The Main Economic Impact of Fiscal Consolidation

- Sri Lanka Case Study

Registration number: 2204157

Supervisor: Yikai Wang

Moudle: EC831 Economic Project

University of Essex

Word count: 4983

Date: 26/04/2023

Contents

Abstract: The declaration of bankruptcy by the Prime Minister of Sri Lanka in 2022 represents the severe economic crisis that the country is experiencing. Despite the government's efforts to revive the economy, including implementing fiscal consolidation measures, the situation remains dire. This paper will examine the economic crisis in Sri Lanka and analyse the country's fiscal consolidation based on past data and policies, and the economic impact that fiscal consolidation could cause using a VAR model as support.

1.0 Introduction

Fiscal consolidation is a popular economic policy that often aims to address the country's deficit and debt problems (Molnár, 2013). This paper focuses on Sri Lanka's severe fiscal crisis in 2022 to examine the main economic impacts of fiscal consolidation on critical indicators such as GDP, foreign reserves, unemployment and inflation. The country has faced a range of challenges over the past years, from political instability to natural disasters and external shocks. These challenges have contributed to the current economic crisis. The government had also implemented various fiscal policies over the course of a long period of economic development, including years of fiscal consolidation.

The purpose of this paper is to analyse the main causes of the economic crisis in Sri Lanka and to assess the impact of fiscal consolidation on the country's economic development. The paper will also use quantitative and qualitative analysis to explore the impact of fiscal consolidation on key economic indicators and the long-term history of fiscal consolidation measures in Sri Lanka. Additionally, a simple VAR model evaluation of the data will be employed to underpin the theoretical analysis and explore the linkages.

Ultimately, based on the current situation, some recommendations for assisting the

Government of Sri Lanka to cope with the present economic crisis and to promote sustainable economic development will be presented. The results of this study are expected to interest policy makers, economists and anyone concerned with economic and fiscal policy in Sri Lanka.

2.0 Literature Review

2.1 Causes of Fiscal Consolidation

Public debt: Vinayagathasan and Sri Ranjith (2021) presented a trend graph of the country's debt as a percentage of GDP from 1990 to 2018 based on CBSL data. Jiang (2022) also used the latest World Bank data to show the country's external debt trend from 2000 to 2020. While Jiang's (2022) study is more current in data selection, they all found the country's debt problem serious. They all referred to the increased public debt burden due to inflation. Vinayagathasan and Sri Ranjith (2021), on the other hand, note that countries such as Sri Lanka have yet to examine the determinants of public debt thoroughly. However, they cite a negative correlation between economic growth and public debt (Lopes de Veiga et al., 2016). Moreover, Jain (2019) proposed that the relationship between contractionary fiscal consolidation and economic growth is weak, and that fiscal consolidation may lead to greater economic instability and slow development. Too much emphasis has been on fiscal consolidation while neglecting its adverse effects, suggesting that Sri Lanka should implement a long-term sustainable debt management model rather than fiscal consolidation (Jain, 2019).

Budget deficit: Jiang (2022) reported on the trend in Sri Lanka's trade balance as a percentage of GDP between 2000 and 2020, citing data from Macrotrends. Net (2022). Studies show that the epidemic has hampered production and exports, that fiscal constraints in developed countries have discouraged the flow of their currencies to Sri Lanka, resulting in more significant depreciation of the local currency; the Sri Lankan

Rupee also has been devalued by the Fed's interest rate hike, with capital outflows and higher deficit pressures from over-reliance on the US dollar all facilitated this economic crisis (Jiang, 2022). Sriyalatha and Torii (2019) applied the ARDL bounds test to examine the relationship between fiscal policy variables and economic growth from 1990 to 2016. Different from Jiang (2022), Sriyalatha and Torii (2019) showed that government expenditure and investment in Sri Lanka positively impacted the country's economic growth in the long run. This result was compatible with the Keynesian view. However, Sriyalatha and Torii (2019) focused on the last three decades of data regarding the potential impact on economic growth. This may lack the data of implications for the country's economy of the new turbulent changes after 2019, as articulated by Jiang (2022).

Tax policy: Tax reduction policies were the main reason for the decrease in tax revenue. The decision to eliminate taxes including PAYE, NBT, Withholding tax, Capital Gain tax, Bank Debit tax, and to lower VAT tax rate from 15% to 8% was authorised in November 2019 by president Gotabaya Rajapaksa (Gunaratna, 2019). In addition, tax avoidance is a severe problem in Sri Lanka. According to a BBC News report in Shukla (2022), Mr Sabry said that the current VAT level in this country is unsustainable, and a solution to compensate for the imbalance by increasing taxes must be found. Jian (2019) employed the Panel OLS framework model to analyse the relationship between fiscal consolidation and economic growth in Sri Lanka from 1991 to 2016 (data from World Bank, 2017). He concluded that tax revenue was strongly negatively correlated with public debt as a ratio of GDP. Nevertheless, He suggested it would be better to concentrate on public debt than to adjust taxes. Vinayagathasan and Sri Ranjith (2021) analysis to arrive at similar results where real GDP, direct and indirect taxes are negatively related to debt. However, in contrast to Jain's argument, they claim that Sri Lanka is more deserving of higher taxes based on tax reform.

2.2 The Impacts of Fiscal Consolidation

Impact on GDP: Sriyalatha and Torii (2019) measured the long-run relationship and causality between the two components, fiscal policy variables and economic growth. The ADF and PP models were majorly used, as well as the ARDL model as assists. This study showed that government revenue and investment appeared to be positively and significantly related to economic growth (Sriyalatha and Torii, 2019). They also concluded that there is a bidirectional causality and mutual influence between government expenditure and economic growth when comparing Sri Lanka's data from 1990 to 2016 using the Granger causality test model (Toda and Yamamoto, 1995). Vinayagathasan and Sri Ranjith (2021) employed similar methods to the formers - the ADF and PP test methods and supported by the Johansen model to analyse data for Sri Lanka between 1990 and 2019. Their theory found a negative correlation between GDP, tax revenue and public debt. As for Jain (2019), his study demonstrated that fiscal consolidation only worked initially. His research also concluded that there was little or even a negative relationship between implementing fiscal austerity policy and economic growth (GDP).

Impact on inflation variance: High public debt is positively correlated with declining economic growth and rising inflation. It means that high public debt and inflation mutually exacerbate each other (Lopes de Veiga et al., 2016). Adrian and Gaspar (2022) cited Erceg and Linde (2013) and data calculated by IMF staff on the proportion of tight fiscal policy that facilitates lower inflation and reduces public debt. Consolidation by the country through fiscal austerity can curb demand, fall exchange rates, and appreciate currencies. It helps to reduce the cost of servicing public debt and curb inflation (Adrian and Gaspar, 2022). However, when Jain (2019) examines the relationship between the adoption of fiscal consolidation policies to reduce debt and deficit and the achievement of low inflation and GDP growth in Sri Lanka, he finds data showing that there was a sharp reduction in the relationship between inflation and GDP growth rates, from 1990 to 2011. Therefore the previous fiscal consolidation had a little or negative effect in slowing down inflation (Jain, 2019).

The difference between Jain (2019) and Adrian and Gaspar (2022) may be because Sri Lanka, studied by Jain (2019), failed to adopt fiscal austerity policies, and the public debt did not decline but even grew.

Impact on tax revenue: Previous studies draw a paucity of findings on the impact of fiscal consolidation on tax revenues. Most of the literature regarding the impact of fiscal consolidation is limited to the effect on GDP growth, yet the performance in tax revenue is rarely mentioned. Vinayagathasan and Sri Ranjith (2021) mentioned and concurred with Jain's (2019) conclusion that fiscal consolidation in Sri Lanka was only initially effective in controlling public debt and fiscal deficits between 1991 and 2016. Nevertheless, while per capita income has increased over the last decade, tax revenues have declined. Although the country has deliberately issued a few tax reform policy proposals, such as the Taxation Act 2017, which includes references to the removal of excessive tax incentives; broadening the tax base; and combating tax evasion (IMF, 2018). However, these results have yet to materialise (Vinayagathasan and Sri Ranjith, 2021)

3.0 Background and Causes

3.1 Development of Economy

Sri Lanka is a predominantly agricultural, low-income developing country whose longstanding history of failure to thrive economically is the subject of intense debate. According to Athukorala et al. (2017), many scholars believe that the primary reason for this is that the Sri Lankan government has overspent on health, nutrition, and education, causing a decline in other resource-based investments. However, it is also argued that successive governments' abandonment of outward-looking market development in favour of a state-led inward policy development strategy is also the major factor behind the slow economic growth (Athukorala et al., 2017).

Over the past few decades, the country has experienced religious and ethnic civil war, political unrest, and natural disasters until the end of the war in 2009, which have had a massive impact on the country's social development and hindered economic growth (Sebastian, 2022). Sri Lanka has been in long-term reforms to recover its growth, but these were only initially effective and ultimately unsuccessful (Perumal, 2021). According to the IMF, its massive debt pile even exceeds the gross domestic product (GDP) by 2021, at 103% of GDP (IMF, 2021). Due to its underdeveloped industrial level, the country's economy mainly relies on agriculture and tourism. However, the global recession and the recent terrorist attacks in the country have also set back much of its trade and tourism sector (Sebastian, 2022).

3.2 The Main Causes of Bankruptcy (PESTEL)

3.2.1 Political Reasons

Corrupt Political Environment

This economic crisis in Sri Lanka has been blamed on corruption, mismanagement of funds, and inappropriate political motives, especially by the elite Rajapaksa political family. Former President Gotabaya Rajapaksa was elected in 2019 during the financial crisis (Reuters, 2019). Under his tenure, infrastructure projects were tainted with corruption. While the Rajapaksa family was accused of orchestrating a political crisis that undermined the economic reforms needed to stabilize the economy (Johnson and Endresen, 2022). In addition, the efficiency and transparency of government institutions have been questioned. These issues have negatively impacted Sri Lanka's economic and social stability and even led to a lack of confidence in the country by foreign investors and international institutions.

