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What broke the pearl of the Indian ocean? The causes of the Sri Lankan economic crisis and its policy implications☆

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ABSTRACT

Sri Lanka unilaterally defaulted on its external debt in April 2022, exposing its long-standing economic and financial vulnerabilities and igniting a series of inter-related multiple economic crises—fiscal, debt, currency, inflation, and balance of payments—as well as a vast socio-political upheaval. This paper analyses the economic crisis and its various dimensions to understand the sources of the crisis and draw policy implications. The role of fiscal balances and public debt in the crisis, along with debt sustainability, international sovereign bonds, liquidity crisis, and currency collapse, are analyzed. The root cause of Sri Lanka's economic crisis was running persistent and large fiscal deficits, which were increasingly financed by unsustainable public debt, particularly foreign commercial borrowings. A substantial reduction and reprofiling of debt through restructuring of both domestic and foreign debt to ensure debt sustainability, meaningful fiscal policy reforms anchored by revenue increases and expenditure rationalization to reduce fiscal deficits, and deep growth-enhancing structural reforms are necessary for medium-term rescue and recovery and long-term growth and stability of Sri Lanka. The findings provide important policy lessons for other emerging markets and middle-income economies.

1. Introduction

The Government of Sri Lanka announced the suspension of payments on its external debt obligations on April 12, 2022.[1] While this shocked many and reverberated worldwide as significant news, the country had been experiencing fiscal and balance of payments (BoP) problems for some time. The external debt default was the culmination of a plethora of economic and financial vulnerabilities Sri Lanka had been facing for years.

Sri Lanka's economic crisis raises several vital questions about the origin of the crisis and its policy implications. What were the root causes of Sri Lanka's economic crisis? How did it develop into such an unprecedented catastrophe with a toxic mix of fiscal, debt, BoP, currency, and inflation crises effectively driving the entire economy to a complete halt, triggering an enormous social and political turmoil? What are the main policy implications arising from the crisis? This paper examines these questions from economic and financial policy perspectives to understand the leading causes and characteristics of the Sri Lankan economic crisis and its crucial policy implications. This paper contributes to the literature on financial crises and policy by providing the first comprehensive analysis of the complex economic crisis faced by Sri Lanka and a robust discussion of the policy implications of the crisis. The paper's findings also provide important policy lessons for other emerging markets and middle-income economies.

The analysis shows that the root cause of the Sri Lankan economic crisis is fiscal. Fiscal profligacy, compounded by the COVID-19 pandemic, set off a predictable chain of outcomes—higher budget deficits, higher public debt, higher foreign debt, credit downgrades, higher cost of external borrowing, loss of international market access for foreign borrowings, loss of foreign currency (FX) reserves, a BoP crisis, currency depreciation, rising inflation, and external debt default.[2] The collapse of the currency and higher world oil prices increased the cost of imports, adding further fuel to the shortages of domestic food production and causing an unprecedented escalation of prices of goods and services across the economy and a resultant inflation crisis. In response to the economic hardships, widespread protests erupted across the

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[1] Ministry of Finance. "Interim policy regarding servicing Sri Lanka's external public debt," 12 April 2022, https://www.treasury.gov.lk/api/file/54a19fda-b219-4dd4-91a7-b3e74b9cd683

[2] In this paper, "public debt" refers to the central government debt and excludes foreign loans of state-owned business enterprises (SOBEs).

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country, forcing the resignation of the Prime Minister and the President.[3]

Although Sri Lanka's economic crisis is unique compared to its peers, the underlying causes are standard. The key source of the crisis was large budget deficits financed through borrowings, leading to the accumulation of a large amount of debt within a relatively shorter period of about 10 years. Debt was increasingly financed by foreign borrowings, causing foreign debt to rise to almost 50% of the central government debt by 2018—the highest percentage of foreign debt in 20 years. The budget deficit averaged 7% in the 10 years preceding the default, reaching a record deficit of 11.7% in 2021—the largest in 33 years. Public debt grew at an average rate of 13% in the 10 years preceding the default. Total public debt rose three-and-half times from Rs. 5.1 to 17.6 trillion, domestic debt quadrupled from Rs. 2.8 to 11.1 trillion, and foreign debt jumped almost three times from Rs. 2.3 to 6.5 trillion in the 10 years before the default. Sri Lanka had amassed US$ 88 billion of debt—$55.4 billion of domestic and $32.5 billion of foreign debt—by the end of 2021, almost half of which had been accumulated in the preceding 10 years.

In this environment of rising fiscal deficit and debt, the real economy stagnated at around 3.6% annual real GDP growth in the 10 years before 2022 and grew at an average of just 1.5% in the five years before the crisis. Sri Lanka also ran persistent current account deficits, averaging about 2.8% of GDP in the 10 years before the crisis. Reflecting BoP problems, the Sri Lankan rupee depreciated from about Rs. 114 to 200 per US$ during the 10 years before the crisis. By the end of 2021, FX reserves had dwindled to about $3 billion, just enough to cover 1.8 months of imports, 37% of short-term external debt, and 68% of external debt service payments, creating an extreme liquidity crisis. It is in this background of increased vulnerability to domestic and external shocks with persistent fiscal deficits, mounting public debt—particularly foreign debt—current account deficits, and declining economic growth that the COVID-19 pandemic hit the country in March 2020.

The pandemic finally served as the catalyst to shut off Sri Lanka from access to international markets for financing the budget deficit and refinancing foreign debt service obligations when international sovereign bond (ISB) yields rose precipitously, making external borrowing prohibitively expensive. Starting in 2020, while the budget deficit worsened, the net issuance of international sovereign bonds (ISBs) not only dried out but also turned negative due to the repayment of maturing bonds. Sri Lanka experienced a sudden stop in capital flows in 2020, which has continued into the subsequent years. Unable to borrow money from abroad to service foreign debt, the country used its FX reserves to finance the current account deficit. With the continued loss of FX reserves, Sri Lanka eventually defaulted on its external debt in April 2022. The entire economy and the country came to a screeching halt with ensuing socioeconomic and political turmoil. The "Pearl of the Indian Ocean," which weathered a 26-year civil war from 1983 to 2009 and was decimated by the 2004 Tsunami, would fall into an economic crisis of unprecedented proportions.

The rest of the paper is organized as follows. Section 2 provides an overview of the evolution of the crisis from the economic conditions that prevailed before the COVID-19 pandemic to the ultimate debt default, political and social turmoil, and reaching a staff-level agreement with the IMF for an extended fund facility arrangement on September 01, 2022. Section 3 analyzes the role of fiscal deficits in the crisis including the evolution of deficits, financing of deficits, and the evolution of government revenue and expenditure. Section 4 examines the role of public debt in the crisis, including the accumulation and composition of public debt. Section 5 provides an analysis of debt sustainability. Section 6 examines the behavior of international sovereign bond yields, credit downgrades, and shutting off from international capital markets. Section 7 focuses on the foreign exchange liquidity crisis, including the evolution of the current account and foreign exchange reserves, as well as an assessment of reserve adequacy. Section 8 examines the collapse of the currency and the behavior of the nominal and real effective exchange rates. Section 9 discusses the main policy implications, and Section 10 provides a summary and conclusions.

2. The evolution of Sri Lanka's economic crisis

This section provides a summary perspective of the evolution of Sri Lanka's economic crisis and contemporary financial crises faced by other middle-income economies to set the stage for a detailed analysis of the crisis. The Appendix includes more details with the timeline of major events and information related to the crisis.

First, in order to understand Sri Lanka's economic disaster, one has to trace its economic and financial conditions preceding the onset of the COVID-19 pandemic in March 2020. Sri Lanka's economy grew at an average of 5.3% in the five years from 2013 to 2017 and recorded a growth of 6.5% in 2017.[4] The first sign of growth problems became evident in 2018 when growth plummeted to 2.3%, marking the lowest growth in 17 years since 2001. In this subdued growth environment, the Sri Lankan economy suffered a heavy blow with the Easter Sunday bomb attacks on several Catholic churches and hotels in Colombo and the surrounding areas in April 2019, killing 269 people and injuring more than 500. In addition to economic losses due to the virtual shutting down of the economy in the immediate aftermath of the attack, this inflicted a severe blow to the country's tourism industry, which had gross earnings of more than US$ 4 billion in 2018. As a result, the economy contracted by 0.2%—the lowest growth in 18 years. Reflecting the subdued growth and increased government expenditure, astonishingly, the budget deficit shot up by an unprecedented 90% in absolute terms from 2018 to 2019. In relative terms, the deficit increased from 5% to 9% of GDP. The increase in the fiscal deficit also led to the rise in the central government debt to 82% of GDP in 2019 from 78% in 2018. Purportedly motivated by supply-side economics, the government also implemented broad-based tax cuts at the end of 2019, severely damaging the Treasury's already weak revenue position. As we see later, the impact of these tax losses would prove disastrous in subsequent years.

At the onset of the COVID-19 pandemic in 2020, with declining growth, ballooning fiscal deficits, weakening revenue position, and growing public debt, Sri Lanka was already in very precarious economic conditions with severe vulnerabilities to further domestic and external shocks. This elevated vulnerability to potential adverse shocks contributed to the disproportionate economic effects of the COVID-19 pandemic on the country's economy relative to its peers who did not experience economic difficulties to the proportion experienced by Sri Lanka despite being severely affected by the pandemic-induced negative macroeconomic shocks.

Already in perilous economic conditions, Sri Lanka did not have adequate fiscal space, foreign currency reserves, or external borrowing capacity to absorb the adverse shocks of the pandemic. In 2020, the first year of the pandemic, the Sri Lankan economy contracted by 4.6%, just like almost all other economies worldwide. The effects of the 2019 tax cuts, exacerbated by the pandemic-induced economic contraction, led to a massive 30% or Rs. 518 billion (US$ 2.8 billion) loss of tax revenue in 2020, further widening the fiscal deficit to 10.6% of GDP. With the onset of the pandemic, reflecting already weak fundamentals, including the

[3] Sri Lanka's economic crisis is unique and severe compared to many similar crises in that it involved not only an external debt default but also severe BoP, currency, and inflation crises in addition to an unprecedented social unrest and political crisis.

[4] In May 2022, the Department of Census and Statistics of Sri Lanka changed the base year of national accounts from 2010 to 2015 and announced rebased GDP estimates for the years 2011 through 2021. This paper uses the revised GDP estimates and growth rates.

ballooning deficits and larger external debt service payments, the yields of Sri Lankan ISBs rose to the 15 to 40% range from 5 to 8% range before the pandemic, effectively cutting off Sri Lanka from access to international borrowings to finance the deficit and shore-up foreign exchange reserves. The outcomes by the end of 2021 were dire—a fiscal deficit of 11.7%, a public debt ratio of 100%, FX reserves of just over US$ 3 billion adequate to cover less than two months of imports, external debt service payments of US$ 4.6 billion, and a current account deficit of 3.7%. So, the seeds of a crisis were already in place by the end of 2021.

A full-blown economic crisis was imminent, and economists warned about the high vulnerability of Sri Lanka's economy to unfavorable domestic and external shocks and an impending debt crisis for several years. Credit rating agencies telegraphed what would unfold with successive credit downgrades and underscored the need for debt restructuring and seeking IMF assistance as the last resort since the country was already shut off from market-based foreign borrowings.[5] However, the government downplayed the severity of economic weaknesses and was unwilling to undertake debt structuring or needed economic reforms. Even as late as December 2021, just four months before the default, Sri Lankan authorities downplayed the possibility of any such crisis.[6] Then, on April 12, 2022, Sri Lanka suddenly announced a unilateral suspension of all external debt payments, marking the external debt default and finally acknowledging that the country had completely run out of foreign reserves.

