff assessment. According to the analysis, Sri Lanka has a moderate risk of external debt distress in the medium term. This risk rating assumes that external borrowing is more concessional than it has been in recent years when the government built up a significant amount of short-term commercial debt. Ogbeifun and Shobande (2020) examined the relationship between public debt and primary balance in Mexico, Indonesia, South Korea, and Turkey countries (MIST). Using a panel dataset from 1990 through 2017, explored if the fiscal policy follows a sustainable path. The study found that primary balance improves by about 0.005–0.013 for every 1 percentage point increase in central government debt after controlling for other relevant factors. In conclusion, a possible suggestion to ensure the MIST countries continue to enjoy sustainable fiscal policy in the future is to increase their fiscal bases through the reduction in fiscal expenditures and the reinforcement of tax revenue bases, which will help correct for the recurrent deficit.

Kumara and Cooray (2013) examined the relationship between public debt and GDP growth in Sri Lanka and attempted to find a threshold level of public Debt-to-GDP per capita using time-series data from 1960 to 2010. Several quantitative models using various econometric techniques were developed to investigate the true nature of the relationship between the Debt-to-GDP ratio and per-capita growth. The estimated results show that there is a nonlinear relationship between the public Debt-to-GDP ratio and GDP per capita growth in Sri Lanka.

There are various relationships between public debt and economic growth. One of the studies related to Zambia explored the causal relationship between public debt and economic growth and between public debt service and economic growth using the



annual time series data from 1970–2017. The empirical results of the causality tests reveal that there is unidirectional causality in Zambia between economic growth and public debt. Based on the findings, it can be concluded that the economic growth rate influences Zambia's level of public debt. Therefore, the paper recommends that government loans be channeled towards the expansion and diversification of the country's economy to promote long-term economic growth (Saungweme and Odhiambo, 2019).

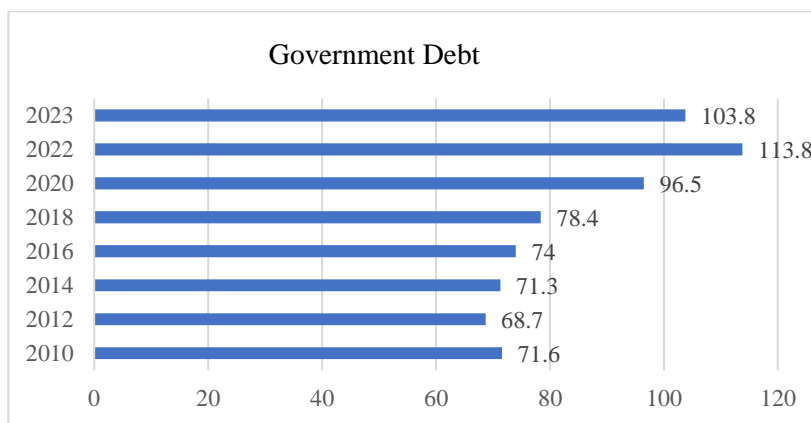
Sucharitha (2014) analyzed the trend and composition of India's debt situation at the central and state levels. India's current public debt level can be termed sustainable. Given manageable interest rate costs and economic growth, India's public debt remains sustainable. The share of India's external debt is small; nearly all the government debt is in fixed-interest rate loans. The predominance of internal debt in India's total public sector debt has been a major factor in containing India's vulnerability to development. However, researchers concluded that to the extent that internal borrowings by the public sector crowd out private sector domestic borrowings, the country's vulnerability to external developments may grow as the private sector's external debt increases. Many governments seek to strengthen their capacity to appropriately manage public debt and ensure borrowing to maintain sustainable debt levels. The United Nations recognized that technical assistance for external debt management and debt tracking can play an important role and should be strengthened (United Nations, 2016).

Kumarasinghe and Parankumbura (2015) found that the continuous increase in public debt has an impact on economic growth and development in Sri Lanka. The analysis was conducted on the data available over the past 50-year period, i.e., 1963-2012 using econometric estimation and analytical tools. The study reveals that debt has a non-linear relationship with the growth rate, and furthermore, it shows that debt would have a negative impact on the economic growth rate beyond the 61% debt to GDP ratio.

Hence, articles published in scholarly journals between 2000 - 2023 were used for this analysis. When considering the above empirical literature, the IMF approach said that all approaches to debt sustainability assessment must rely on assumptions about the future evolution of budget balances, GDP, interest rates, etc. When considering the Sri Lankan context, Rathnayake (2019) stated that Sri Lanka's fiscal consolidation efforts show a lack of dedication and a tendency to dawdle without serious pressure. According to the IMF and World Bank (2009) analysis, Sri Lanka has a moderate risk of external debt distress over the medium term. However, considering Sri Lanka's present situation, there is a high risk of the external debt crisis. Kumara and Cooray (2013) concluded that there is a nonlinear relationship between the public Debt-to-GDP ratio and GDP per capita growth in Sri Lanka. Some research indicates the debt sustainability has a significant impact on the primary balance, and some studies show that the current bailout policy of the central government may be a disincentive for states to maintain fiscal discipline and control debt. Besides, macroeconomic variables such as exchange rate, interest rate, and economic growth also highly impact public debt sustainability.