Volatile External Situation

The recent COVID-19 pandemic and the Russo-Ukrainian conflict have also exacerbated the crisis, leading to a decline in tourism, inefficient stock markets, currency devaluation, and other unfavorable macroeconomic indicators. The conflict affected the tea exports and tourism sectors heavily dependent on Russia and Ukraine, and the war had also lead to global energy and food crises, further impacting the economy (Pineda, 2022). Jiang (2022) states that "the epidemic's impact on the tourism and service sectors hindered GDP development and reduced currency inflows leading to the devaluation of the local currency. "According to his description, these also harmed agriculture, reducing production levels. (Jiang, 2022).

3.2.2 Economic Reasons

Serious Debt Problems

Sri Lanka has been plagued with a significant debt burden, which has been attributed to several factors. Scholars, including Vinayagathasan and Sri Ranjith (2021), have cited the increased public debt burden due to inflation as one of the major causes. The country's reliance on imports, lack of technology, and massive domestic investments by former President Mahinda Rajapaksa have also contributed to high domestic and external debt (Pineda, 2022).

Figure.1 Sri Lanka Total Gross External Debt

Source from: TRADING ECONOMICS, Central Bank of Sri Lanka (2022)

Beginning in 2020, the country's foreign exchange reserves reached extremely poor standards, prompting the government to seek assistance from the International Monetary Fund (IMF) and other countries to stabilize its reserves (Ondaatjie, 2021). Nevertheless, the country's continued adverse political environment, as well as the continuous devaluation of the local currency, high interest rates and unfavourable debt structure, make it challenging to service its debt (Jiang, 2022).

Figure.2 Sri Lanka Foreign Exchange Reserves

Source from: TRADING ECONOMICS, Central Bank of Sri Lanka (2023)

3.2.3 Social Reasons

People's Livelihood Issues

Sri Lanka is facing a multitude of social issues that are negatively impacting the livelihoods of its residents. A chronic lack of education and healthcare resources, poor agricultural production, and soaring food prices have resulted in worsening food insecurity (FAO, 2022). As a result, residents were heavily impacted by these problems, severely affecting their quality of life. Furthermore, Sri Lanka's economic growth rate has been low or negative in recent years (World Bank, 2022). It has led to widespread poverty and unemployment, especially in rural areas. These economic struggles have increased violent resistance, as citizens have launched protests and rebellions against the government.

Figure.3 Sri Lanka Food Inflation

Source from: TRADING ECONOMICS, Department of Census and STATISTICS - Sri Lanka (2023a)

Violent Resistance Activities

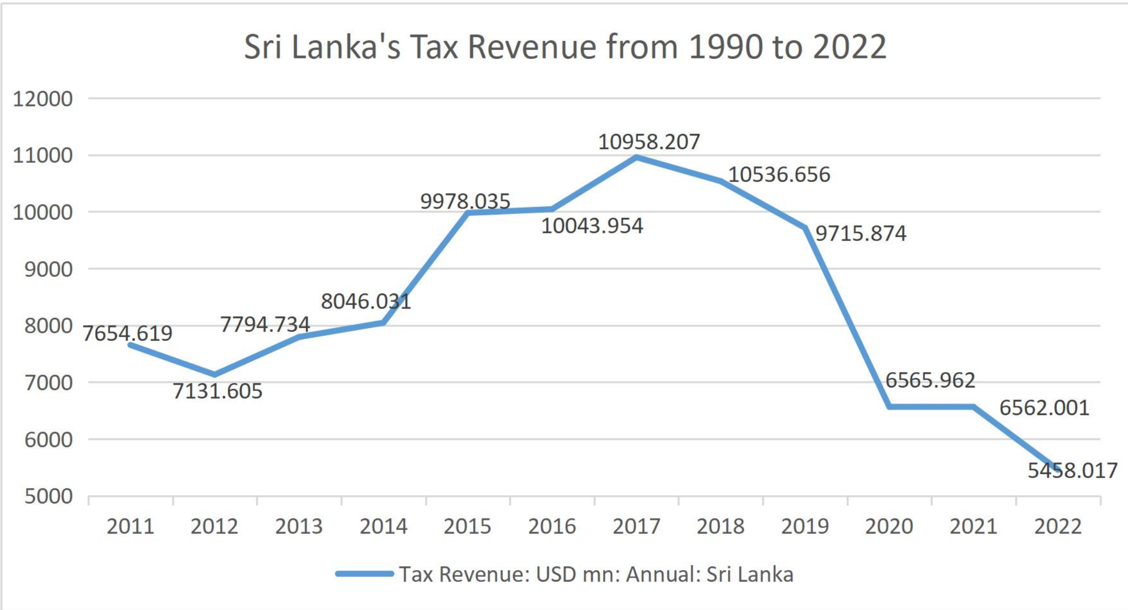
One of the main reasons for the protests is dissatisfaction with the corruption and management of the government and administrators (Adler, 2022). The constant domestic and international unrest and the worsening economic crisis have fueled the citizens' frustration, causing violent demonstrations. Ultimately, the culmination of these protests resulted in the resignation of President Gotabaya Rajapaksa and his government officials in July 2022 (Jayasinghe et al., 2022). The country still faces significant challenges in addressing these social issues and rebuilding its economy better to support the needs and well-being of its citizens.

3.2.4 Legal Reasons

Unconscionable Tax Policies

Pineda (2022), in his article, highlights the tax policies implemented during the presidency of Gotabaya Rajapaksa, which included significant tax cuts and the abolition of several taxes. These policies led to a steady decline in the country's tax revenues, further exacerbating its debt crisis. The government resorted to printing money to cover its spending, resulting in a rise in inflation rates. The excess money supply eroded the value of the local currency. It caused an increase in the prices of goods and services, a phenomenon observed in other countries that have experienced hyperinflation due to overprinting. The unconscionable tax policies implemented by the government have had far-reaching consequences, which will likely have long-term effects on the Sri Lankan economy.

Figure.4 Tax Revenue of Sri Lanka



Source from: CEIC Data (2023)

4.0 Overview of Fiscal Consolidation

4.1 Expected Effects of Fiscal Consolidation

Fiscal policy consolidation can be achieved through expenditure-based or revenue-based approaches. In examining the effects of fiscal consolidation, economists have generally found that expenditure-based policies are more effective than tax increases in reducing deficits. Alesina and Ardagna (2009) analyzed fiscal consolidation policies in long-standing OECD countries during the 2009 financial crisis. They concluded that adjustments based on spending cuts, without tax increases, were more successful in reducing deficits and debt-to-GDP ratios. Similarly, Sutherland, Hoeller, and Merola (2012) argue that fiscal consolidation measures, supported by structural reforms, could promote fiscal sustainability while minimizing the costs of long-term growth, such as unsustainable pension schemes.

However, Blanchard and Leigh (2013) found in their study of fiscal consolidation in developed countries that "the relationship between fiscal consolidation and low growth is both statistically and economically significant." When governments plan to reduce their budget deficits through fiscal consolidation measures, they often experience lower economic growth than expected (Blanchard and Leigh, 2013). Therefore, policymakers need to carefully consider the impact of fiscal policy on economic growth, considering prevailing economic conditions and needs.

4.3 Aims and Measures of Sri Lanka

To achieve fiscal sustainability and stabilize economic growth, Sri Lanka had to adopt fiscal consolidation measures to address the national fiscal deficit and debt. Its objectives include slashing government expenditure, raising tax revenues, improving the debt structure, and advancing structural reforms to promote economic growth and employment opportunities. In addition, fiscal consolidation also aimed to improve the Government's fiscal management capacity, transparency, and regulation to manage public finances better and optimize resource allocation (Jain, 2019).

Assistance from International Organisations and Countries

To alleviate the economic pressure on Sri Lanka, the country has sought assistance from various international organizations and countries, such as the IMF, World Bank, Asian Development Bank, and China. The IMF has approved a 48-month New Extended Fund Facility (EFF) arrangement worth 228.6 million SDRs to help restore debt sustainability in Sri Lanka (IMF, 2023a). Particularly, China has provided numerous loans and various types of assistance to Sri Lanka and has assisted in the economic and infrastructural development. (Embassy of the People's Republic of China in Sri Lanka, 2023).

Fiscal Management Reform Measures

Sri Lanka recognizes that fiscal management reform is essential for enhancing fiscal efficiency and sustainability. Therefore, several fiscal management reform measures have been implemented. According to the Asian Development Bank (2018), the Sri Lankan government has improved budget management and monitoring mechanisms, such as adopting a performance budgeting system to ensure efficient resource allocation and rationalization. Regarding financial discipline and transparency, the Government has strengthened audit and oversight mechanisms and established a nationwide financial information system to monitor and report expenditures. Moreover, the Government has focused on improving the management and regulation of public sector assets.

Overall, the Sri Lankan government's reform initiatives in public financial management are aimed at improving fiscal effectiveness, transparency, and accountability.

Measures to Reduce Government Expenditure

Sri Lanka has been working on reducing its budget deficit and lowering its government debt to GDP ratio by implementing measures to cut state expenditure. Sri Lanka's cabinet has said the country will cut its recurrent budget expenditure by 6 percent in 2023 (Reuters, 2023). One of the critical steps in this regard has been reducing non-essential spending. For instance, Sri Lanka has limited imports of 367 non-essential goods to save foreign exchange reserves (Jayasinghe, 2022). The government has also implemented measures to reduce allowances and bonuses for officials while deferring salaries to manage public finances (Reuters, 2023).