Reflecting the above macroeconomic conditions, Sri Lanka's GDP shrank by 7.8% in 2022, marking its largest economic collapse. The central government debt rose to 114% of GDP. Consumer inflation, which stood at 12.1% in December 2021, continued to rise in 2022, reaching a high of 70% in September before falling to 57% by the end of 2022. More importantly, food inflation reached 95% in September 2022, putting extraordinary hardships on the country's citizens. High inflation was triggered by a decline in food production following the government's abrupt transition to organic fertilizer and a ban on chemical fertilizer in April 2021, rising food, energy, and transportation prices, and the large currency depreciation. By the time of debt default, The Sri Lankan rupee had already lost 36% of its value against the U.S. dollar in the first three and half months of 2022. The currency continued to depreciate after the default, and by the end of 2022, it lost 45% of its value. This currency depreciation, along with higher world oil prices, increased the cost of imports, adding further fuel to the shortages of domestic food production, leading to an unprecedented escalation of prices of goods and services across the economy.

In response to economic hardships, particularly rising prices, and shortages of food, fuel, gas, and medicine, widespread protests, called "Aragalaya" in Sinhala, meaning "Struggle," began in early March 2022, demanding the resignation of the President, the Prime Minister, the Cabinet of Ministers, and the entire parliament. As the protests escalated, the Prime Minister resigned on May 09, 2022. Two months later, the President fled the country on July 09 and resigned on July 15. A new president was elected by a parliamentary vote on July 20, ending five months of an unprecedented socio-political crisis. After months of refusals, the government ultimately sought IMF assistance in March 2022. On Sep 01, 2022, the government and the IMF reached a staff-level agreement on a four-year Extended Fund Facility (EFF) arrangement of US$ 3 billion. The IMF approved the loan on March 20, 2022. The Sri Lankan Parliament approved the IMF agreement on April 28, 2023.

It is helpful to get an overview of contemporary financial crises faced by other economies. Sri Lanka's economic crisis is relatively uncommon among its peers, except for a few countries that were also affected by the two years of the COVID-19 pandemic.[7] To get a comparative perspective on the severity of Sri Lanka's fiscal troubles, consider that the 2019 fiscal deficit and debt ratios for emerging market and middle-income economies (EMMIEs) were 3.9% and 55%, respectively. In 2019, four middle-income economies stood out as having higher fiscal deficits and debt than the rest—a deficit of over 9% and a debt ratio above 80% of GDP, much larger than the peer average. They are Venezuela, Lebanon, Suriname, and Sri Lanka (see Fig. 1). Venezuela was already in severe distress for years; Lebanon and Suriname defaulted in 2020, and Sri Lanka defaulted two years later in 2022.[8] These crisis episodes underscore the reality that unsustainable deficits and debt, particularly in EMMIEs, inevitably lead to some form of a financial crisis.

3. The role of persistent and large fiscal deficits

First, this paper examines the role of fiscal deficits in the Sri Lankan economic crisis. This is particularly important due to the direct relation between fiscal deficits and debt, as government borrowings to finance deficits add to the public debt stock. Fiscal deficit as the source of debt or economic crises is not uncommon. Greece and Argentina provide some of the best examples of debt crises caused by fiscal profligacy.[9] Sri Lanka presents a classic case of persistent and increasingly large fiscal deficits.

3.1. Evolution of fiscal deficits

Sri Lanka recorded budget deficits in 71 of the last 73 years (1950–2022), underscoring the perennial nature of the problem (see Fig. 2 and Table 1). During this period, deficits averaged 7.2% of GDP. During its Civil War (1983–2009), Sri Lanka frequently ran large deficits, averaging 8.4%. However, in the post-war period up to 2018, fiscal deficits were reasonably well contained, averaging 5.7%, although they continued to rise in absolute terms. In 2018, the budget deficit was Rs. 761 billion or 5% of the GDP, which was the lowest deficit relative to the economy, along with that in 2016, since the opening of the Sri Lankan economy 42 years ago in 1977. It should be noted that Sri Lanka was already under an IMF program since 2016, which mandated reducing the deficit in the medium term.[10]

The positive fiscal trajectory turned for the worse following the Easter Sunday bomb attacks on several Catholic churches and hotels in Colombo and the surrounding areas in April 2019. The economy, which had already slowed to 2.3% in 2018, contracted by 0.2% in 2019. The service sector of the economy, including tourism, declined the most. Due to the sluggish economy and fiscal measures taken to support it following the Easter Sunday attacks, the budget deficit almost doubled to Rs. 1439 billion from Rs. 761 billion in the previous year, resulting in a deficit to GDP ratio of 9%. This astronomical jump in the deficit in one year made the country extremely vulnerable to any further domestic or

[5] For example, Fitch downgraded Sri Lanka's foreign currency sovereign rating from B+ to B in December 2018, from B to B- in May 2020, from B- to CCC in November 2020, and from CCC to CC in December 2021 citing high budget deficits and debt as key vulnerabilities.

[6] See 'Authorities Views" in the IMF Article VI Consultation Report wherein the authorities disagreed with the IMF analysis and warnings of severe BoP and debt crisis, International Monetary Fund, " IMF Article VI Consultation Report." March 2022a, https://www.imf.org/en/Publications/CR/Issues/2022/03/25/Sri-Lanka-2021-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-515737

[7] Sri Lanka was upgraded from lower to upper-middle income economic status in July 2019. However, Sri Lanka lost this status and was again reclassified as a lower-middle-income economy in July 2020.

[8] Lebanon defaulted on US$ 1.2 billion of foreign currency debt on March 09, 2020, while Suriname defaulted on US$ 49.8 million external debt service on March 31, 2020. See also Rickards (2020).

[9] See, for example, Alogoskoufis (2012), Gourinchas et al. (2017), Daseking et al. (2005) and Lane (2004).

[10] In June 2016, Sri Lanka entered into a 36-month Extended Fund Facility (EFF) for an amount of US$ 1.5 billion as balance of payments support in a deteriorating external environment. This was the country's 16th IMF program. This program was later extended till June 2020 and ended without disbursing all the funds under the program.

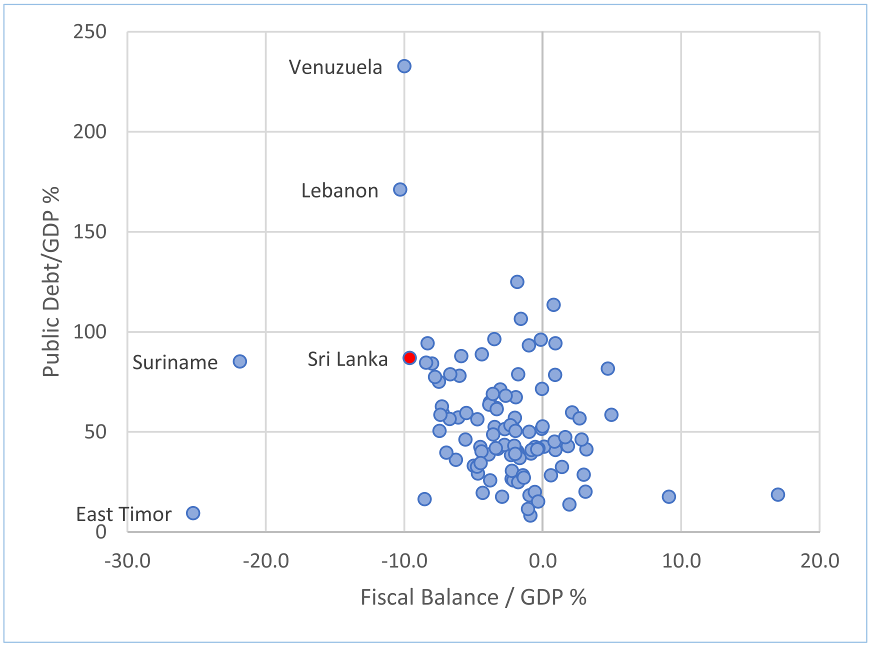

Fig. 1. Debt and deficits of middle-income economies in 2019. This figure shows the relationship between debt and deficits of middle-income economies in 2019. Public Debt/GDP measures the amount of central government debt as a percent of GDP. Fiscal balance/GDP measures the fiscal deficit (-) or surplus (+) as a percent of GDP. All variables are in nominal terms.
Source: International Monetary Fund, World Economic Outlook, April 2022b.

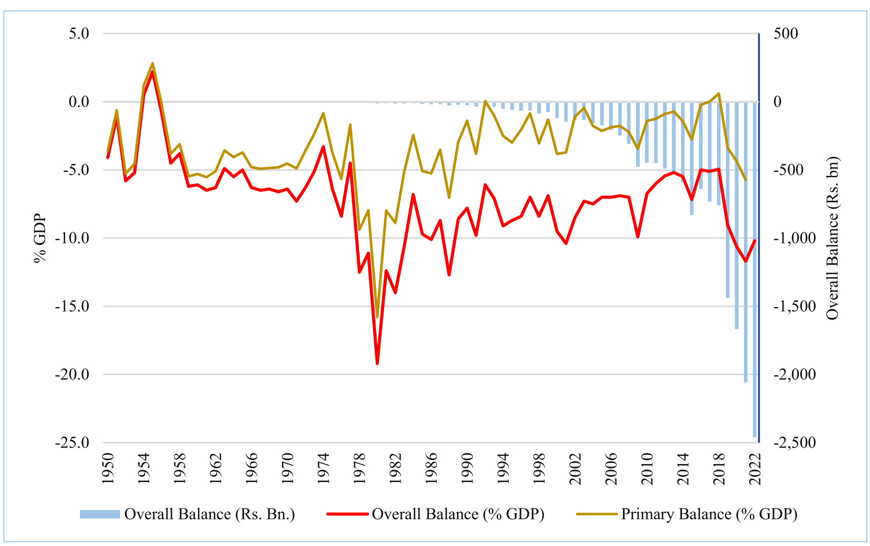

Fig. 2. The history of fiscal balances (1950–2022). This figure shows the evolution of Sri Lanka's budget deficits from 1950 to 2022. The primary balance is the fiscal balance before subtracting interest on debt. Overall balance is the fiscal balance after subtracting interest on debt. Both can be a deficit (-) or a surplus (+). Primary and overall balances are shown as a percent of GDP, while the overall balance is also shown in absolute terms (Rs. bn). All variables are in nominal terms.
Source: Central Bank of Sri Lanka.

external shocks. The seeds of a severe fiscal crisis had already been planted in 2019.

As we know now, that turned out to be indeed the case in the following year with the COVID-19 outbreak. The already weak fiscal balance widened by Rs. 229 billion to Rs. 1668 billion in 2020, or 10.6% of GDP. The economy contracted by 4.6% due to the adverse impact of the pandemic. Although the economy recovered with a growth of 3.5% in 2021, the fiscal deficit worsened by another Rs. 390 billion to Rs. 2058 billion or 11.7% of GDP. To give a perspective on the severity of fiscal slippages, the deficit grew by Rs. 1.3 trillion, an increase of 171%, in the three years between 2018 and 2021. The average deficit of 5.7% observed during the post-war period until 2018 suddenly jumped to an average of 10.5% in the ensuing three years. This substantial increase in the fiscal balance within a shorter period was clearly the root cause of Sri Lanka's economic crisis.

3.2. Evolution of government revenue and expenditure

To understand the factors contributing to the budget overruns discussed above, it is essential to examine the behavior of revenue and expenditure during the 2020–2021 period relative to prior years (see Table 1 and Fig. 3).

Table 1
GDP and fiscal balances (2010–2022).