### 2.3. Public Debt in the Context of Sri Lanka

In this context, Sri Lanka is not an exception. Sri Lanka has repeatedly experienced deviations in actual fiscal operations from original fiscal targets. Over the past several decades, the government Debt-to-GDP ratio in Sri Lanka continued to remain high. It increased above 100 percent between 1988–1989 and 2001–2004.



Source: Annual Data, CBSL, Sri Lanka, 2023

**Figure 1: Government Debt**

Though the government Debt-to-GDP ratio was reported at 113.8 percent in 2022, it remains very high compared to other frontier markets and peer countries in the region. Our neighboring countries, India, reported 83.13 percent, and Vietnam was 37.09 percent in 2019 (World Bank, 2021).

Low revenue has caused the government to rely heavily on debt-creating financing instruments, contributing to the accumulation of government debt stock. Higher debt stock augments debt service payments, further contracting the fiscal space available for other mandatory or productive activities. Moreover, the larger deficits resulting from heavy debt service expenditure eventually pave the way for the country to borrow more, thus creating conditions that expose it to a “debt trap” or the “Vicious Cycle of Debt” (CBSL, 2019).

Further, in Sri Lanka's graduation to lower-middle-income status in 2010, the availability of foreign grants and concessional financing started to reduce and increase exposure to non-concessional and commercial borrowings. This has altered the composition of the debt stock, resulting in an increase in the share of external debt. This shift has necessitated the country to access international capital markets and further accumulate debt stock while increasing the foreign currency exposure risk (CBSL, 2016). Government debt stock, which stood at 16.9 percent of GDP at the end of 1950, increased steadily over time, peaking above 100 percent of GDP on a

few occasions before moderating to 68.7 percent at the end of 2012. The debt burden in Sri Lanka from 2000 to 2004 was about 102 percent of GDP on average. The trend was reversed in 2005, declining gradually to 81.4 percent of GDP by 2008. However, the debt to GDP ratio increased in 2009 due to the decline in revenue, slower growth in GDP with the impact of the global economic recession, and post-war resettlement and development activities (CBSL, 2016).

Even though 2012 debt stock was 68.7 percent of GDP, another upward trend in government debt has emerged since 2013, reaching 82.9 percent by the end of 2018 (CBSL, 2019). Data indicated that Sri Lanka's debt to gross domestic product ratio had fallen in 2023 compared to 2022 as a value change from rupee appreciation outpaced the accumulation of new debt from deficit financing.

Sri Lanka is facing an unprecedented macroeconomic crisis. In 2022, real GDP contracted by 7.8 percent, the poverty rate doubled from 13.1 in 2021 to 25.0 percent, official reserves declined from US\$7.6 billion in 2019 to less than US\$400 million in 2022, and the Sri Lankan Rupee (LKR) depreciated by approximately 81 percent against the US dollar. Central government debt was 27,160 billion rupees, including 36.0 billion dollars of external debt. The central bank had borrowed 5.065 billion US dollars; however, about 1.5 billion dollars from a Chinese swap was intact, reducing net debt. Sri Lanka also defaulted in 2022 after two years of money printed to cut policy rates after accumulating foreign debt through two earlier currency crises, which reduced growth and widened deficits (World Bank, 2022). Amid depleted reserves, Sri Lanka suspended external debt service in April 2022, pending debt restructuring. In March 2023, the IMF Executive Board approved a 48-month Extended Fund Facility (EFF) of approximately US\$3 billion to support the government's reform program.

Sri Lanka's rupee, which is subject to an ad hoc, inconsistent pegging arrangement called flexible exchange rate, is vulnerable to aggressive open market operations and liquidity from budget support loans surrendered to the central bank as soon as credit recovers, analysts have warned.

In August 2022, a Debt Management Performance Assessment (DeMPA) was conducted to update the most recent 2015 debt management practices assessment and identify areas for improvement (supported by World Bank technical assistance funded by the Debt Management Facility - DMF in 2018 and 2019). While there has been some progress, such as developing Sri Lanka's first debt management strategy and debt management auditing, challenges in many other areas remain. The most critical areas identified for improvement in the 2022 assessment are the fragmented debt management institutional arrangement and scattered debt-related legal framework.

### **3. METHODOLOGY**

The paper analyzed past theoretical and empirical literature to provide a more comprehensive understanding of public debt sustainability. The research followed thematic approach. In this context, a comprehensive search of the literature published in English between 2000 and 2023 was conducted. Although many studies were

found, the reliability of such quality and content is low, and 27 studies were identified after completing the screening process. Firstly, studies that addressed determinants of public debt sustainability as a critical theme illustrate what factors affected public debt sustainability. Its importance to the economy was another prominent theme. Theoretical and empirical studies were identified as a third theme, indicating the theoretical base and previous studies related to the topic. The public debt level in the Sri Lankan context and its impact on the economy were identified as a fourth theme. This theme encompassed both positive and negative influences. The facts reported here are based on research and reports identified through academic journals and abstracting databases, internet searches, and the websites of key organizations, particularly the Central Bank of Sri Lanka, the World Bank, and the United Nations. The researcher used the selection criteria to search for articles. Here, quantitative, qualitative, and mixed-methods study reports were used. Collected literature information was analyzed under approaches related to debt sustainability and empirical studies to understand the issue from an academic and practitioner perspective.