In addition, under the Medium Term Macro Fiscal Framework (2020) developed by Sri Lanka, the country is expected to reduce government spending by more than US$400 million over five years. The government debt-to-GDP ratio is also expected to be reduced to 75.5% by 2025.

Figure 5. MEDIUM TERM MACRO FISCAL FRAMEWORK FROM 2020 TO 2025

Indicator	Provision	Est.	Est.	Projections			
	2019	2020	2021	2022	2023	2024	2025
Total Expenditure	22.2	17.5	20	18.4	18	17.9	18.3
Recurrent Expenditure	16.1	14.9	14	13.5	12.9	12.5	12.3
Public Invetments	6.2	2.6	6.1	5	5.2	5.5	6
Budget Deficit	-9.6	-7.9	-8.9	-6.4	-5.4	-4.6	-4
Central Government Debt (% of GDP)	86.8	95.1	96.3	92.4	88.1	82.3	75.5

Sources : Department of Fiscal Policy and Department of National Budget * projections are based on information as of end September, 2020

Tax Revenue Boosting Measures

Sri Lanka has also tried to raise taxes during fiscal consolidation. Following the Ministry of Finance's Medium Term Strategy (2020), Sri Lanka is targeting a rise in revenue from 9.5% of GDP in 2021 to 14.2% in 2025, utilizing a comprehensive approach involving tax policy and tax administration reforms. This approach encompasses simplifying the tax system, for example, by removing the NBT rate and reducing the number of taxes, as well as boosting revenue management capabilities through risk-based audits and the establishment of large taxpayer units. Sri Lanka

Customs has also adopted a single window system to improve efficiency and is gradually introducing the Integrated Funds Management Information System to various entities. These reforms are anticipated to enhance tax buoyancy in the medium term (Ministry of Finance, Economic Stabilization & National Policies, 2020).

Figure 6. MEDIUM TERM MACRO FISCAL FRAMEWORK FROM 2020 TO 2025

Indicator	Provision	Est.	Est.	Projections			
	2019	2020	2021	2022	2023	2024	2025
Total Revenue and Grants	12.6	9.5	11.1	12.1	12.5	13.3	14.2
Total Revenue	12.6	9.5	11.1	12	12.5	13.3	14.2
Tax Revenue	11.6	8.5	9.8	10.5	10.9	11.6	12.5

Sources : Department of Fiscal Policy and Department of National Budget * projections are based on information as of end September, 2020

5.0 Impact of Fiscal Consolidation in Sri Lanka

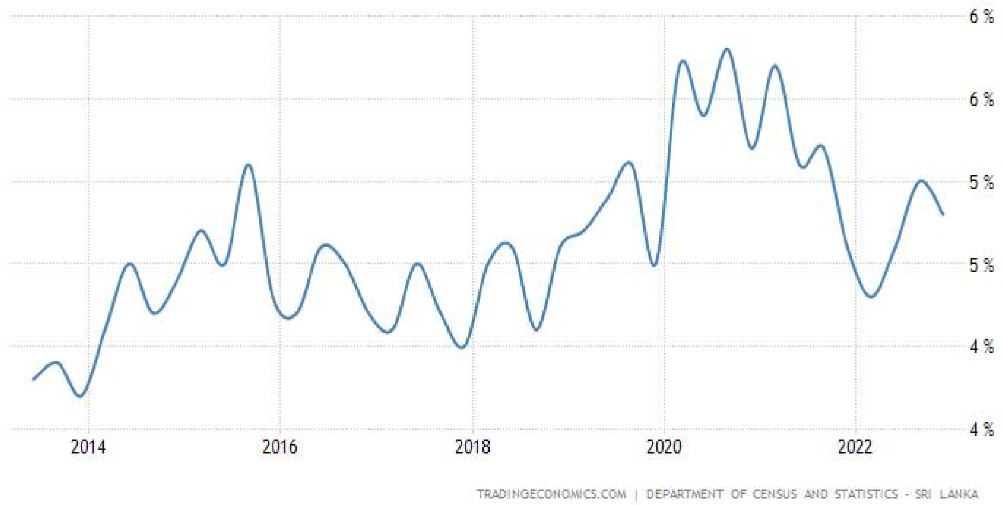
From 2005 to 2015, Sri Lanka had adopted a prolonged fiscal consolidation (Jain, 2019). In the face of the crisis, Sri Lanka prepared to adopt specific fiscal consolidation policies, which can be divided into expenditure-based and revenue-based fiscal types. "Fiscal policies can significantly affect the country's long-term economic growth" (Tanzi and Zee, 1997). Based on the Sri Lankan situation, the effects of fiscal consolidation on the economy have received various academic comments. Some argue that fiscal consolidation boosts the economy, while others claim that fiscal consolidation brings more negative effects than benefits.

5.1 Expenditure-based Fiscal Consolidation

5.1.1 Internal Influences

Fiscal consolidation measures in Sri Lanka have impacted the country's unemployment rate. The government has taken steps to reduce spending and increase revenue through layoffs, hiring restrictions, and wage freezes (Gunadasa, 2021). These actions may negatively affect certain industries and the labor market, leading to increased unemployment, further aggravated by the COVID-19 pandemic in 2020, affecting sectors such as tourism and garment manufacturing.

Figure 7. Unemployment Rate in Sri Lanka



Source from: TRADING ECONOMICS, Department of Census and STATISTICS - Sri Lanka (2019c)

Meanwhile, austerity policies can have a dampening effect on aggregate demand and economic growth. For instance, reducing government spending may decrease government investment and expenditure and reduce transactions and spending between government and private businesses. It might result in less support for private businesses and less influence on the market, thus affecting both demand and economic growth. As Jain (2019) notes, fiscal consolidation may work only in the short term, and prolonged austerity measures may have adverse effects on the economy. With Sri Lanka's fluctuating and declining GDP rates in recent years, such austerity measures may only be appropriate in the short term, especially when under pressure from mounting debts.

Figure 8. GDP growth (annual %) - Sri Lanka

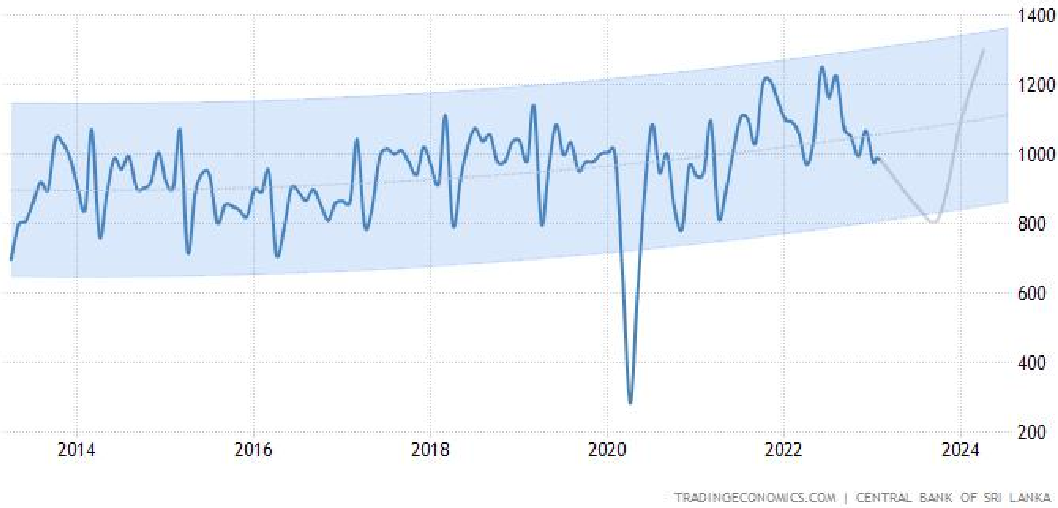
Source from: World Bank national accounts data, and OECD National Accounts data files.

5.1.2 External Influences

Fiscal consolidation in Sri Lanka has affected the domestic economy, its international trade, and external borrowing. The COVID-19 pandemic and the subsequent fiscal policies temporarily impacted the country's exports, leading to a sharp decline in 2020. However, when adopting fiscal austerity measures, the government usually implements policies to boost export earnings. Sri Lanka's export strategy for 2018-2022 aims to enhance economic growth and employment by strengthening businesses' ability to export and compete in foreign markets. The strategy involves reducing tariffs, simplifying administrative procedures, and promoting the emergence of new export industries and services, as mentioned by the Sri Lanka Export Development Board (2018).

Additionally, Sri Lanka has implemented import restriction policies to reduce its over-dependence on imports, balance import and export trade, and thus lower the trade deficit rate. As per the graph, the country's export rate is expected to expand effectively, and the trade deficit will likely balance out gradually.

Figure 9. Sri Lanka Balance of Trade



Source from: TRADING ECONOMICS (2019a)

Figure 10. Sri Lanka Exports

Source from: TRADING ECONOMICS (2019b)

5.2 Revenue-based Fiscal Consolidation

5.2.1 Internal Influences

Revenue-based fiscal consolidation has several advantages in the short term. First, it could entail higher national tax revenues, providing the government with more funds to invest in public services. In addition, tax revenues could support vulnerable groups through social benefits and transfers, thereby reducing poverty and inequality (Ciminelli et al., 2019).