Year	GDP (US$ bn)	GDP Per Capita (US $)	GDP Growth (%)	Primary Deficit (Rs. bn)	Overall Deficit (Rs. bn)	Revenue/ GDP (%)	Expenditure/ GDP (%)	Primary Deficit/ GDP (%)	Overall Deficit/ GDP (%)
2010	56.7	2836	8.0	-93	-446	12.6	19.3	-1.4	-6.7
2011	65.3	3243	8.7	-93	-450	13.1	19.1	-1.2	-6.0
2012	68.4	3449	8.6	-80	-489	11.9	17.3	-0.9	-5.4
2013	74.3	3739	4.1	-72	-516	11.6	16.8	-0.7	-5.2
2014	79.4	3972	6.4	-155	-591	11.2	16.7	-1.4	-5.5
2015	85.1	4059	4.2	-320	-830	12.6	19.8	-2.8	-7.2
2016	88.0	4149	5.1	-29	-640	13.2	18.2	-0.2	-5.0
2017	94.4	4400	6.5	2	-733	12.8	17.9	0.0	-5.1
2018	94.7	4372	2.3	91	-761	12.6	17.5	0.6	-5.0
2019	89.0	4082	-0.2	-538	-1439	11.9	21.0	-3.4	-9.0
2020	84.6	3858	-4.6	-687	-1668	8.8	19.4	-4.4	-10.6
2021	88.5	3997	3.5	-1010	-2058	8.3	20.0	-5.7	-11.7
2022	77.1	3474	-7.8	-895	-2460	8.3	18.5	-3.7	-10.2

This table shows the nominal GDP (US$ bn), GDP per capita (US$), annual GDP growth rate (%), primary budget deficit (Rs. bn), overall budget deficit (Rs. bn), and government, government expenditure, primary deficit and the overall deficit as a percent of GDP.
Source: Central Bank of Sri Lanka.

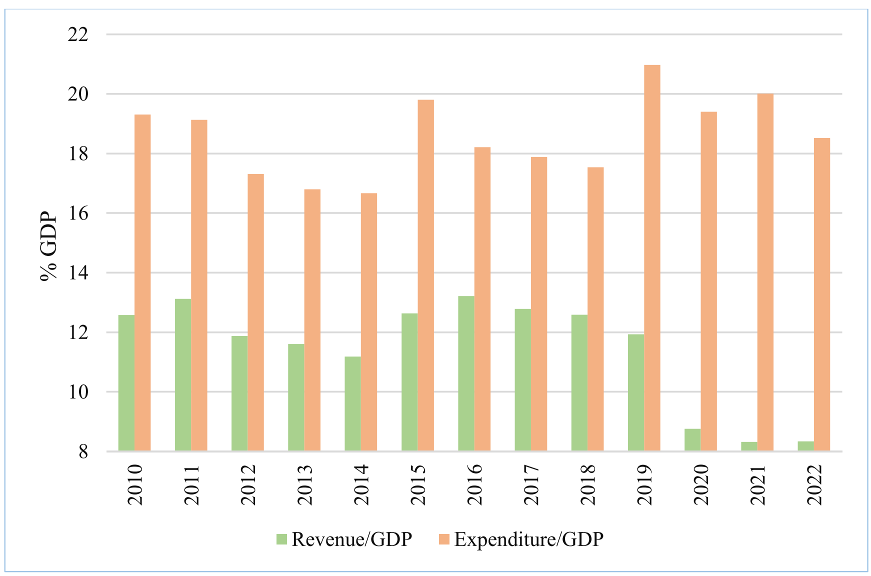

Fig. 3. Government revenue and expenditure (2010–2022). This figure shows the government revenue and expenditure as a percent of GDP.
Source: Central Bank of Sri Lanka.

Sri Lanka's revenue/GDP ratio has trended down since 2016. The mean revenue ratio of EMMIEs was 27% during the 2016–2019 period, whereas it was 12.6% for Sri Lanka, which is less than half of the benchmark, making it one of the lowest revenue ratios among them.[11] Revenue continued to worsen, ending with just 8.3% in 2021, a drop of 4.3 percentage points from the already low level in 2018.

Compared to EMMIEs, Sri Lanka's expenditure/GDP ratio fares much better. The mean expenditure ratio of EMMIEs was 31% during 2016–2019, while it was 18.7% for Sri Lanka. However, on a stand-alone basis, Sri Lanka's expenditure/GDP ratio rose from 17.5% in 2018 to about 20% in the following three years. The expenditure overrun by 3.5% percentage points in 2019 in the aftermath of the Easter Sunday attacks was very severe and was the leading cause of the budget overrun that year. Although the expenditure/GDP ratio improved slightly in 2020, revenue declined by 3.1% percentage points due to the pandemic-driven economic contraction and tax losses amounting to Rs. 518 billion, partly due to the effects of the 2019 tax cuts, which became effective in 2020, further widening the fiscal deficit to 10.6%. Then, in 2021, both revenue and expenditure deteriorated from the previous year, raising the deficit to 11.7%.

It should be noted that Sri Lanka was under an IMF program from 2016 to 2019, which mandated revenue-based fiscal consolidation. However, the budgetary outcomes turned out to be poorer. Relative to 2015, the revenue/GDP ratio deteriorated by 0.7 percentage points, and the expenditure/GDP ratio worsened by 1.2 percentage points, causing a 1.8% percentage point fiscal slippage in 2019. In absolute terms, the deficit widened from Rs. 830 billion to Rs. 1439 billion—a 73% jump. However, the government recorded primary surpluses, albeit very small, in 2017 and 2018, which is generally cited as a success of the IMF program. However, the primary deficit also worsened from 2.8% in 2015 to 3.4% in 2019.

3.3. *Financing of budget deficits*

Next, it is crucial to understand how Sri Lanka financed budget deficits (Fig. 4). One of the critical changes in the pattern of financing deficits was Sri Lanka's pivot to foreign commercial debt. The country began borrowing by issuing U.S. dollar-denominated international

[11] EMMIEs benchmarks are from the International Monetary Fund, Fiscal Monitor, October 2022c.

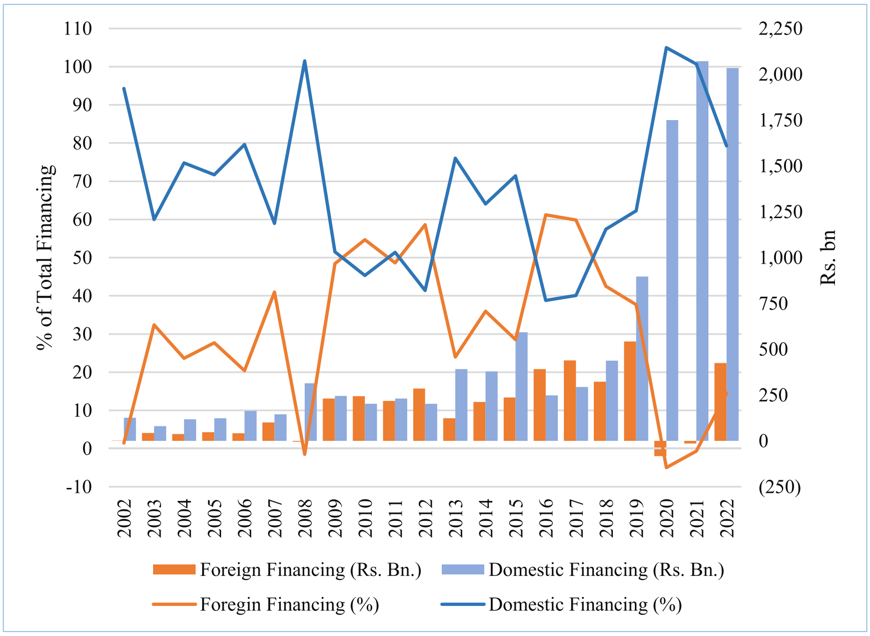

Fig. 4. Financing of budget deficits (2002–2022). This figure shows the amount (Rs. bn) and percentage of the budget deficits financed through foreign and domestic borrowings.
Source: Central Bank of Sri Lanka.

sovereign bonds in 2007. Except in 2008 and 2013, when no ISBs were issued, Sri Lanka continued to rely on foreign debt as a significant source of financing deficits up to 2019. In the 10 years preceding the issuance of ISBs (1997–2006), on average, foreign financing accounted for just 15% of total financing, while domestic financing was 79%.[12] In contrast, in the subsequent period from 2007 to 2019, the average foreign financing rose to 42%, whereas domestic financing declined to 58%. This 27 percentage-point increase in foreign financing is reflected in the rise in foreign debt, which ultimately became the catalyst for the current debt crisis.

To understand the magnitude of foreign financing, let us consider this. During the 10 years before 2007, the total foreign financing amounted to a mere US$ 2.2 billion. However, during the period of ISB issuances, Sri Lanka went on a foreign debt binge to the tune of US$ 23.8 billion, averaging almost US$ 2 billion per year.[13] This amount even exceeds the US$ 17.55 billion of ISBs issued during this period, suggesting Sri Lanka also resorted to other sources of foreign borrowings—multilateral and bilateral— to finance budget deficits.

The analysis so far provides unambiguous evidence of excessive budget deficits for a prolonged period and the heavy reliance on foreign borrowings to finance the deficits after 2007. Deficits and foreign financing per se do not necessarily lead to a debt or BoP crisis, as happened in Sri Lanka. Therefore, the following section examines how such deficits and borrowings led to debt accumulation and insolvency.

4. The role of rising public debt

4.1. Accumulation of public debt

Not surprisingly, the total central government debt continued to grow due to financing budget shortfalls through domestic and foreign borrowings (see Table 2). To get a perspective on the history of the evolution of the debt problem, this analysis will focus on the instances where the debt ratio approximately equaled or exceeded 100%. There have been three such instances—1988–1989, 2001–2004, and 2021 onwards.

The first episode occurred when the debt ratio reached 101% and 109% in 1988 and 1989, respectively. The total debt in 1988 was just about US$ 7 billion, consisting of US$ 3 billion domestic and US$ 4 billion foreign debt. Consequently, Sri Lanka sought IMF assistance in 1988 and agreed to a 3-year structural adjustment program of US$ 214 million.

The second high-debt episode occurred in the 2001–2004 period when the debt ratio rose to the range of 102% to 106%, with the total debt rising from US$ 16 to 20 billion and the foreign debt increasing sharply from US$ 6.8 to 9.5 billion. At that time also, Sri Lanka went to the IMF and received funds totaling US$ 820 million in three separate programs from 2001 through 2006.

The third episode is the current one that began in 2021, with the debt ratio rising to 100% in 2021 and 114% in 2022. The total debt in 2021, the year before the debt default, was US$ 88 billion—the largest debt in U.S. dollar terms in the country's history— which included domestic debt of US$ 55 billion and foreign debt of US$ 33 billion.[14]

Over the 10 years before the debt default (2011–2021), the public debt stock increased almost three-and-half times in local currency terms from Rs. 5.1 trillion to 17.6 trillion and nearly doubled in U.S. dollar terms from US$ 45 billion to 88 billion. During the same period, public debt as a percent of the GDP grew by 31 percentage points from 69% to 100%, clearly showing the alarming increase in public debt. With much delay, Sri Lanka asked for IMF assistance in March 2022 and announced the suspension of external debt service payments in April 2022. Unlike the previous high-debt episodes where Sri Lanka sought IMF assistance, Sri Lanka's debt is now considered unsustainable and must be restructured as part of IMF policy conditions. The question of debt composition and sustainability is examined later.

[12] The balance was privatization proceeds.

[13] Based on the year-end exchange rate of the Sri Lankan rupee to the U.S. dollar.

[14] In 2022, the total debt declined in U.S. dollar terms due to the deflation of domestic debt as a result of currency depreciation. Total debt stood at US$ 75.7 billion consisting of US$ 34.3 billion of domestic debt and US$ 41.4 billion of foreign debt. However, the debt ratio for 2022 rose to 114% in rupee terms.