#### **4. RESULTS AND DISCUSSIONS**

The article has reviewed the available literature on fiscal sustainability adopted in different contexts, such as developed and developing countries and OECD countries, and further the study focused on what macroeconomic variables impact the Debt-to-GDP ratio and debt sustainability. When considering the results of the theoretical review, it is quite difficult to establish the superiority of one approach over the others. For instance, Domar's stability is a theoretically superior concept compared to others. Similarly, the forward-looking approach is better at judging a country's fiscal vulnerability, but its results and implications suffer from a high degree of sensitivity to the assumptions about the future values of the variables and a low degree of precision about the forecast results.

Considering various aspects of different approaches to fiscal sustainability, the balance sheet approach for vulnerability is important because it is theoretically less demanding, empirically simple, and more appealing for practical implications. That is why credit ratings and other multilateral agencies like the IMF have adopted these approaches in the recent past. Since generational equity is a normative requirement, the inter-generational equity and Ricardian Equivalence approaches would be best for assessing fiscal sustainability. Finally, many theoretical papers have claimed that debt sustainability is not only explained by the threshold in the level of Debt-to-GDP ratio but also by the ability of a country to fulfill its debt obligation.

When focusing on the determinants of public debt sustainability, many researchers have revealed that there is a positive relationship between public debt and economic growth. Also, many studies have identified that the economic growth rate, real interest rate, the exchange rate, and primary account balance are highly impacted for the country's debt sustainability. The larger deficits resulting from heavy debt service expenditure eventually pave the way for the country to borrow more, thus creating conditions that expose it to a "debt trap" or the "Vicious Cycle of Debt".

**Table 01: Summary of Reviewed Papers**

<b>Theme</b>	<b>Author/s</b>
Definition of debt sustainability	Debrun et al. (2019), Eller and Urvová (2012), IMF (2002), Ogbeifun and Shobande (2020)
Determinants of public debt sustainability and Impact on the economy	CBSL (2019), Curtaşu and Ruxandra (2011), Pradhan (2019), Rahman et al. (2019), Dimitris (2013), Hausman and Purfield (2004), Gladys et al. (2023), Beqiraj et al. (2018), Saungweme and Odhiambo (2019), Sucharitha (2014), United Nations (2016)
Theoretical base	Renjith and Shanmugam (2020), Pradhan (2019), Sucharita (2014)
Public debt level in the Sri Lankan context	Rathnayake (2019), Kumara and Cooray (2013), CBSL (2019), World Bank (2021)

Source: Author's compilation

## 5. CONCLUSION

This study examines the determinants of public debt sustainability. The research followed thematic approach. In this context, the study examined comprehensive literature published between 2000 and 2023. Empirical studies emphasized that there are several methodologies developed for determining debt sustainability. Many empirical studies have examined the exchange rate, future evolution of budget balances, primary balance, economic growth, and interest rate as determinants of debt sustainability. Especially OECD countries, south Asian countries, including Sri Lanka, and international organizations like the IMF and World Bank have clearly emphasized that the above macro-economic variables have a high impact on a country's debt sustainability. As a result, studies revealed that debt sustainability is dependent on macroeconomic variables such as the real interest rate, the primary balance, the real exchange rate, and the country's growth rate. Even though results indicated that a high real interest rate implies an increase in debt servicing costs, and a negative primary balance implies borrowing for budgetary financing other than interest payments. In an open economy, the exchange rate is also a key variable that affects the level of public debt, since the depreciation of the domestic currency against any foreign currency increases the debt stock denominated in the domestic currency.

The basic requirement of debt sustainability is that a borrower should be able to repay the debt built up in the past. The study concluded that it is important to understand

that determining and assessing public debt sustainability is quite a difficult process, and that there is no simple way to draw an exact conclusion.

Stabilizing the government Debt-to-GDP ratio and subsequently putting it on a declining path requires a sufficiently large primary surplus to be generated over the medium term if the interest rate – growth differential is positive. Also, improved investor confidence and lower inflationary expectations are necessary to maintain the interest rate at the required level. Furthermore, increasing foreign exchange inflows helps to maintain a stable exchange rate. The right level of primary balance needs to consider a more realistic level of revenue mobilization and a prudent level of expenditure management aimed at the gradual level of government debt. In addition to the gradual increase in the path of envisaged economic growth, maintaining the interest rates and exchange at relatively stable levels would be essential to securing a sufficient primary surplus. Identifying the determinants of public debt sustainability aids policy formulation and implementation. Furthermore, improvements in the macro-economic factors to increase revenue and minimize expenditure will also contribute to reducing the Debt-to-GDP ratio. The government should try to formulate a strategic plan to develop a mechanism and debt-sustainable policy. Thereby, a country can ensure a sustainable debt level over the medium term.

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