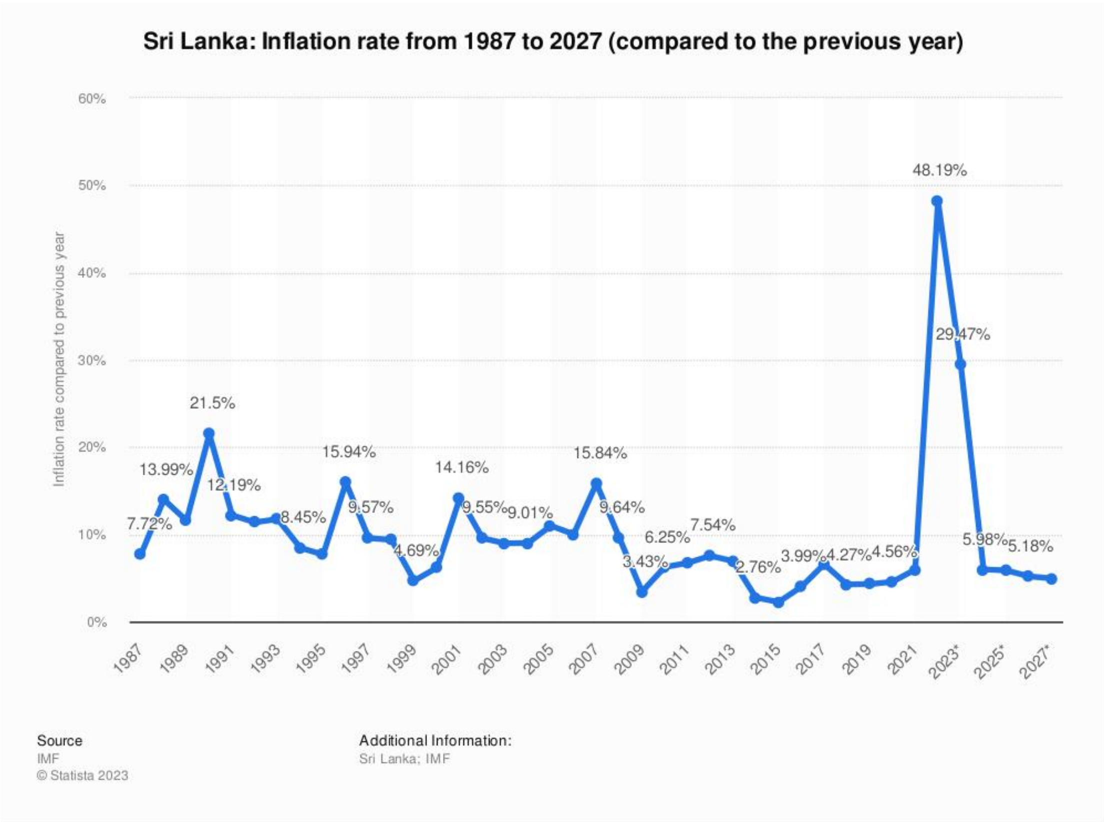
Figure 11. Customs and other Import Duties (current LCU) - Sri Lanka

Source from: International Monetary Fund, Government Finance Statistics Yearbook and data files.

However, Sutherland's (1997) study includes the implementation of a tax-based fiscal policy that causes inflation. In Sri Lanka, when the government increases fiscal revenue by increasing taxes, for example, high taxes on imported goods. It might contribute to higher inflation, which affects price increases negatively on consumers. Sutherland (1997) further explores the impact of increased taxes on consumption. He stated that higher taxes may cause a decline in consumer spending, thereby undermining aggregate social demand. In addition, tax increases may also push up the prices of goods, further increasing consumer purchasing pressure.

The graph below shows the IMF statistics and projections for inflation data for Sri Lanka, as published by O'Neill (2023). Inflation remained high in Sri Lanka until the end of the civil war in 2009, at a time of prolonged fiscal consolidation. Inflation in the country has soared in recent years, particularly during the economic crisis of 2022. While tax-based fiscal consolidation may bring short-term financial gains, there may be negative economic and social impacts if the government does not take practical actions to balance the fiscal balance and stabilize the economy.

Figure 12. Sri Lanka: Inflation rate from 1987 to 2027



Source from IMF © Statista 2023

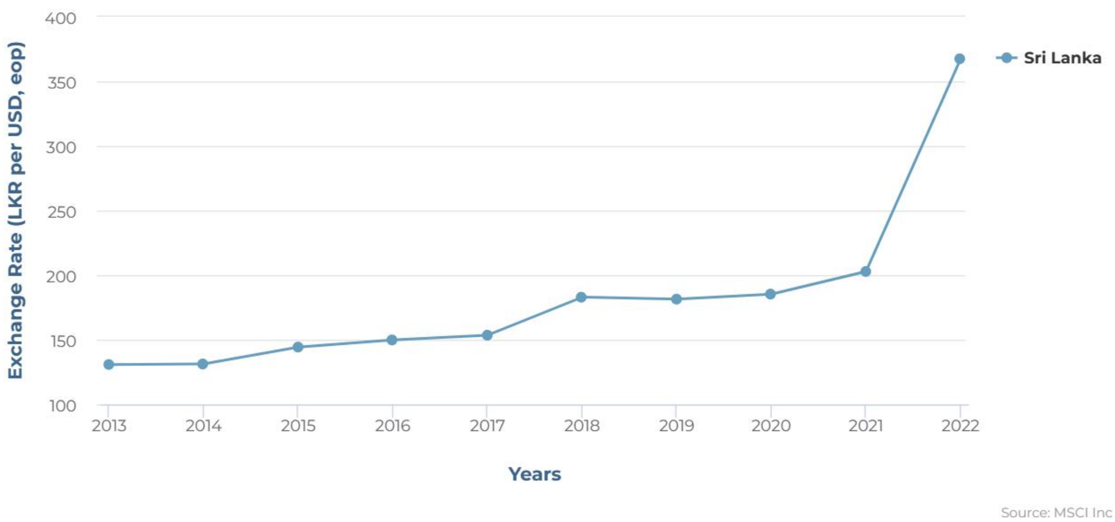
5.2.2 External Influences

Tax-based fiscal consolidation policies may have various external effects on the Sri Lankan economy. For example, the imposition of high taxes on imported goods may affect the exports of Sri Lanka's trading partners to the country and impact international trade (Ghosh, 1992).

According to Jiang (2022), in the context of the current economic situation, Sri

Lanka's foreign exchange exposure has increased due to the impact of the COVID-19 pandemic, the Russian-Ukrainian war, and the Fed's interest rate hike. Coupled with the tightening of trade policies in countries such as the US and Europe, capital flows to Sri Lanka have decreased further (Jiang, 2022). As a result, Sri Lanka's foreign currency reserves have declined considerably, and the depreciation rate of the rupee against the US dollar has deteriorated markedly, particularly in the period 2021-2022.

Figure 13. Sri Lanka Exchange Rate (LKR per USD, eop)



Source from: MSCI Inc (2023)

Although the introduction of tax-based fiscal consolidation can have negative impacts on foreign exchange reserves, such as triggering the withdrawal of funds by foreign investors and lowering consumption and corporate profits, Mati and Thornton (2008) argue that exchange rate depreciation can increase the likelihood of a country's fiscal consolidation success. They used the logit model to examine the case of fiscal consolidation in emerging markets. They found that exchange rate depreciation could promote net exports and output to support fiscal consolidation efforts. Therefore, despite the potential negative impacts on foreign reserves, exchange rate depreciation could have positive effects on fiscal consolidation in some cases.

6.0 Analysis of The VAR Model

6.1 The VAR Model in Fiscal Consolidation Analysis

The Vector Autoregression (VAR) Model has been frequently used by academics to analyse fiscal consolidation. It enables one to comprehend the links between macroeconomic variables and their responses to fiscal consolidation (Agust et al., 2021). For example, Attinasi and Metelli (2017) used a panel VAR model with debt and fiscal pre-calculus as covariates to examine the efficiency of fiscal consolidation in European countries. They concluded that the composition of fiscal consolidation is crucial to debt reduction and that consolidation should be undertaken on the expenditure side rather than the revenue side to achieve long-term debt reduction.

A VAR model is a multivariate time series model that describes the interdependence between multiple economic variables in a structured linear model. The underlying assumption of the VAR model is that changes in each variable can be explained by past values of other variables, indicating a mutual feedback relationship between the individual variables (Helmut Lütkepohl, 2005). According to Helmut Lütkepohl (2005), the general form of the VAR model can be expressed as:

$$y_t = \nu + A_1 y_{t-1} + \ldots + A_p y_{t-p} + u_t, t = 0, 1,2,, \ldots .$$

6.2 Collection and Processing of Data

In this study, a vector autoregressive (VAR) model will be utilised to examine the link between fiscal consolidation on the Sri Lankan economy. The analysis is based on three critical macroeconomic variables: total government debt (as a percentage of GDP), GDP growth rate and government revenue. Data for these variables are obtained from multiple sources, including the International Monetary Fund (IMF), the World Bank and the Central Bank of Sri Lanka, from 1990 to 2021. These data variables are presented as statistical chart in the appendix (Table.7).

The direction of the VAR model for the dynamic relationship between variables will provide insight into the relationship among macroeconomic variables and their response to fiscal consolidation. Specifically, I will examine whether national debt and revenue have an impact on the growth of the economy.

6.3 Findings from VAR Model

Table. 1 Johansen Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.639919	43.14622	29.79707	0.0008
At most 1	0.298003	12.50347	15.49471	0.1343
At most 2	0.061016	1.888693	3.841465	0.1693

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.639919	30.64276	21.13162	0.0017
At most 1	0.298003	10.61477	14.26460	0.1746
At most 2	0.061016	1.888693	3.841465	0.1693

Source from: Author's calculation based on IMF, WB, Central Bank of Sri Lanka data.