Table 2
Central government debt (2010–2022).

Panel A

Year	Domestic Debt (Rs. bn)	Foreign Debt (Rs. bn)	Total Debt (Rs. bn)	Domestic Debt (US$ bn)	Foreign Debt (US$ bn)	Total Debt (US$ bn)
2010	2570	2025	4595	23.2	18.2	41.4
2011	2808	2329	5138	24.7	20.5	45.1
2012	3316	2767	6083	26.1	21.8	47.8
2013	3929	2960	6889	30.0	22.6	52.7
2014	4374	3113	7487	33.4	23.8	57.1
2015	5055	3544	8599	35.1	24.6	59.7
2016	5433	4046	9479	36.3	27.0	63.3
2017	5664	4719	10,383	37.1	30.9	67.9
2018	6071	5960	12,031	33.2	32.6	65.8
2019	6830	6201	13,032	37.6	34.1	71.7
2020	9065	6052	15,117	48.6	32.5	81.1
2021	11,097	6517	17,614	55.4	32.5	87.9
2022	15,034	12,458	27,492	41.4	34.3	75.7

Panel B

Year	Domestic Debt (% of Total Debt)	Foreign Debt (% of Total Debt)	Domestic Debt (% GDP)	Foreign Debt (% GDP)	Total Debt (% GDP)
2010	55.9	44.1	38.8	30.5	69.3
2011	54.7	45.3	37.5	31.1	68.6
2012	54.5	45.5	36.9	30.8	67.7
2013	57.0	43.0	39.5	29.8	69.3
2014	58.4	41.6	40.6	28.9	69.5
2015	58.8	41.2	43.7	30.6	74.3
2016	57.3	42.7	42.4	31.6	74.0
2017	54.6	45.4	39.4	32.8	72.2
2018	50.5	49.5	39.5	38.8	78.4
2019	52.4	47.6	42.9	39.0	81.9
2020	60.0	40.0	57.8	38.6	96.5
2021	63.0	37.0	63.1	37.0	100.1
2022	54.7	45.3	62.3	51.6	113.9

This table shows the amount of domestic, foreign, and total public debt in billions of rupees and U.S. dollars. It also shows the amount of domestic, foreign, and public debt as a percent of the nominal GDP and total debt.
Source: Central Bank of Sri Lanka.

The direct relation between the rising fiscal deficit and debt accumulation is quite clear (Fig. 5). From 1959 to 2021, the correlation between the amount of deficit and debt is 0.97, demonstrating that higher deficits led to higher debt. However, higher deficits and debt do not necessarily result in debt or BoP crises. To understand why higher deficits and debt led Sri Lanka to a severe economic crisis, we need to analyze several important aspects of debt. They include how Sri Lanka financed its deficits, i.e., the composition of debt between domestic and foreign debt, sustainability of debt, i.e., solvency, and the availability of foreign currency reserves to service foreign debt, i.e., liquidity.

4.2. The composition of public debt

In addition to having a large public debt burden, as discussed above, the increased reliance on foreign-currency-denominated debt further complicated the debt problem for Sri Lanka (see Table 3). Foreign debt includes bilateral, multilateral, and commercial international market borrowings. Until 2007, Sri Lanka's public debt consisted of bilateral and multilateral loans only. A significant milestone in financing deficits occurred in 2007 when Sri Lanka began market-based foreign borrowings—non-concessional loans—through the issuance of medium to long-term U.S. dollar-denominated international sovereign bonds.

From 2007 to 2019, Sri Lanka borrowed US$ 17.55 billion through the issuance of ISBs. At the end of March 2022—12 days before the default— the principal value of the outstanding ISBs amounted to US$ 12.55 billion. In addition, other non-concessional loans amounted to US $ 4.2 billion, making the total non-concessional debt approximately US$ 17 billion. The concessional loans from bilateral and multilateral sources were US$ 15.2 billion. As a result, commercial loans exceeded concessional loans in the total foreign debt of US$ 32 billion (see Table 3).[15]

The total foreign debt increased from US$ 10.2 billion in 2006, before the issuance of ISBs, to US$ 31.9 billion by March 2022. According to the Central Bank data, the concessional debt grew only by US $ 5.7 billion during this period. This suggests that 74% of the increase in foreign debt between 2006 and March 2022 was due to foreign commercial loans, highlighting a significant change in the composition of foreign debt. In a nutshell, not only did the amount of foreign debt increase, but an extraordinarily large proportion of foreign debt was sourced through market-based, non-concessionary borrowings. Sri Lanka needed increasingly large amounts of foreign currency to pay interest and principal obligations on this rising foreign debt. As we now know, the lack of FX reserves to service them prompted the Sri Lankan

[15] In the context of the "original sin," which refers to a situation where a country is unable to borrow from abroad in its local currency (Eichengreen and Hausmann, 1999), it must be noted that Sri Lanka's foreign debt denominated in local currency is minuscule. Foreign investors are allowed to purchase rupee-denominated Treasury bills and bonds. The amount of such debt peaked at US$ 3.7 billion in 2013, which amounted to 7% of total debt and 16% of foreign debt. Since then, the amount of local currency foreign debt continued to decline, reaching a mere US$ 10 million—0.01% of total debt and 0.03% of foreign debt— by the end of 2021.

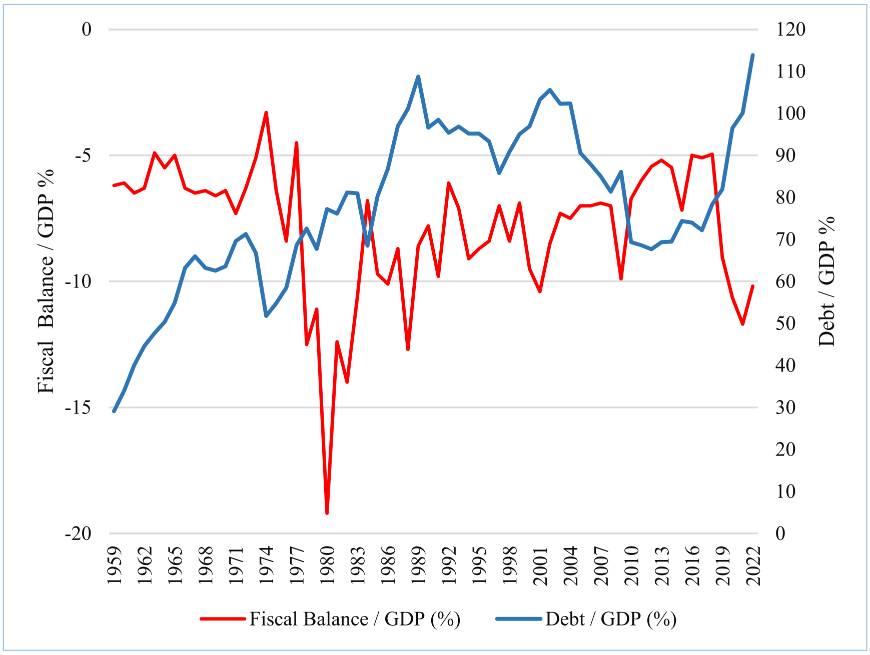

Fig. 5. Fiscal balance and central government debt (1959–2022). This figure shows the fiscal balance and the public debt as a percent of the GDP. A negative fiscal balance represents a deficit (-), while a positive fiscal balance is a surplus (+).
Source: Central Bank of Sri Lanka.

Table 3
The composition of public debt in March 2022.

Debt Type	Rs. bn	US$ bn	% Debt
Domestic Debt	**12,150**	**40.64**	**56**
Short-term	3230	10.80	15
Treasury Bills	2727	9.12	13
Other	503	1.68	2
Long-term	8920	29.83	41
Treasury Bonds	7715	25.80	36
Sri Lanka Development Bonds	530	1.77	2
Other	675	2.26	3
Foreign Debt	**9547**	**31.93**	**44**
Concessional	4538	15.18	21
Multilateral	2303	7.70	11
Bilateral	2235	7.47	10
Non-Concessional	5008	16.75	23
International Sovereign Bonds	3752	12.55	17
Other	1256	4.20	6
Total Debt	**21,697**	**72.56**	**100**

This table shows the composition of public debt as of March 2022 (the month before default) in billions of rupees and U.S. dollars and as a percent of total debt.
Source: Central Bank of Sri Lanka.

government to default on foreign debt obligations in April 2012. The liquidity problem will be analyzed later.

5. The sustainability of debt

The sustainability of Sri Lanka's public debt is examined next. This is important since the question of debt sustainability has implications not only for the determination of prices and yields of traded government debt but also for the assessment of the overall credit quality of government debt, ability and cost of financing future budget deficits, the balance of payments, the building up of foreign exchange reserves, and ultimately the value of the currency. This paper uses the standard intertemporal government budget constraint and transforms it to determine the debt-stabilizing primary deficit following Blanchard et al. (1990). The government budget constraint is given by Eq. (1).

$$D_t = D_{t-1}(1 + r_t) + PB_t \tag{1}$$

D_t is public debt in period t, D_{t-1} is public debt in period t-1, r_t is the nominal interest rate on debt, and PB_t is the primary budget balance in period t. The budget constraint is scaled by GDP to obtain the current debt-to-GDP ratio as a function of interest rates, the nominal GDP growth rate, and the past debt-to-GDP ratio, as given in Eq. (2).

$$d_t \quad = \left(\frac{1 + r_t}{1 + g_t}\right) d_{t-1} - pb_t \tag{2}$$

Where, d_t is the debt/GDP ratio in period t, d_{t-1} is the debt/GDP ratio in period t-1, r_t is the nominal interest rate, g_t is the nominal GDP growth rate, and pb_t is the primary balance/GDP at time t. Assuming stable debt levels over time, where $d_t = d_{t-1}$, the debt-stabilizing primary balance is given by Eq. (3).

$$pb_t = \left(\frac{r_t - g_t}{1 + g_t} \right) d_{t-1} \tag{3}$$

Ignoring the discounting factor $1/(1 + g_t)$ for convenience, the debt-stabilizing primary balance is the differential between the interest and growth rates multiplied by the past-period debt.

$$pb_t = (r_t - g_t) d_{t-1} \tag{4}$$

The above debt stability condition shows the primary balance that must be achieved to maintain the debt ratio at current levels. The primary balance must be equal to or larger than the interest rate-growth rate differential given the previous period's debt level to maintain fiscal sustainability or solvency.[16] If that holds, then debt is considered sustainable. If r is greater than g, the country must maintain a primary surplus. Conversely, if r is less than g, which means a higher economic growth rate relative to the interest rate, the country can afford to maintain a primary deficit. A larger positive differential between r and g and a larger amount of existing debt means the country must have a

[16] See Debrun et al. (2019), Chalk et al. (2000), Ostry et al. (2010), Alogoskoufis (2012), and International Monetary Fund (2013).

larger primary surplus to stabilize its debt.

Table 4 shows the estimates of debt-stabilizing primary balances from 2015 to 2021. Accordingly, in three of the seven years before the debt default—2015, 2019, and 2020—the actual primary balance was lower than the debt-stabilizing primary balance. An early indication of unstable debt was evident in 2015, when the primary deficit reached 2.8%, worsening from the previous five years, when it ranged between 0.7% and 1.4%. Sri Lanka went to the IMF and received a 3-year, US$ 1.5 billion Extended Fund Facility in 2016.

Subsequently, Sri Lanka not only contained the primary deficit to 0.23% in 2016 but also achieved small surpluses in 2017 and 2018. However, as the results show, the primary balance again worsened to 3.4% in 2019, the year of the Easter Sunday bomb attacks, and continued the downward trajectory during the COVID years, recording deficits of 4.4% and 5.7% in 2020 and 2021, respectively. This evidence shows that Sri Lanka's debt fell into serious insolvency in 2019, which worsened in 2020.