Table.2 The results of Vector Autoregression Estimates

	DEBT	GDP	REVENUE
DEBT(-1)	0.617776	-0.051238	-0.147891
	(0.16239)	(0.08551)	(0.41751)
	[3.80419]	[-0.59918]	[-0.35422]
GDP(-1)	-1.317377	0.236794	1.485171
	(0.44743)	(0.23561)	(1.15032)
	[-2.94434]	[1.00503]	[1.29109]
REVENUE(-1)	0.012529	-0.014174	1.002323
	(0.01529)	(0.00805)	(0.03930)
	[0.81957]	[-1.76062]	[25.5015]
C	0.359995	0.085677	0.084497
	(0.14580)	(0.07678)	(0.37484)
	[2.46914]	[1.11595]	[0.22542]
R-squared	0.732865	0.246767	0.965652
Adj. R-squared	0.703183	0.163074	0.961836
Sum sq. resids	0.059536	0.016509	0.393528
S.E. equation	0.046958	0.024727	0.120727
F-statistic	24.69077	2.948493	253.0271
Log likelihood	52.96789	72.84944	23.69504
Akaike AIC	-3.159219	-4.441899	-1.270648
Schwarz SC	-2.974188	-4.256869	-1.085617
Mean dependent	0.781290	0.048268	0.710949
S.D. dependent	0.086191	0.027029	0.617987
Determinant resid covariance (dof adj.)		8.57E-09	
Determinant resid covariance		5.66E-09	
Log likelihood		162.3753	
Akaike information criterion		-9.701631	
Schwarz criterion		-9.146540	
Number of coefficients		12	

Source from: Author's calculation based on IMF, WB, Central Bank of Sri Lanka data.

Equations of Results:

$$DEBT = 0.0125293976407*REVENUE(-1) - 1.3173766521*GDP(-1) + 0.617776204956*DEBT(-1) + 0.359995497503 \quad (1)$$

$$GDP = - 0.0141735705957*REVENUE(-1) + 0.236794142306*GDP(-1) - 0.0512379932701*DEBT(-1) + 0.0856770484862 \quad (2)$$

$$REVENUE = 1.00232337843*REVENUE(-1) + 1.48517054244*GDP(-1) - 0.147890695579*DEBT(-1) + 0.0844966518421 \quad (3)$$

This paper explores fiscal consolidation's impact on Sri Lanka's economy using a vector autoregressive (VAR) model (Table 2). Based on the estimated results of the VAR model (Equations 1-3) show that the fiscal deficit hurts GDP growth and government tax revenue. In contrast, GDP growth has a positive effect on government tax revenue. Specifically, for every 1% increase in the fiscal deficit, GDP growth will fall by 0.05 percentage points, and government tax revenue will decrease by approximately Rs. 147,891 million. Similarly, for every 1% increase in GDP growth, government tax revenues will increase by approximately Rs 1,485,170 million. In addition, the constant term in the model positively influences GDP growth. Moreover, according to the results of the Johansen co-integration test (Table 1), one co-integrating equation exists at the 0.05 level of significance, which implies a stable relationship between all the variables in this equation over time.

Impulse Response Function Analysis

An impulse response function (IRF) analysis was conducted to understand the dynamic interactions of financial variables further. As shown in Figure 14, the IRF results illustrate the impact of shocks to one variable on the other variables over time (Nasir and Du, 2017). The IRF analysis visually represents the dynamic relationship between the variables in the VAR model of fiscal consolidation in Sri Lanka.

Figure.14 Impulse response function: DEBT, GDP, REVENUE.

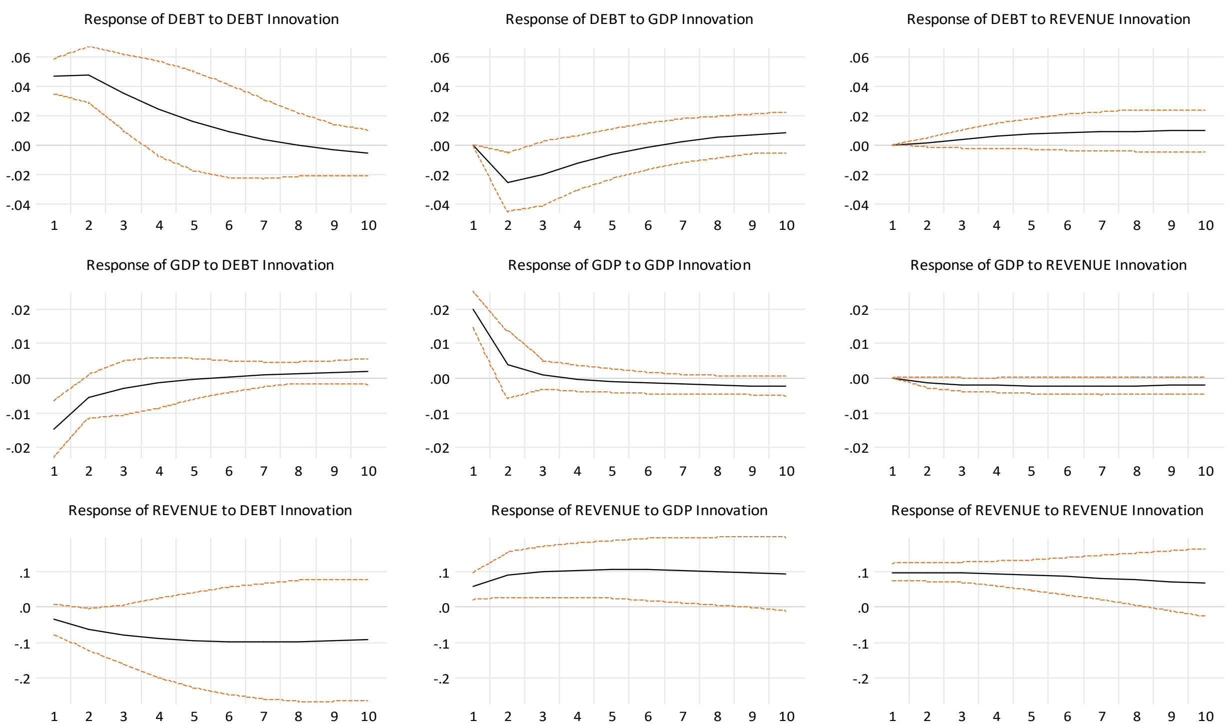


Table.3 Impulse response of DEBT:

Response of DEBT: Period	DEBT	GDP	REVENUE
1	0.046958	0.000000	0.000000
	(0.00596)	(0.00000)	(0.00000)
2	0.047830	-0.025523	0.001238
	(0.00954)	(0.00987)	(0.00152)
3	0.035841	-0.019740	0.003852
	(0.01310)	(0.01113)	(0.00307)
4	0.024885	-0.012198	0.005966
	(0.01617)	(0.00927)	(0.00433)
5	0.016107	-0.005999	0.007496
	(0.01697)	(0.00844)	(0.00531)
6	0.009241	-0.001201	0.008545
	(0.01577)	(0.00804)	(0.00607)
7	0.003934	0.002437	0.009213
	(0.01344)	(0.00754)	(0.00664)
8	-0.000123	0.005143	0.009584
	(0.01083)	(0.00705)	(0.00703)
9	-0.003178	0.007109	0.009727
	(0.00872)	(0.00683)	(0.00724)
10	-0.005434	0.008488	0.009695
	(0.00775)	(0.00695)	(0.00729)

Table.4 Impulse response of GDP growth:

Response of GDP: Period	DEBT	GDP	REVENUE
1	-0.014614	0.019946	0.000000
	(0.00403)	(0.00253)	(0.00000)
2	-0.005378	0.003871	-0.001401
	(0.00319)	(0.00494)	(0.00082)
3	-0.002828	0.000950	-0.001799
	(0.00393)	(0.00204)	(0.00097)
4	-0.001395	-0.000176	-0.001999
	(0.00367)	(0.00192)	(0.00109)
5	-0.000357	-0.000894	-0.002111
	(0.00299)	(0.00172)	(0.00118)
6	0.000423	-0.001406	-0.002165
	(0.00230)	(0.00149)	(0.00124)
7	0.001004	-0.001771	-0.002174
	(0.00177)	(0.00135)	(0.00127)
8	0.001427	-0.002020	-0.002150
	(0.00156)	(0.00131)	(0.00127)
9	0.001726	-0.002179	-0.002101
	(0.00165)	(0.00137)	(0.00125)
10	0.001926	-0.002267	-0.002034
	(0.00190)	(0.00145)	(0.00120)

Table.5 Impulse response of Revenue:

Response of REVENUE: Period	DEBT	GDP	REVENUE
1	-0.034484	0.060145	0.098836
	(0.02124)	(0.01933)	(0.01255)
2	-0.063213	0.089909	0.099065
	(0.02932)	(0.03196)	(0.01317)
3	-0.078421	0.099641	0.097032
	(0.04165)	(0.03640)	(0.01482)
4	-0.088104	0.104203	0.094016
	(0.05530)	(0.03874)	(0.01772)
5	-0.094060	0.105988	0.090383
	(0.06709)	(0.04129)	(0.02165)
6	-0.097190	0.105795	0.086349
	(0.07605)	(0.04386)	(0.02631)
7	-0.098154	0.104129	0.082070
	(0.08211)	(0.04621)	(0.03143)
8	-0.097472	0.101380	0.077669
	(0.08551)	(0.04829)	(0.03677)
9	-0.095560	0.097855	0.073238
	(0.08666)	(0.05022)	(0.04215)
10	-0.092749	0.093795	0.068850
	(0.08598)	(0.05215)	(0.04742)

The impulse response function (IRF) analysis indicates that a shock to the general government's gross debt (as a percent of GDP) harms GDP growth in Sri Lanka. However, this negative impact gradually weakens over time. It may suggest that the negative impact of increased government debt on economic growth is beginning to diminish or that other government measures are playing a more pro-growth role.

On the other hand, the impact of revenue on GDP growth is relatively minor. It exhibits a smoother trend, suggesting that Sri Lanka's fiscal revenues have a more moderate impact on economic growth. It implies that increasing government revenue could stimulate economic growth, but policymakers should avoid imposing excessive burdens on the economy to maintain its stability.

7.0 Conclusion and Suggestions

Based on the analytical forecasts of the VAR model, it is apparent that Sri Lanka is currently facing a debt crisis, and the increase in government debt hurts economic growth. Nevertheless, fiscal consolidation can help alleviate the adverse effects of debt on the economy.

Table.6 VAR Model Prediction Table

Model Prediction Table

Projections	General government gross debt (Percent of GDP)	Sri Lanka GDP Growth Rate	Government revenue
1 period	0.971	0.02	1.442
2 period	0.952	0.02	1.416
3 period	0.939	0.022	1.393
4 period	0.929	0.023	1.374
5 period	0.921	0.024	1.358
6 period	0.914	0.025	1.346

Source from: Author's calculation based on IMF, WB, Central Bank of Sri Lanka data.

The forecast values for the three variables (Table 6) indicate that government debt is expected to keep falling over the subsequent six periods, while GDP growth is expected to continue to grow. It is a positive sign for the country's economic stability and growth prospects. However, despite the reduction in debt, forecasts indicate that it remains relatively high. Therefore, it is essential for Sri Lanka to implement effective fiscal policies to ensure sustainable debt relief.

Firstly, fiscal discipline should be strengthened to improve fiscal spending efficiency and reduce government debt's growth rate. Secondly, in order to promote economic growth, structural reforms should be implemented, such as improving the investment climate, promoting innovation and entrepreneurship, and enhancing infrastructure. Thirdly, the government should focus on raising revenue appropriately, for example, by correcting poor tax cuts, as Sri Lanka's Finance Minister Ali Sabu stated, "The current level of VAT is unsustainable," and suggested that the rate should be increased to 13 or 14 percent (Shukla, 2022). Nevertheless, the government should equally focus on avoiding overburdening the economy when reforming tax increases to maintain economic stability.

In addition, the Sri Lankan government should be vigilant about external risks and actively respond to changes in the global economic environment, such as trade frictions and financial market volatility. Moreover, they should strengthen communication with international financial institutions and seek cooperation and assistance in debt restructuring and other areas to alleviate the debt burden.

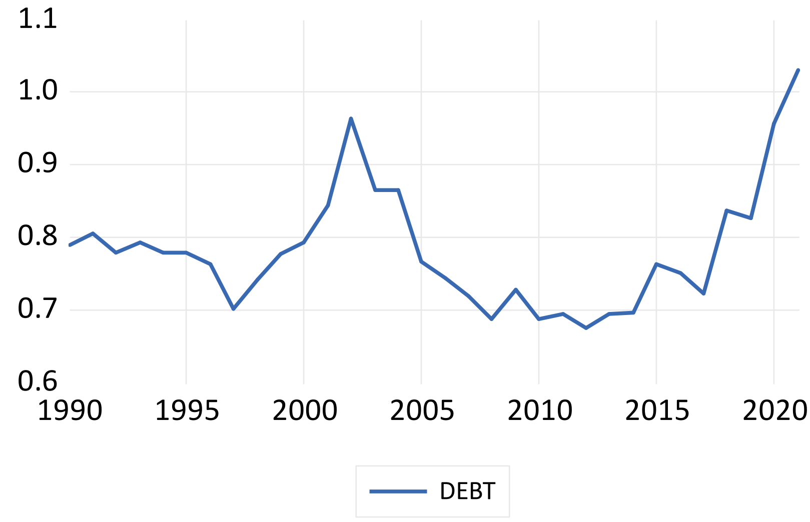
In summary, Sri Lanka's economy has enormous growth potential but faces challenges such as high debt, low economic growth, and external uncertainty. To overcome these challenges, the government needs to take adequate measures, which are not limited to fiscal consolidation but encompass comprehensive reforms to promote healthy and sustainable economic growth.

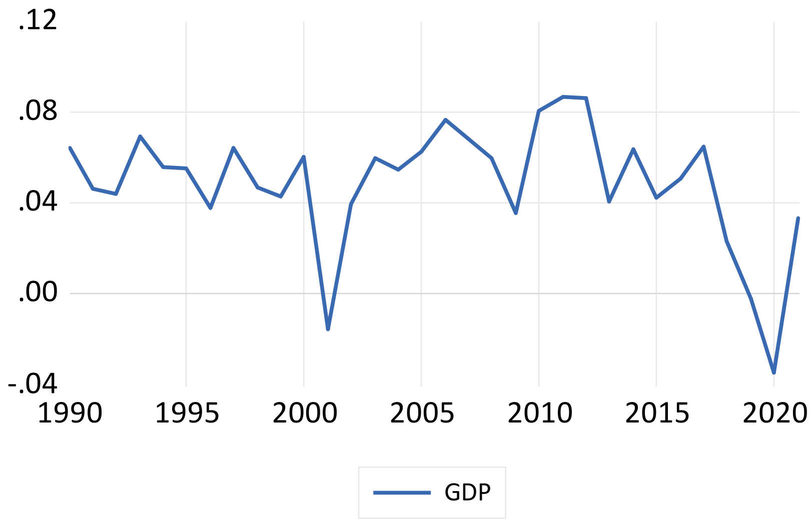
Appendix

Table.7 Original Economic Data for Sri Lanka

Time	General government gross debt (Percent of GDP)	Sri Lanka GDP Growth Rate	Government Revenue (Rs. million)	Government Revenue (Rs. trillion)
1990	78.90%	6.40%	67,964	0.067964
1991	80.50%	4.60%	76,179	0.076179
1992	77.90%	4.40%	85,781	0.085781
1993	79.20%	6.90%	98,339	0.098339
1994	77.90%	5.60%	110,038	0.110038
1995	77.80%	5.50%	136,258	0.136258
1996	76.20%	3.80%	146,279	0.146279
1997	70.10%	6.41%	165,036	0.165036
1998	74.20%	4.70%	175,032	0.175032
1999	77.70%	4.30%	195,905	0.195905
2000	79.20%	6.00%	211,282	0.211282
2001	84.40%	-1.55%	234,296	0.234296
2002	96.30%	3.96%	261,888	0.261888
2003	86.50%	5.94%	276,465	0.276465
2004	86.50%	5.45%	311,473	0.311473
2005	76.60%	6.24%	379,746	0.379746
2006	74.30%	7.67%	477,833	0.477833
2007	71.80%	6.80%	565,051	0.565051
2008	68.80%	5.95%	655,259	0.655259
2009	72.80%	3.54%	699,644	0.699644
2010	68.70%	8.02%	817,279	0.817279
2011	69.40%	8.67%	967,862	0.967862
2012	67.50%	8.63%	1,051,460	1.05146
2013	69.50%	4.05%	1,137,447	1.137447
2014	69.60%	6.38%	1,195,206	1.195206
2015	76.30%	4.21%	1,454,878	1.454878
2016	75%	5.05%	1,686,062	1.686062
2017	72.30%	6.46%	1,831,531	1.831531
2018	83.60%	2.31%	1,919,973	1.919973
2019	82.60%	-0.22%	1,890,899	1.890899
2020	95.70%	-3.47%	1,367,960	1.36796
2021	103.10%	3.33%	1,457,071	1.457071

Source from: IMF, World Bank and Central Bank of Sri Lanka (2022)


1.1
1.0
0.9
0.8
0.7
0.6
1990
1995
2000
2005
2010
2015
2020
DEBT


.12
.08
.04
.00
-.04
1990
1995
2000
2005
2010
2015
2020
GDP

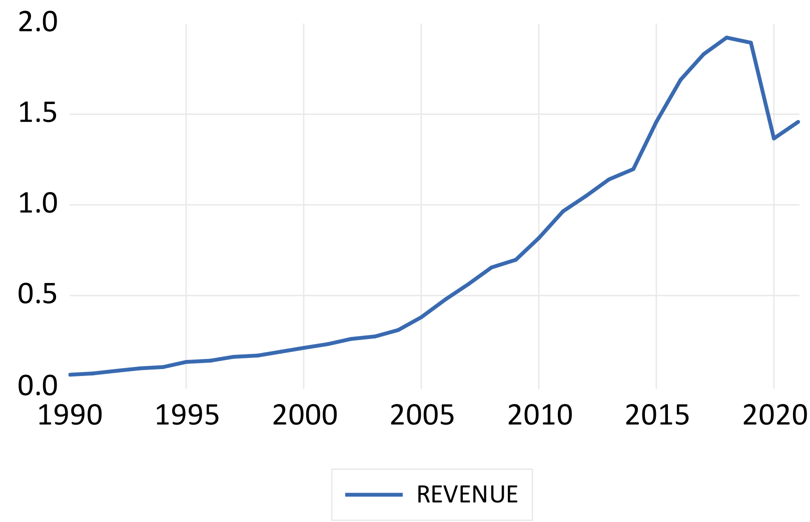

2.0
1.5
1.0
0.5
0.0
1990
1995
2000
2005
2010
2015
2020
REVENUE

Table.8 1st Difference Augmented Dickey-Fuller test statistic summary

General government gross debt		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.748202	0.0003
Test critical values:	1% level	-4.296729	
	5% level	-3.568379	
	10% level	-3.218382	

GDP Growth Rate		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.201190	0.0000
Test critical values:	1% level	-4.296729	
	5% level	-3.568379	
	10% level	-3.218382	

Government Revenue		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.154517	0.0030
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

Note: * represent the significance levels of 1%. The first difference class for all three variables in this table is significant, indicating that the data are smooth.