An alternative way to look at the issue of debt sustainability is to examine the gap between the debt-stabilizing primary balance and the actual primary balance (Fig. 6). A positive gap indicates a deficit, and a negative gap signifies a surplus in the actual primary balance in comparison to the debt stabilizing primary balance. The large positive gaps in 2019 and 2020 highlight the path of the current debt problem facing Sri Lanka. For example, in 2019, the actual primary balance was a deficit of 3.4%, whereas a primary surplus of 2.6% was needed to maintain stable debt levels, creating a gap of almost 6% of GDP. Thus, Sri Lanka's debt became clearly unstable in 2019, and the level of unsustainability further deteriorated in 2020, the first year of the COVID-19 pandemic, when the gap reached almost 11% of GDP. The damage was so severe that Sri Lanka would find it impossible to recover from it, leading to the ultimate default in 2022.

6. International sovereign bond yields, credit downgrades, and loss of international market access

Sri Lanka's international sovereign bonds are traded on the Singapore Stock Exchange. The secondary market prices began to incorporate the implications of rising debt and deficits, low levels of FX reserves, and low and declining economic growth, which were exacerbated by the COVID-19 pandemic and policy errors by the Sri Lankan government. Ultimately, the credit quality continued to weaken, leading to multiple credit downgrades. All these factors pushed secondary market ISB yields to prohibitively higher levels, effectively shutting off the country from accessing international capital markets to finance deficits, service debt, and build FX reserves. The behavior of ISB yields and loss of international market access are examined in detail below.

As discussed previously, since 2007, Sri Lanka continued to rely on issuing sovereign bonds in international markets to partly finance its budget deficits. The last ISB issue was made in June 2019. To give a view of the significance of foreign financing, during the 2007 to 2019 period, on average, Sri Lanka financed 42% of its annual budget deficit through foreign sources. In fact, from 2016 to 2019—the last four years Sri Lanka could access foreign markets—50% of the budget deficit was financed through foreign sources. Essentially, Sri Lanka rolled over the maturing ISBs by issuing new bonds. With the weak economy, rising deficits and debt, and declining foreign reserves, the credit risk of Sri Lankan ISBs continued to increase. All three major credit rating agencies (S&P, Moody's, and Fitch) successively downgraded Sri Lankan ISBs during the period from 2018 to 2022. The initial country risk premium in Sri Lankan ISB issuances averaged 430 basis points, providing an attractive risk premium over the U.S. Treasuries to international investors. The country risk premium for the issuances in 2019, when Sri Lanka's fiscal and debt problems were becoming acute, rose to an average of about 500 basis points, reflecting increased risk.

At the start of 2018, ISBs were rated B+ and yielded 5.3% on average (see Table 5). By the end of 2018, they were downgraded to the B category, signifying that debt was highly speculative and contained high credit risk. Importantly, the debt ratio rose to 78% in 2018 from 72% in the previous year, and this 6% percentage-point increase was exclusively due to the rise in the foreign debt ratio. Reflecting the higher risks, average yields rose to about 8% in early 2019. During 2019, yields were fairly stable and ranged between 5.5% to 8.2% across maturities (see Fig. 7). However, by the end of 2019, the debt ratio rose further to 82%, and the budget deficit widened to 9%—almost doubled from 5% in the previous year. In absolute terms, the deficit ballooned by almost twofold in just one year— from Rs. 761 billion in 2018 to Rs. 1439 billion in 2019.

In this fragile macro-financial background facing Sri Lanka, the World Health Organization (WHO) declared COVID-19 a global pandemic on March 11, 2020. Immediately, Sri Lankan ISB yields began to rise precipitously. For example, yields that were in the 5% to 9.5% range across maturities before the declaration of the pandemic jumped to the 19% to 40% range by mid-2020, effectively making it prohibitively expensive to issue international bonds. Battered by the COVID-19 pandemic, Sri Lanka ended 2020 with a debt ratio of 96%. The budget deficit rose to 10.6%—the highest in the 22 years since 1988. Credits were further downgraded to the B-/CCC+ category by the end of 2020. Further, Fitch Ratings downgraded Sri Lanka to CC in December 2021, four months before the default, citing increased risks of default in the coming months. Thus, the final blow to the debt-ridden economy with extreme vulnerability to adverse shocks was the onset of the COVID-19 pandemic, which triggered extraordinary jumps in the cost of foreign financing, shutting off Sri Lanka from international markets. In all likelihood, the refinancing of foreign bonds could have continued for some time if not for the COVID-19 pandemic, temporarily postponing the debt and the balance of payments crisis by a few more years.

As the data in Table 5 show, yields ranged from 17% to 28% in early 2021. They rose further to the 19% to 57% range by early 2022, with

Table 4
Debt sustainability analysis.

Year	2015	2016	2017	2018	2019	2020	2021
Real GDP Growth %	4.20	5.10	6.50	2.30	-0.20	-4.60	3.50
Inflation (GDP Deflator) %	3.02	5.40	5.43	4.31	3.85	3.25	8.51
Nominal GDP Growth (g_t) %	7.35	10.77	12.29	6.70	3.64	-1.50	12.31
Interest Rate on Debt % (r_t)	5.93	6.44	7.08	7.08	6.92	6.48	5.96
Actual Primary Balance (pb_t) %	-2.77	-0.23	0.01	0.60	-3.38	-4.39	-5.74
Debt Ratio (%) (d_t)	74.34	73.98	72.17	78.37	81.90	96.46	100.08
Interest Rate-Growth Differential: (r_t -g_t) %	-1.42	-4.33	-5.20	0.38	3.28	7.98	-6.35
Debt Stabilizing Primary Balance: (r_t -g_t)d_{t-1} %	-0.99	-3.22	-3.85	0.27	2.57	6.54	-6.13
Gap % = (r_t -g_t)d_{t-1} - pb_t	1.78	-2.99	-3.86	-0.32	5.95	10.93	-0.39

This table shows the results of the debt sustainability analysis. g is the nominal GDP growth (%), r is the interest rate of total public debt (%), pb is the primary fiscal balance (%), and d is the debt ratio of the current year (debt as a percent of GDP). The subscript t denotes the current year, and t-1 is the previous year. The gap shows the difference between the primary balance required to stabilize debt and the actual primary balance.
Sources: Central Bank of Sri Lanka and the Department of Census and Statistics of Sri Lanka.

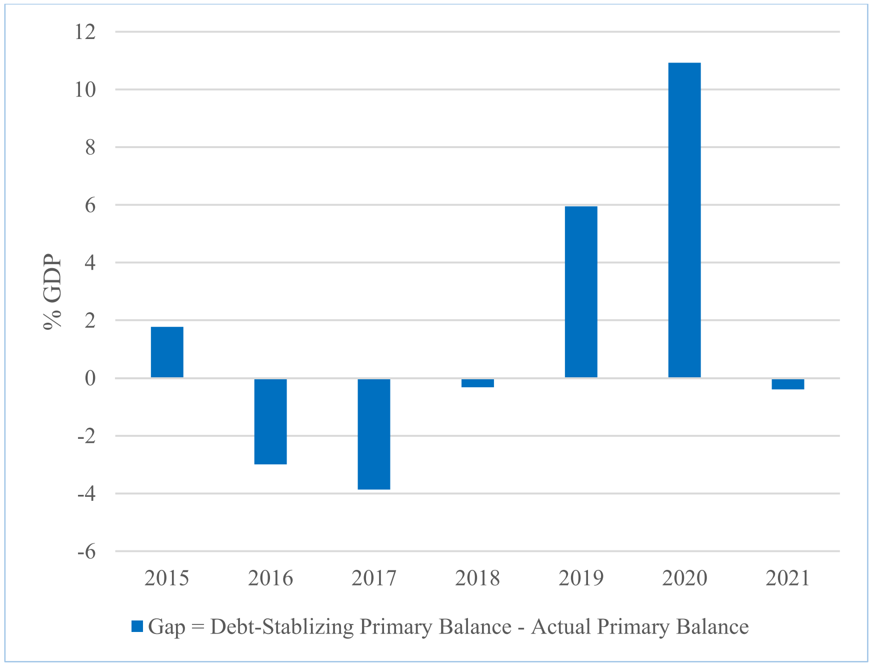

Fig. 6. Primary balance gap. This figure shows the primary balance gap, the difference between the primary balance required to stabilize debt (debt-stabilizing primary balance) and the actual primary balance. The primary balance is the fiscal balance before subtracting the interest on debt.
Source: Central Bank of Sri Lanka.

Table 5
Sri Lanka's international sovereign bond yields (2018–2022).

Maturity	1/1/2018	1/1/2019	1/1/2020	1/1/2021	1/1/2022	4/12/2022	5/31/2022	12/31/2022
Yields %								
1-yr (4/18/2023)		7.8	6.0	27.9	56.6	126.3	146.4	1067.4
2-yr (3/14/2024)			6.4	25.1	40.2	63.3	70.5	137.9
3-yr (6/3/2025)	5.2	8.1	6.8	20.1	28.1	41.9	43.5	57.9
5-yr (5/11/2027)	5.4	8.1	7.3	17.6	21.9	30.3	29.5	37.1
8-yr (3/28/2030)			7.7	16.6	19.4	24.4	25.0	29.6
Prices (Cents per US$)								
1-yr (4/18/2023)		92.5	64.3	57.4	40.0	40.0	39.2	35.2
2-yr (3/14/2024)			61.5	54.2	39.7	39.7	39.0	35.3
3-yr (6/3/2025)	105.9	90.3	60.3	53.7	39.8	39.8	40.4	36.9
5-yr (5/11/2027)	105.8	88.8	57.5	51.9	39.0	39.0	38.9	35.1
8-yr (3/28/2030)			57.8	52.1	38.9	38.9	39.0	35.1

This table shows the mid yield to maturity and mid-price (US$ cents per $100 par value) of ISBs with the remaining maturity of 1, 2, 3, 5, and 8 years as of April 2020 (month of default).
Source: Bloomberg.

prices plummeting to 40 cents on the U.S. dollar. Thus, bonds were trading at a 60% discount to the principal value.[17] Sri Lanka ran out of dollars to service external debt obligations and declared a unilateral default on external debt payments on April 12, 2022. By this time, yields had risen to the 24% to 126% range, reflecting the market expectations of an impending debt default. Subsequent to the default announcement, yields rose further to the 25% to 146% range across maturities by May 2022. ISB yields continued to rise during 2022, reaching the 30% to 1067% range, reflecting extremely elevated risk. The market prices of bonds declined to about 35 cents per U.S. dollar, implying a 65% discount to the par value.

7. The liquidity crisis

Next, the analysis focuses on Sri Lanka's international liquidity preceding the debt default in order to understand the role of FX reserves in the crisis. Chang and Velasco (1999) define international illiquidity as a situation in which a country's consolidated financial system has potential short-term obligations in foreign currency that exceed the amount of foreign currency it can access on short notice. Foreign currency obligations include short-term external debt, external debt service obligations, imports, and current account deficits. Using conventional practice, the FX reserves of the Central Bank are used as the proxy for the foreign currency resources available to the country to meet foreign currency obligations.[18] The evolution of the current account and FX

[17] In fact, the yield on the bond maturing on 07/25/2022 (not shown in Table 5) rose to 81% by 01/01/2022, 416% by 04/12/2022, and 854% by 05/31/2022.

[18] See Williamson (1984), where international reserves are defined to include liquid foreign exchange holdings of central banks, SDRs, and reserve positions in the Fund.