Table.9 VAR Lag Order Selection Criteria Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	63.84897	NA	1.86e-06	-4.680690	-4.535525	-4.638888
1	131.1710	113.9296*	2.11e-08*	-9.167001*	-8.586341*	-8.999792*
2	137.9120	9.852149	2.60e-08	-8.993228	-7.977073	-8.700612
3	142.3631	5.478305	4.01e-08	-8.643314	-7.191664	-8.225291
4	147.0717	4.708577	6.62e-08	-8.313204	-6.426060	-7.769775
5	158.3081	8.643390	7.65e-08	-8.485236	-6.162596	-7.816400
6	172.1825	7.470827	9.44e-08	-8.860189	-6.102054	-8.065946

Note: * indicates lag order selected by the criterion. The optimal period of the table is the first difference class

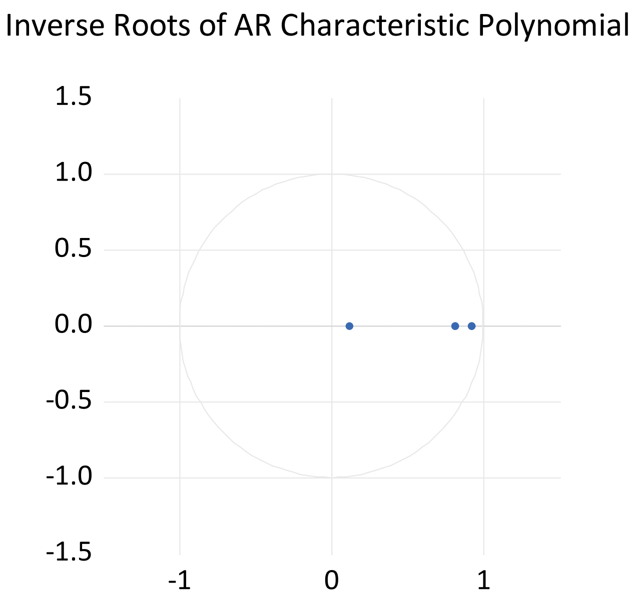
Table.10 Granger Causality Test

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause DEBT	31	12.7332	0.0013
DEBT does not Granger Cause GDP		9.6E-05	0.9923
REVENUE does not Granger Cause DEBT	31	3.60034	0.0681
DEBT does not Granger Cause REVENUE		2.80867	0.1049
REVENUE does not Granger Cause GDP	31	2.80510	0.1051
GDP does not Granger Cause REVENUE		4.55941	0.0416

Notes: P value less than 0.05 indicates having predictive capability at 0.05 level of significance; less than 0.1 indicates having predictive capability at 0.1 level of significance.

Table.10 VAR Stability Condition Check - Roots of Characteristic Polynomial



Root	Modulus
0.921206	0.921206
0.817978	0.817978
0.117710	0.117710

No root lies outside the unit circle.
VAR satisfies the stability condition.

Note: When all the characteristic root values are less than 1, it means that the constructed VAR model is more stable.

Reference list

Adler, N. (2022). *Protests in Sri Lanka over economic crisis, police crackdown*. [online] www.aljazeera.com. Available at: https://www.aljazeera.com/news/2022/10/27/protests-in-sri-lanka-over-economic-crisis-and-police-brutality [Accessed 6 Apr. 2023].

Agustí, M., Altmeyer, P. and Vidal-Quadras Costa ’21, I. (2021). *Deep Vector Autoregression for Macroeconomic Data*. [online] BSE Voice. Available at: https://thevoice.bse.eu/2021/09/16/deep-vector-autoregression-for-macroeconomic-data/ [Accessed 12 Apr. 2023].

Alesina, A.F. and Ardagna, S. (2009). Large Changes in Fiscal Policy: Taxes Versus Spending. *SSRN Electronic Journal*. doi:https://doi.org/10.2139/ssrn.1502862.

Asian Development Bank (2018). Public Financial Management Systems—Sri Lanka. (978-92-9261-071-5). doi:https://doi.org/10.22617/tcs189197-2.

Athukorala, P., Ginting, E., Hill, H. and Kumar, U. (2017). *The Sri Lankan Economy: Charting A New Course*. [online] *Google Books*. Asian Development Bank. Available at: https://books.google.co.uk/books?hl=zh-CN&lr=&id=7E5GDwAAQBAJ&oi=fnd&pg=PT13&dq=development+of+sri+lankan+economy&ots=3wtiDqhgkk&sig=EjC76A5kW9l9jgBc6PlU-_Pxd6s&redir_esc=y#v=onepage&q&f=false [Accessed 5 Apr. 2023].

Attinasi, M.G. and Metelli, L. (2017). Is fiscal consolidation self-defeating? A panel-VAR analysis for the Euro area countries. *Journal of International Money and Finance*, 74, pp.147–164. doi:https://doi.org/10.1016/j.jimonfin.2017.03.009.

Blanchard, O.J. and Leigh, D. (2013). *Growth Forecast Errors and Fiscal Multipliers*. [online] National Bureau of Economic Research. Available at: https://www.nber.org/papers/w18779 [Accessed 7 Apr. 2023].

businessgossips.lk (2020). *SriLankan cuts staff salaries, freezes increments to survive COVID-19 crisis*. [online] businessgossips.lk. Available at: https://businessgossips.lk/2020/04/03/srilankan-cuts-staff-salaries-freezes-increments-to-survive-covid-19-crisis/ [Accessed 8 Apr. 2023].

CCTV (2019). *Progress of the Belt and Road Initiative: Hambantota Port in Sri Lanka becomes a model of China-Sri Lanka cooperation.* [online] news.cctv.com. Available at: https://news.cctv.com/2019/04/10/ARTI6zALvb8oNc3sBQJI6TC5190410.shtml [Accessed 7 Apr. 2023].

CEIC Data (2023). *Sri Lanka Tax Revenue, 1990 – 2021 Data*. [online] www.ceicdata.com. Available at: https://www.ceicdata.com/en/indicator/sri-lanka/tax-revenue [Accessed 9 Apr. 2023].

Ciminelli, G., Ernst, E., Merola, R. and Giuliodori, M. (2019). The composition effects of tax-based consolidation on income inequality. *European Journal of Political Economy*, 57, pp.107–124. doi:https://doi.org/10.1016/j.ejpoleco.2018.08.009.

Embassy of the People's Republic of China in Sri Lanka (2023). *China-Sri Lanka*. [online] lk.china-embassy.gov.cn. Available at: http://lk.china-embassy.gov.cn/eng/zsgx/ [Accessed 8 Apr. 2023].

Erceg, C.J. and Lindé, J. (2013). Fiscal consolidation in a currency union: Spending cuts vs. tax hikes. *Journal of Economic Dynamics and Control*, 37(2), pp.422–445. doi:https://doi.org/10.1016/j.jedc.2012.09.012.

FAO (2022). *Food insecurity in Sri Lanka likely to worsen amid poor agricultural production, price spikes and ongoing economic crisis, FAO and WFP warn*. [online] www.fao.org. Available at: https://www.fao.org/asiapacific/news/detail-events/en/c/1604608/#:~:text=An%20esti mated%206.3%20million%20people%20in%20Sri%20Lanka [Accessed 7 Apr. 2023].

Ghosh, A.R. (1992). Fiscal policy, the terms of trade, and the external balance. *Journal of International Economics*, 33(1-2), pp.105–125. doi:https://doi.org/10.1016/0022-1996(92)90052-l.

Gunadasa, S. (2021). *Sri Lankan government policies fuel job destruction and inflation*. [online] World Socialist Web Site. Available at: https://www.wsws.org/en/articles/2021/03/18/econ-m18.html [Accessed 9 Apr. 2023].

Gunaratna, G. (2019). *Sri Lanka : President decides to reduce VAT and eliminate several taxes to provide relief for the people*. [online] Colombopage.com. Available at: http://www.colombopage.com/archive_19B/Nov27_1574862111CH.php [Accessed 6 Dec. 2022].

Helmut Lütkepohl (2005). *New Introduction to Multiple Time Series Analysis*. Berlin, Heidelberg Springer Berlin Heidelberg.

IMF (2023a). *IMF Executive Board Approves US$3 Billion Under the New Extended Fund Facility (EFF) Arrangement for Sri Lanka*. [online] IMF. Available at: https://www.imf.org/en/News/Articles/2023/03/20/pr2379-imf-executive-board-approves-under-the-new-eff-arrangement-for-sri-lanka [Accessed 7 Apr. 2023].

IMF (2023b). *Search Results*. [online] IMF. Available at: https://www.imf.org/en/Search#q=sri%20lanka%20debt&sort=relevancy&f:type= [Accessed 6 Apr. 2023].

International Monetary Fund (2019). *Sri Lanka : Selected Issues*. [online] IMF. Available at: https://www.imf.org/en/Publications/CR/Issues/2018/06/19/Sri-Lanka-Selected-Issues-45998 [Accessed 8 Dec. 2022].

Iqbal Athas, Chris Liakos, Rhea Mogul and Daniela Gonzalez-Roman (2022). *Sri Lanka is 'bankrupt,' Prime Minister says*. [online] CNN. Available at: https://edition.cnn.com/2022/07/05/asia/sri-lanka-bankrupt-fuel-crisis-intl-hnk/index.html [Accessed 5 Dec. 2022].

Jain, S. (2019). RESPONSIVENESS OF FISCAL CONSOLIDATION TOWARDS LONG TERM GROWTH IN INDIA AND SRI LANKA. *Sri Lanka Journal of Business Economics*. [online] Available at: https://www.semanticscholar.org/paper/RESPONSIVENESS-OF-FISCAL-CONSOLIDATION-TOWARDS-LONG-Jain/63f46d2d593a5877335ed56dda6d8d9e74bb2e68 [Accessed 6 Dec. 2022].