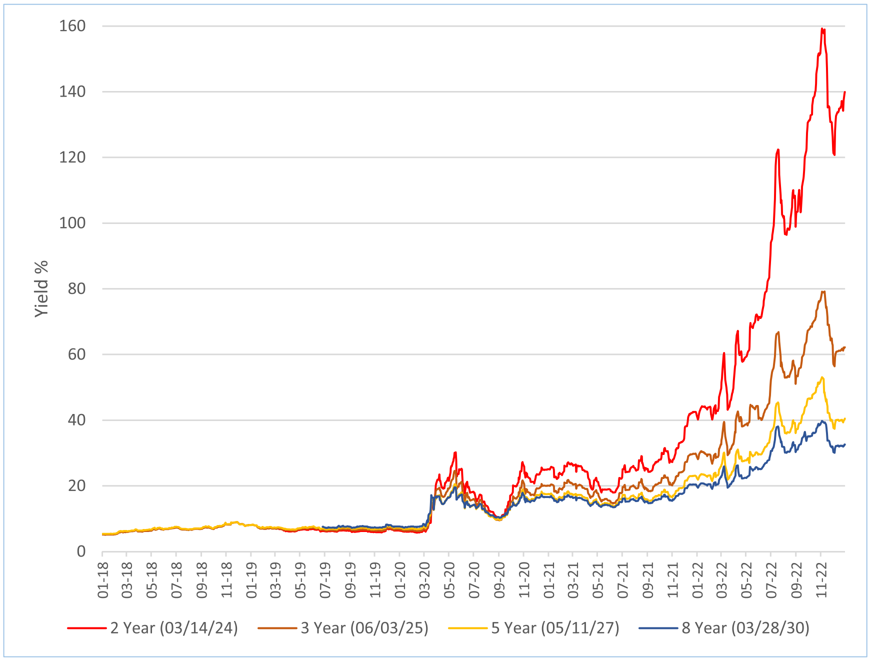

Fig. 7. The movements of Sri Lanka's international sovereign bond yields (2018–2022). This figure shows the mid yields of Sri Lanka's ISBs with the remaining maturity of 2, 3, 5, and 8 years as of April 2020, the month of debt default by Sri Lanka.
Source: Bloomberg.

reserves preceding the crisis is discussed first, followed by an assessment of the adequacy of foreign reserves using several metrics.[19]

7.1. Evolution of the current account and FX reserves

With declining foreign currency inflows and low official foreign reserves, particularly after the onset of the COVID-19 pandemic, Sri Lanka faced enormous difficulties financing the rising current account deficits, leading to the unprecedented liquidity crisis. The reason that the Sri Lankan government decided to default on external debt obligations in April 2022 was very simple. The country ran out of usable foreign reserves. The depletion of reserves and the resulting liquidity crisis was the final straw that led to the debt default. This section examines the factors contributing to this liquidity crisis.

Sri Lanka never had large FX reserves. From 2010 to 2019, its gross official reserves ranged from US$ 6 to 8 billion, adequate to cover about 5 to 6 months of imports. Increasing tourism earnings and steady foreign remittances, along with dollars received from the issuance of ISBs, helped maintain fairly steady levels of foreign reserves during this period. While the Easter Sunday bomb attacks in April 2019 led to a decline in tourism earnings and foreign remittances, steady exports and Sri Lanka's last issuance of ISBs for a total of US$ 2 billion in June 2019 helped maintain foreign reserves of US$ 7.6 billion by the end of 2019 (see Table 6). However, the Easter Sunday bombings had already damaged the investment environment in the country. Foreign capital outflows from rupee-denominated Treasury securities and the Colombo Stock Exchange continued. Thus, Sri Lanka had already set itself up for extreme vulnerability to external shocks before the COVID-19 pandemic hit the country in March 2020.

One of the most significant factors contributing to the liquidity crisis was the persistent and large current account deficits (see Table 6). Sri Lanka has had trade and current account deficits each year after the opening of the economy to foreign trade and investments in 1977. Export growth was low and volatile, while imports continued to grow at a higher rate. In the 10 years before the default (2012–2021), the annual trade deficit averaged US$ 8.5 billion (10% of the GDP), while the annual current account deficit averaged US$ 2.4 billion (2.8% of the GDP). The current account deficit in 2021, the year before the debt default, was US$ 3.3 billion (3.7% of the GDP), one of the largest in the 10 years before the crisis.

Another factor that contributed to the FX liquidity crisis is the use of informal money transfer channels, known as Hawala and Undiyal, to remit money to Sri Lanka from abroad. This is particularly important since foreign remittances are Sri Lanka's single largest source of foreign exchange. The Hawala method involves a person in a foreign country transferring money to a Hawala agent in that country rather than remitting them to a bank in Sri Lanka and a Hawala agent in Sri Lanka paying the intended recipient an equivalent amount in Sri Lankan in rupees. This transaction completely bypasses the formal banking system. More importantly, the country does not receive the foreign currency involved in the transaction. The primary reason for the popularity of the Hawala method during the crisis was that it provided a significant premium over the official exchange rate. Thus, the use of Hawala channels has been cited as one of the reasons for foreign currency shortfalls. As long as there is an expectation that the rupee will depreciate significantly in the future, the Hawala channels will likely disrupt remittances through formal channels.

In 2020, exports dropped by almost US$ 2 billion or 16%, and net tourism earnings plummeted by US$ 1.7 billion or an astonishing 88% following an already 18% drop in the previous year. Foreign capital outflows continued, although not large, since foreign portfolio investments had already fled the country in previous years. No recourse was available to replenish the decline in foreign currency inflows except to rely on various bilateral swap agreements. The country needed US$ 4 to 5 billion for annual foreign debt service payments, which it partly financed in the past by rolling over the maturing ISBs. As stated earlier, with the onset of the pandemic, Sri Lankan ISB yields began to rise precipitously to 19% to 40% across maturities, reflecting the severe distress conditions and effectively shutting off Sri Lanka from foreign

[19] See also the guidance note on the assessment of reserve adequacy and related considerations, International Monetary Fund (2016), for a detailed discussion of metrics for assessing reserve adequacy.

Table 6
Main components of the balance of payments.

Year	Exports (US$ mn)	Imports (US$ mn)	Trade Balance (US$ mn)	Trade Balance (% GDP)	Current Account Balance (US$ mn)	Current Account Balance (% GDP)	Net Tourism Earnings (US$ mn)	Net Remittances (US$ mn)	Foreign Exchange Reserves (US$ mn)	Financial Account Balance (US$ mn) (a)	Change in the Financial Account Balance (US$ mn) (a)
2012	9774	19,190	-9416	-13.8	-3982	-5.8	328	6407	7106	4263	8362
2013	10,394	18,003	-7609	-10.2	-2541	-3.4	527	5619	7495	3064	-1200
2014	11,130	19,417	-8287	-10.4	-1988	-2.5	1169	6199	8208	1536	-1528
2015	10,547	18,935	-8388	- 9.9	-1883	-2.2	1420	6167	7304	2312	776
2016	10,310	19,183	-8873	-10.1	-1742	-2.0	1977	6434	6019	2182	-131
2017	11,360	20,980	-9620	-10.2	-2309	-2.4	2326	6316	7959	2123	-59
2018	11,890	22,233	-10,343	-10.9	-2779	-2.9	2721	6155	6919	3378	1255
2019	11,940	19,937	-7997	-9.0	-1843	-2.1	1969	5757	7642	2460	-918
2020	10,047	16,055	-6008	-7.1	-1187	-1.4	234	6194	5665	394	-2066
2021	12,499	20,637	-8138	-9.2	-3284	-3.7	268	5221	3139	4211	3817
2022	13,106	18,291	-5185	-6.7	-1453	-1.9	893	3493	1898	1946	-2265

This table shows the main components of the balance of payments of Sri Lanka. It shows exports of goods (US$ mn), imports of goods (US$ mn), trade balance (US$ mn and % GDP), current account balance (US$ mn and % GDP), net earnings from tourism (US$ mn), net remittances (US$ mn), financial account balance (US$ mn), and the change in the financial account balance (US$ mn). (a) Positive financial account balances indicate net inflows, and negative balances indicate net outflows.
Source: Central Bank of Sri Lanka.

commercial borrowings. So, the rollover could not continue, and it was impossible to tap foreign borrowings to build reserves either. As a result of these factors, FX reserves declined by US$ 2 billion to US$ 5.7 billion by the end of 2020.

Sri Lanka experienced a "sudden stop" in foreign capital flows (Dornbusch et al., 1994; Calvo, 1998) in 2020. It is the first year the country could not access international capital markets to issue U.S. dollar-denominated sovereign bonds. At the same time, the budget deficit widened to US$ 8.9 billion in 2020, and in the previous four years, on average, 50% of the budget deficit was financed through foreign borrowings. In the previous four years, on average, Sri Lanka's net issuance of foreign bonds amounted to US$ 8.4 billion or US$ 2.1 billion per year. Not only did capital flows in the form of foreign borrowings completely dry up, but the country also had to make redemption payments on maturing sovereign bonds to the amount of US$ one billion. The result was the loss of FX reserves of about US$ 2 billion in 2020—the sudden stop forced Sri Lanka to use reserves. The situation continued in 2021 with a reserve loss of US$ 2.5 billion, eroding reserves to a mere US$ 3 billion. Alternatively, the financial account balance of the BoP, which was positive, indicating net financial inflows, declined by US$ 2 billion in 2020, the largest such drop since 2013, showing evidence of a sudden stop (see Table 6).

Although exports recovered to US$ 12.5 billion in 2021, which was an increase of US$ 2.5 billion from the pandemic low of US$ 10 billion in 2020, imports rose by over US$ 4 billion, and net foreign remittances dropped by about US$ one billion. As a result, the current account deficit ballooned to US$ 3.3 billion. Reflecting these conditions, foreign reserves had declined by the end of 2021 to US$ 3.1 billion, a drop of US$ 2.5 billion from the previous year, adequate to finance less than two months of imports. By March 2022, reserves further declined to US$ 1.9 billion. Sri Lanka depleted its foreign reserves by mid-April, forcing it to suspend external debt payments unilaterally in April 2022.[20]

[20] The Ukraine-Russia conflict that broke out on Feb. 24, 2022, didn't significantly impact trade with Russia. In fact, the total trade with Russia increased significantly in 2022, led by higher fuel imports. Although the total trade with Ukraine halved in 2022 relative to 2021, such trade was not large enough to impact the external balances significantly. While the Russia-Ukraine war affected tourist arrivals from European countries, including Russia and Ukraine, the domestic social, political, and economic conditions were the main negative factors that caused a significant decline in tourism in 2022. The rise in world oil prices following the onset of the Ukraine war impacted Sri Lanka's fuel prices and inflation, mostly after the debt default in April 2022.

7.2. Assessment of reserve adequacy

The above evidence clearly demonstrates the deterioration of liquidity due to the widening of current account deficits over the years. To provide a more concrete analysis of FX reserves in relation to various demands on them, the following analysis focuses on the adequacy of foreign exchange reserves. Table 7 shows the results of this assessment using several different metrics.

The ratio of FX reserves to short-term external debt indicates the ability to cover short-term foreign debt. It is widely used as a measure of crisis risk and an important test of liquidity. It is common to use the rule of 100% cover of short-term debt as the standard for measuring reserve adequacy. As the data show, except for 2017, the ratio was below 100% during 2015–2021. It declined to 69% in 2020 and a dangerously low level of 37% in 2021, providing a strong warning signal of an impending liquidity crisis. The ratio further deteriorated to 25% in 2022—the year of debt default.

The import coverage, calculated as the ratio of FX reserves to monthly imports, is widely employed to measure the sustainability of imports in the event of a crisis, with three months of coverage being a typical benchmark. The import coverage exceeded the benchmark in the 2015–2020 period, fluctuating between 3.7 and 4.6. However, it dropped to 1.8 months of coverage in 2021. Alternatively, we also show FX reserves as a % of annual imports. The standard three-month import coverage translates into reserves covering 25% of annual imports. This ratio also exceeded the benchmark before 2021, fluctuating in a narrow range between 31% and 39%. However, reflecting the decline in the import coverage, this ratio also plummeted to just 15% in 2021, suggesting that only 15% of imports could be financed through reserves in 2021. This evidence clearly shows the deterioration of the ability to finance imports and, hence, the severe liquidity crunch faced by Sri Lanka. In 2022, this ratio further declined to 10%.

In terms of financing the current account deficit, the ratio of FX reserves to the current account ranged between 249% and 477% during the seven years preceding the crisis. It should be noted that this ratio was particularly high in 2019 and 2020 because of the significant decline in the current account deficit during the pandemic years. However, the ratio dropped to 95% in 2021 due to the combined effects of the highest current account deficit and the lowest FX reserves recorded during these seven years. This evidence demonstrates that Sri Lanka was already in liquidity and BoP crises, unable to provide foreign currency to fund imports beyond two months and with a high current account deficit in excess of FX reserves.

Table 7
Assessment of reserve adequacy.

Year	Foreign Exchange Reserves (US$ mn)	Short-Term External Debt (US$ mn)	External Debt Service Payments (US$ mn)	External Debt Service – Principal Payments (US$ mn)	Reserves/ Short-term External Debt (%)	Import Cover (Months)	Reserves/ External Debt Service Payments (%)	Reserves/ Imports (%)	Reserves/ Current Account Deficit (%)	Reserves/ Current Account Deficit + Principal Payments (%)	Reserves/ ARA-EM Metric (%)
2015	7304	7653	4772	3580	95.4	4.6	153.1	38.6	387.9	133.7	53.7
2016	6019	7343	4461	3243	82.0	3.8	134.9	31.4	345.5	120.7	41.9
2017	7959	7833	4566	3167	101.6	4.6	174.3	37.9	344.7	145.3	49.8
2018	6919	8029	5866	4188	86.2	3.7	118.0	31.1	249.0	99.3	44.1
2019	7642	8250	5757	4096	92.6	4.6	132.7	38.3	414.7	128.7	46.1
2020	5665	8195	4604	3004	69.1	4.2	123.0	35.3	477.3	135.2	51.5
2021	3139	8421	4597	3187	37.3	1.8	68.3	15.2	95.6	48.5	27.9
2022	1898	7627	2471	1710	24.9	1.2	76.8	10.4	130.6	60.0	18.4

This table shows the results of the assessment of reserve adequacy. It shows foreign exchange reserves (US$ mn), short-term external debt (US$ mn), external debt service payments (US$ mn), the principal component of external debt service payments ($US mn), reserves to short-term debt ratio (%), import cover (months), reserves as a percent of debt service payments, reserves as a percent of exports, reserves as a percent of the current account deficit, reserves as a percent of current account deficit plus principal payments on external debt, and reserves as a percent of the ARA-EM Metric based on April 11, 2023 update by IMF.
Source: Central Bank of Sri Lanka and the International Monetary Fund.

FX reserves are also required to meet external debt service obligations, which include both principal (amortization) and interest payments on all short and long-term external debt obligations. FX Reserves to debt service payments ratio measures the ability to cover annual principal and interest payments on external debt. This ratio varied between 118% to 153% prior to 2021. Here also, it declined to 68% in 2021, indicating that only 68% of external debt service was supported by the available reserves—a clear warning sign of an impending debt crisis.

The ratio of FX reserves to current account deficit plus principal payments on external debt measures the most pressing demands on reserves, i.e., financing current account deficit and external debt payments. Note that interest payments on external debt are already included as an outflow in the current account. Therefore, this measure incorporates the impact of total external debt service obligations and non-debt current account items. Interestingly, Sri Lanka's FX reserves could cover both the current account deficit and principal payments on external debt in the years before 2021, except in 2018, when it was 99%. In 2021, however, the coverage dropped to an astonishingly low 49% from the previous year's ratio of 135%. This meant Sri Lanka's FX reserves were adequate to cover just about half of the needs of the current account plus principal payments on external debt. This still does not include other demands for the use of FX reserves, such as the central bank intervention in foreign exchange markets to stabilize the currency, capital outflows of citizens for sending money abroad for various purposes, and capital outflows of foreign investors in local-currency denominated Treasury securities and equity securities in the Colombo Stock Exchange. The loss of reserves also led to a corresponding decline in the net foreign assets of the Central Bank since international reserves are a part of them.

The final metric uses the Assessing Reserve Adequacy-Emerging Markets (ARA-EM) Metric of the IMF. This metric is based on four components reflecting potential drains on the balance of payments: (i) export income to reflect the potential loss from a drop in external demand or a terms of trade shock; (ii) broad money to capture potential residents' capital flight through the liquidation of their highly liquid domestic assets; (iii) short-term debt to reflect debt rollover risks; and (iv) other liabilities to reflect other portfolio outflows. A ratio of reserves to the ARA-EM Metric in the range of 100–150% is considered broadly adequate[21] As the data show, Sri Lanka's ARA-EM metric varied between 44% and 54% in the 2015–2020 period and declined to just 28% and 18% in 2021 and 2022, respectively. Unlike the previous conventional metrics, the ARA-EM shows that Sri Lanka's FX reserves were in severe shortfall not only in 2021 and 2022 but also in the years preceding.

8. The currency crash

Sri Lanka has been following an independently floating exchange rate regime since 2001, with the Central Bank intervening in the foreign exchange market to prevent excessive volatility and build up FX reserves. Following a sharp depreciation of 16% in 2018, the Sri Lankan rupee was broadly stable in the range of Rs. 182 to 200 per US$ from 2019 to 2021 (see Table 8). However, FX reserves continued to decline in 2020 and 2021, reaching a mere US$ 3.1 billion or just 1.8 months of import cover by the end of 2021.

The sudden stop of foreign borrowings in 2020 forced the government to rely exclusively on domestic borrowings by issuing local currency-denominated Treasury bills and bonds to finance ballooning deficits. For example, domestic financing was 105% and 101% of the deficits in 2020 and 2021, respectively, whereas it was only about 50% in the four years before 2020. Not only did this crowd out the private

Table 8
Nominal and real effective exchange rate (2015–2022).

Month-Year	NEER 2017 = 100	REER 2017 = 100	Rs. Per US $	Annual Inflation (%)
Dec-15	106.31	101.43	144.06	4.6
Dec-16	105.44	103.07	149.80	4.5
Dec-17	97.92	100.10	152.85	7.1
Dec-18	87.36	89.41	182.75	2.8
Dec-19	87.18	91.20	181.63	4.8
Dec-20	82.95	88.18	186.41	4.2
Dec-21	79.58	90.41	200.43	12.1
Jan-22	79.17	91.52	201.19	14.2
Feb-22	79.24	91.93	201.06	15.1
Mar-22	62.55	73.89	299.00	18.7
Apr-22	50.88	65.10	341.85	29.8
May-22	46.22	63.65	360.76	39.1
Jun-22	46.42	71.58	359.88	54.6
Jul-22	47.12	75.92	360.80	60.8
Aug-22	47.27	77.70	361.15	64.3
Sep-22	48.10	81.35	362.90	69.8
Oct-22	48.69	81.40	363.30	66.0
Nov-22	47.99	79.82	363.19	61.0
Dec-22	47.26	78.80	363.11	57.2

This table shows the nominal effective exchange rate (NEER), the real effective exchange rate (REER), Sri Lankan rupees per U.S. dollar, and the annual inflation, measured by the change in the Colombo Consumer Price Index (CCPI).
Source: Central Bank of Sri Lanka and Department of Census and Statistics of Sri Lanka.

[21] International Monetary Fund (2016).

sector, but, more importantly, Sri Lanka had to use its FX reserves to service external debt obligations. The result was reserve losses and, ultimately, the collapse of exports and the currency and a classic BoP crisis (Krugman, 1979). In fact, imports declined by 11% in 2022, and as discussed below, the real exchange rate collapsed by 30% in the first five months of 2022 (See Fig. 8).

As a result of the dying up of liquidity in the domestic FX market, in March 2022, the Central Bank of Sri Lanka (CBSL) allowed the currency to depreciate. The currency depreciated to Rs. 360 per US$ by mid-May 2022—a 44% plunge over roughly four and half months since December 2021. Since then, the CBSL effectively pegged the rupee to the U.S. dollar at around Rs. 360 and maintained a tighter currency band.[22] The rupee traded at Rs. 363 by the end of 2022, marking a 45% depreciation for the year. Frenkel and Rose (1996) define a currency crash as an annual depreciation of 25% or higher. Accordingly, not only does the 45% depreciation of the rupee in 2022 constitute a currency crash, but it also marks the largest currency crash in the history of Sri Lanka.[23]

Occasional large devaluation of the currency and maintaining its value in a relatively narrower range for multiple years without significant further depreciation has been a key feature of Sri Lanka's ad-hoc exchange rate management. This perhaps reflects the fear of floating (Hausmann et al., 2001; Calvo and Reinhart, 2002) and destabilizing large currency declines. The Central Bank has managed the currency with import and capital controls, absorbing shocks through domestic FX market intervention. This tightly managed exchange rate creates a dangerous misalignment in the currency's value, which may not be sustainable in the absence of adequate FX reserves. When reserves dry up, it will become unviable to hold the currency, such as what happened from 2022 February to May, requiring further devaluations.

The nominal effective exchange rate (NEER) continued to decline, reflecting the continued depreciation of the rupee against a 24-currency basket. The NEER suffered its biggest drops in March and April of 2022 due to the large declines in the nominal value of the currency in these two months and stayed flat thereafter as the Central Bank fixed the currency at around Rs. 360 per US$. The Central Bank also imposed severe import restrictions, creating shortages of imported goods. Further, domestic food production declined following the abrupt conversion to organize fertilizer in April 2021. As a result of a combination of lower food production, reduced supply of imported goods, and higher cost of imported goods, inflation continued to rise precipitously. The year-over-year headline inflation reached 30% in April 2022—the month of debt default—peaking at 70% in September 2022. Reinhart and Rogoff (2004) define inflation crises in the post-World War II period when the 12-month annual inflation reaches 40% or higher. Based on this threshold, Sri Lanka entered an inflation crisis in June 2022 when the 12-month inflation exceeded 40% for the first time and reached 55%. Since then, inflation has ranged from 55% to 70%.[24]

As expected, due to the nominal depreciation of the Sri Lankan rupee, the real effective exchange rate (REER) also declined from March through May 2022. Since fixing the currency in May 2022, the extraordinarily high inflation in Sri Lanka relative to its trading partners has caused the REER to appreciate. However, it has fallen below the value that prevailed before the currency's sharp depreciation in March, improving Sri Lanka's export competitiveness. The very high inflation in the rest of 2022 has partially eroded the competitive gains of the nominal depreciation of the currency.

9. Main policy implications

The analysis of this paper provides clear evidence that the root cause of the Sri Lankan economic crisis is fiscal. Fiscal profligacy, compounded by the COVID-19 pandemic, set off a predictable chain of outcomes—rising budget deficits, higher public debt, higher foreign debt, credit downgrades, higher cost of external borrowing, loss of access to international capital markets, loss of FX reserves, and debt default. These outcomes culminated with fiscal, debt, currency, inflation, and BoP crises of unprecedented proportions.