Jayasinghe, U. (2022). Sri Lanka limits imports of 367 non-essential items effective midnight. *Reuters*. [online] 9 Mar. Available at: https://www.reuters.com/markets/rates-bonds/sri-lanka-limits-imports-367-non-essential-items-effective-midnight-2022-03-09/#:~:text=COLOMBO%2C%20March%209%20%28Reuters%29%20-%20Sri%20Lanka%20has [Accessed 7 Apr. 2023].

Jayasinghe, U., Pal, A., Ghoshal, D. and Pal, A. (2022). Sri Lanka's Rajapaksa ousted, ally nominated as successor. *Reuters*. [online] 15 Jul. Available at: https://www.reuters.com/world/asia-pacific/sri-lankas-parliament-speaker-accepts-rajapaksas-resignation-2022-07-15/#:~:text=COLOMBO%2C%20July%2015%20%28Reuters%29%20-%20Sri%20Lanka%27s%20parliament [Accessed 8 Apr. 2023].

Jiang, Q. (2022). Debt Crisis and National Bankruptcy: Evidence from Sri Lanka. *BCP Business & Management*, pp.315–321. doi:https://doi.org/10.54691/bcpbm.v29i.2288.

Johnson, C.S. and Endresen, J. (2022). *Sri Lanka's Financial Crisis: Origins, Impact, and Next Steps*. [online] Cornell SC Johnson. Available at: https://business.cornell.edu/hub/2022/06/15/sri-lankas-financial-crisis-origins-impact-next-steps/#:~:text=The%20Goods%20and%20Services%20%28GST%29%20tax%20rate%20was [Accessed 5 Apr. 2023].

Lopes da Veiga, J.A., Ferreira-Lopes, A. and Sequeira, T.N. (2015). Public Debt, Economic Growth and Inflation in African Economies. *South African Journal of Economics*, 84(2), pp.294–322. doi:https://doi.org/10.1111/saje.12104.

Mati, A. and Thornton, J. (2008). The exchange rate and fiscal consolidation episodes in emerging market economies. *Economics Letters*, 100(1), pp.115–118. doi:https://doi.org/10.1016/j.econlet.2007.12.003.

Ministry of Finance, Economic Stabilization & National Policies (2020). *Ministry of Finance - Sri lanka*. [online] www.treasury.gov.lk. Available at: https://www.treasury.gov.lk/budget/fiscal-strategy [Accessed 8 Apr. 2023].

Molnár, M. (2013). Fiscal consolidation. *OECD Journal: Economic Studies*, 2012(1), pp.123–149. doi:https://doi.org/10.1787/eco_studies-2012-5k8zs3twgmjc.

MSCI Inc (2023). *Sri Lanka Exchange Rate (LKR per USD, eop)*. [online] FocusEconomics. Available at: https://www.focus-economics.com/country-indicator/sri-lanka/exchange-rate/ [Accessed 10 Apr. 2023].

Nasir, M.A. and Du, M. (2017). Integration of Financial Markets in Post Global Financial Crises and Implications for British Financial Sector: Analysis Based on A Panel VAR Model. *Journal of Quantitative Economics*, 16(2), pp.363–388. doi:https://doi.org/10.1007/s40953-017-0087-2.

O'Neill, A. (2023). *Sri Lanka - inflation rate 1987-2027 | Statista*. [online] Statista. Available at: https://www.statista.com/statistics/728516/inflation-rate-in-sri-lanka/ [Accessed 9 Apr. 2023].

Ondaatjie, A. (2021). Sri Lanka shuns IMF for China by taking a leaf out of Malaysia's contrarian crisis playbook. *The Economic Times*. [online] 9 Mar.

Available at:
https://economictimes.indiatimes.com/news/international/business/sri-lanka-shuns-imf-for-china-by-taking-a-leaf-out-of-malaysias-contrarian-crisis-playbook/articleshow/81405762.cms [Accessed 6 Apr. 2023].

Perumal, P. (2021). Explained | What caused the Sri Lankan economic crisis? *The Hindu*. [online] 6 Sep. Available at:
https://www.thehindu.com/business/explained-what-caused-the-sri-lankan-economic-crisis/article36314148.ece [Accessed 5 Apr. 2023].

Pineda, M.E. (2022a). *Causes of the Sri Lanka Economic Crisis*. [online] Profolus. Available at:
https://www.profolus.com/topics/causes-of-the-sri-lanka-economic-crisis/ [Accessed 6 Dec. 2022].

Pineda, M.E. (2022b). *Causes of the Sri Lanka Economic Crisis*. [online] Profolus. Available at:
https://www.profolus.com/topics/causes-of-the-sri-lanka-economic-crisis/ [Accessed 5 Apr. 2023].

Reuters (2023). *Sri Lanka to cut recurrent budget expenditure by 6% in 2023 amid economic crisis*. [online] Hindustan Times. Available at:
https://www.hindustantimes.com/world-news/sri-lanka-to-cut-recurrent-budget-expenditure-by-6-in-2023-amid-economic-crisis-101673933193681.html [Accessed 7 Apr. 2023].

Sebastian, N. (2022). *THE ISLAND STATE IN UNREST: EMERGENT ECONOMIC AND POLITICAL CRISIS IN SRI LANKA*. [online] National Council of Churches in India, pp.828–838. Available at:
https://ncci1914.com/wp-content/uploads/2022/06/NCCI-May-2022.pdf#page=6 [Accessed 5 Apr. 2023].

Shukla, A. (2022). No choice but to raise sales tax: Sri Lanka finance chief Ali Sabry. *BBC News*. [online] 29 Apr. Available at: https://www.bbc.co.uk/news/business-61267369 [Accessed 6 Dec. 2022].

Sri Lanka Export Development Board (2018). *National Export Strategy (NES) - Sri Lanka Export Development Board*. [online] www.srilankabusiness.com. Available at: https://www.srilankabusiness.com/national-export-strategy/# [Accessed 9 Apr. 2023].

Sriyalatha, M.A.K. and Torii, H. (2019). Impact of Fiscal Policy on Economic Growth: A Comparison between Singapore and Sri Lanka. *Kelaniya Journal of Management*, 8(1), p.37. doi:https://doi.org/10.4038/kjm.v8i1.7559.

Sujatha, R., Mareeswari, V., Chatterjee, J.M., Mousa, A.A.A. and Hassanien, A.E. (2021). A Bayesian Regularized Neural Network for Analyzing Bitcoin Trends. *IEEE Access*, 9, pp.37989–38000. doi:https://doi.org/10.1109/access.2021.3063243.

Sutherland, A. (1997). Fiscal crises and aggregate demand: can high public debt reverse the effects of fiscal policy? *Journal of Public Economics*, 65(2), pp.147–162. doi:https://doi.org/10.1016/s0047-2727(97)00027-3.

Sutherland, D., Hoeller, P. and Merola, R. (2012). *Fiscal Consolidation: How much, how fast and by what means? - OECD*. [online] www.oecd.org. Available at: https://www.oecd.org/economy/outlook/fiscalconsolidationhowmuchhowfastandbywhatmeans.htm [Accessed 7 Apr. 2023].

Tanzi, V. and Zee, H.H. (1997). *Fiscal Policy and Long-Run Growth*. [online] IMF. Available at: https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Fiscal-Policy-and-Long-Run-Growth-2072 [Accessed 7 Dec. 2022].

TRADING ECONOMICS (2019a). *Sri Lanka Balance of Trade*. [online] Tradingeconomics.com. Available at: https://tradingeconomics.com/sri-lanka/balance-of-trade [Accessed 9 Apr. 2023].

TRADING ECONOMICS (2019b). *Sri Lanka Exports*. [online] Tradingeconomics.com. Available at: https://tradingeconomics.com/sri-lanka/exports [Accessed 9 Apr. 2023].

TRADING ECONOMICS (2019c). *Sri Lanka Unemployment Rate*. [online] Tradingeconomics.com. Available at: https://tradingeconomics.com/sri-lanka/unemployment-rate [Accessed 8 Apr. 2023].

TRADING ECONOMICS (2022). *Sri Lanka Total Gross External Debt | 2012-2019 Data | 2020-2022 Forecast | Calendar*. [online] tradingeconomics.com. Available at: https://tradingeconomics.com/sri-lanka/external-debt [Accessed 7 Apr. 2023].

TRADING ECONOMICS (2023a). *Sri Lanka Food Inflation | 2009-2021 Data | 2022-2023 Forecast | Historical | Chart*. [online] tradingeconomics.com. Available at: https://tradingeconomics.com/sri-lanka/food-inflation [Accessed 8 Apr. 2023].

TRADING ECONOMICS (2023b). *Sri Lanka Foreign Exchange Reserves | 2004-2021 Data | 2022-2023 Forecast | Historical*. [online] tradingeconomics.com. Available at: https://tradingeconomics.com/sri-lanka/foreign-exchange-reserves [Accessed 10 Apr. 2023].

Vinayagathasan, T. and Sri Ranjith, J.G. (2021). Public debt, budget deficit and tax policy reforms for fiscal consolidation in Sri Lanka: rationale and feasibility. *Sri Lanka Journal of Social Sciences*, 44(1), p.97. doi:https://doi.org/10.4038/sljss.v44i1.7953.

World Bank (2023). *Customs and other import duties (current LCU) - Sri Lanka | Data*. [online] data.worldbank.org. Available at: https://data.worldbank.org/indicator/GC.TAX.IMPT.CN?end=2020&locations=LK&start=2001 [Accessed 11 Apr. 2023].

World Bnak (2022). *GDP growth (annual %) - Sri Lanka | Data*. [online] Worldbank.org. Available at:

https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?idc=38&locations=LK
[Accessed 7 Apr. 2023].