Financing large budget deficits through borrowings caused the accumulation of public debt. More importantly, the increased reliance on foreign commercial borrowings to finance deficits and roll over maturing foreign debt obligations led to a build-up of foreign debt. Once the COVID-19 pandemic hit, the cost of external borrowing became prohibitively expensive, and the country lost access to international capital markets. With a fixed exchange rate and current and capital account controls, the available FX reserves were exhausted for the Central Bank's interventions in the FX market to support the currency, financing current account transactions, and payment of external debt obligations, among other uses, leading to the loss of reserves. Financial exigency forced Sri Lanka into the inevitable default on external debt.

What economic policy implications can we draw from the Sri Lankan economic crisis? The main implications for fiscal, debt, trade, investments, and development policies are briefly outlined below.

First and foremost, the analysis shows that Sri Lanka's public debt—central government debt of US$ $88 billion and a debt ratio of 100% in 2021—is clearly unsustainable. Although the debt stock has declined in U.S. dollar terms to $76 billion as of the end of 2022 due to the deflation of domestic debt consequent to currency depreciation, the debt ratio rose to 114% in domestic currency terms. In comparison, Sri Lanka's debt ratio was the second highest among the EMMIEs in 2021, whereas the average for these economies was 65%.[25] The debt sustainability analysis also confirms the infeasibility of the recent trajectory of fiscal deficits to stabilize debt.

While the interest cost of the large domestic debt stock—US$ 41 billion in 2022— adds extraordinary pressure to the budget, the most concerning is foreign debt because of the lack of foreign currency to pay their interest and principal obligations. Foreign debt cannot be deflated away by currency depreciation and remains large at US$ 34.3 billion, accounting for 45% of total debt and 52% of the GDP as of 2022. External debt service payments alone are projected to be in the US$ 4 to 5 billion range in the medium term.

The assessment of reserve adequacy provides compelling evidence of a severe illiquidity situation with extremely low usable reserves to cover current account transactions and principal payments on foreign debt. This illiquidity problem is unlikely to be corrected organically anytime in the medium term. Maintaining the status quo means continued debt stress and illiquidity for the foreseeable future.

The significant policy implication from this evidence is that Sri Lanka must restructure external debt as the highest immediate priority.[26] This

[22] Since the beginning of March 2023, the Central Bank has allowed the currency to be market-determined without a currency band, with interventions in the FX market as necessary to contain volatility. The rupee appreciated by 17.6% in the first six months of 2023.

[23] The only other currency crash experienced by Sri Lanka occurred in 1977 when the rupee depreciated by 43% as the country transitioned from a closed-form economy to an open economy. An annual currency depreciation of 15% is considered a currency crash when including periods prior to World War II (see Reinhart and Rogoff (2011); Reinhart and Rogoff, (2009). Based on this threshold, Sri Lanka has had five episodes of currency crashes— 1967 (19%), 1977 (43%), 1989 (17%), 2018 (16%), and 2022 (45%).

[24] An annual inflation threshold of 20% is used for inflation crises when including periods before World War II (see Reinhart and Rogoff, 2011; Reinhart and Rogoff, 2009). According to this threshold, Sri Lanka entered an inflation crisis in April 2022—the month of debt default—when the 12-month inflation rose to 22%.

[25] According to the IMF Fiscal Monitor (October 2022c), the highest was Venezuela, with a debt ratio of 241%.

[26] On May 24, 2022, Sri Lanka announced the appointment of Clifford Chance as the legal advisor and Lazard, France, as the financial advisor for the restructuring of external debt.

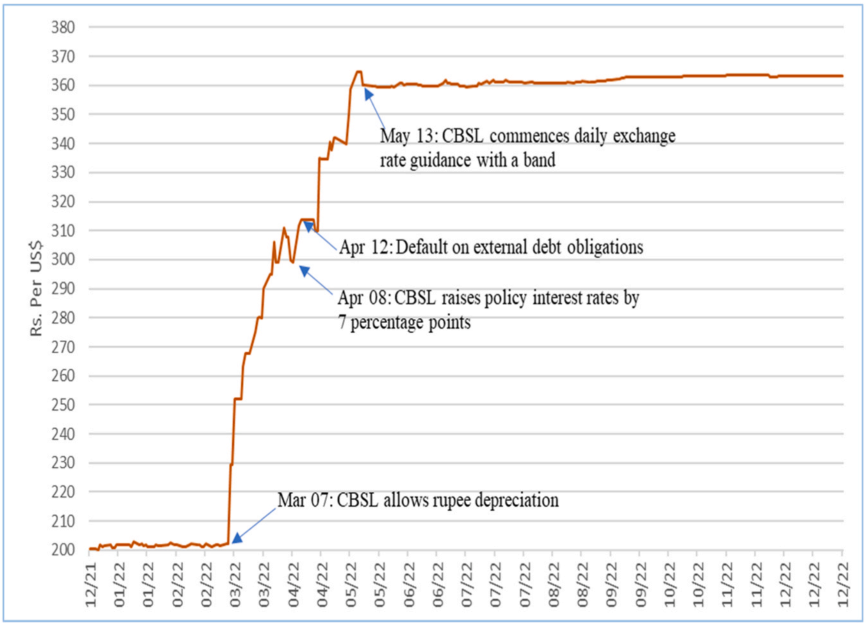

Fig. 8. The movements of the rupee in 2022. This figure shows the movements of the Sri Lankan rupee against the U.S. dollar, along with key events affecting the currency in 2022.
Source: Central Bank of Sri Lanka.

will involve a mix of strategies, including a substantial reduction in the principal value (haircut), lowering coupon rates, extension of maturities, and changing the characteristics of such bonds and loans. More importantly, reducing the principal value of external debt is a necessary condition for relieving external debt stress. Such a debt restructuring would have to involve not only international sovereign bonds but also a sizable reduction and re-profiling of bilateral and multilateral debt. This is because even a best-case scenario of a 60% haircut on US$ 12.55 ISBs, as indicated by the current market pricing of about 40 cents per U.S. dollar, will only reduce external debt by US$ 7.5 billion. The remainder of the external debt of about $27 billion is substantial and unsustainable, given the fiscal capacity and FX reserves. Therefore, restructuring of ISBs is only the first, albeit necessary, step to restoring debt sustainability. A substantial reduction in the principal value and re-profiling of the rest of the external debt are essential for reducing the debt burden, providing breathing room for Sri Lanka to undertake deep structural reforms, and for debt sustainability in the long term.

In the absence of new foreign commercial borrowings, Sri Lanka has resorted to financing budget deficits primarily through domestic Treasury bills and bonds. A sizable proportion of such domestic debt is purchased by the Central Bank, thus monetizing debt, leading to higher money supply and inflation, particularly with the shortage of essential goods. Increased issuance of domestic debt also crowds out private investments, which are critical to economic growth. Therefore, a key policy implication is that continued monetizing of debt will be highly destabilizing to the financial system and the economy, and fiscal policy measures are needed to reduce the budget deficit in order to minimize debt monetization and contain the explosive growth of the stock of domestic debt.

Intrinsically related to the issues of budget deficits and debt monetization is the fact that Sri Lanka has a large stock of domestic debt amounting to US$ 41 billion or 55% of total debt as of 2022. While domestic debt does not pose FX liquidity issues associated with foreign debt, it creates a severe systemic fiscal problem. This is because of the high proportion of interest payments on domestic debt on the expenditure side of the budget. In 2022, the interest payments on the domestic debt alone were about US$ 4 billion, constituting 92% of total interest payments, 71% of revenue, and 32% of expenditures. This means Sri Lanka's ability to achieve fiscal sustainability critically depends on reducing the interest cost on domestic debt. This will require both reducing the principal value and re-profiling domestic debt. Given the size of the domestic debt stock, it is highly unlikely that Sri Lanka will achieve debt sustainability by re-profiling them alone. A sizable haircut in the nominal value of outstanding domestic debt will be critical to reducing the extraordinary interest burden.

The key policy implication from the above analysis is that Sri Lanka would also need to restructure its domestic debt portfolio.[27] A domestic debt restructuring (DDR) has to be implemented prudently and sequentially given the financial stability implications of reducing and re-profiling domestic debt, which is largely held by pension funds, including the two largest government pension funds—the Employee Provident Fund (EPF) and the Employee Trust Fund (ETF)—commercial banks, and other financial institutions. Ultimately, debt restructuring will have to reduce the total stock of public debt in absolute and relative terms and create conditions necessary for long-term fiscal sustainability. Further, it should minimize the need for the Central Bank's monetization of debt, lessen the crowding out of private investments, and help lower interest rates necessary to promote investments and economic growth.

As stated above, it is critically important to determine the financial stability implications of a DDR and design appropriate strategies for addressing them before undertaking a DDR. A combination of haircuts, lower coupon rates, and maturity extensions of government securities will reduce the present value of bonds, leading to lower assets on the balance sheets and lower earnings of banks, pension funds, and other financial institutions. Particularly concerning is the impact on banks and other financial institutions. Loss of capital and reduced earnings potential could cause bank liquidity problems and reduce banks' ability to provide credit to the economy, which can lead to output losses. If banks cannot meet capital shortfalls on their own accord, the government will be forced to bail out such banks by recapitalizing them through public funds to avoid a potential banking crisis. This requires designing bank recapitalization strategies and setting up funding mechanisms to provide

[27] On July 04, 2023, Sri Lanka announced a domestic debt operation process pursuant to the IMF policy conditions.

financial sector support. Bank capital shortfalls and losses may also undermine the public confidence in the banking system, causing potential demand for deposit withdrawals and bank runs, potentially leading to a full-blown banking crisis destabilizing the financial system and the economy. Therefore, assessing the possible adverse effects of a DDR on the financial system and readiness to address them in order to safeguard financial stability are critical pre-conditions for a successful DDR.[28] However, with prudent plans for addressing financial stability concerns in place, a comprehensive DDR must be undertaken to effectively reduce the nominal value of debt and, thereby, create a realistic pathway for debt sustainability.

In conjunction with debt restructuring to reduce the debt stock and interest burden on the budget, it is equally important to undertake comprehensive fiscal policy reforms to reduce the budget deficit, which is the fundamental cause of Sri Lanka's economic crisis. The evidence clearly shows that one of the most significant fiscal issues is very weak revenue generation. Sri Lanka's 8.3% revenue-to-GDP ratio in 2021 was the third lowest among the EMMIEs, the other two economies being Venezuela (6.0%) and Iran (8.1%). The picture is even more precarious when compared with the average of 25.8% for middle-income economies—Sri Lanka's revenue/GDP ratio is about one-third of the average. Quite clearly, the Sri Lankan government must increase its revenue significantly. This calls for rationalizing the tax policy, which involves broadening the tax base and revising tax rates in a progressive tax regime as appropriate.[29] However, this is an extremely challenging task in the current tough socio-economic conditions facing the people. The success of tax rate changes and base broadening will also be limited due to the declining and subdued economic and business activity. The economy contracted by 7.8% in 2022 and is expected to grow very slowly in the medium term in the best-case scenario.

While changes to tax structure are essential to a revenue-based fiscal consolidation, the Achilles heel is tax collection efficiency rather than the tax structure itself. This is something policymakers have failed to realize fully. Therefore, policy reforms are necessary to strengthen tax collection and enforcement mechanisms, given the country's high incidence of tax evasion. No matter how the tax structure is changed, achieving measurable success in raising government revenue will be extremely hard without efficient administrative mechanisms and tax payment systems. Reforming the Inland Revenue Department's human and technological capacity to increase collection efficiency and enforce tax laws should be done in parallel with changes to the tax structure. Two initiatives that are key to increasing tax collection efficiency include creating a mandatory tax filing requirement and digitizing tax administration.

The other side of the fiscal equation is government expenditure. Although Sri Lanka's government expenditure-to-GDP ratio of 20% in 2021 is well below the average of 31% for EMMIEs, expenditure rationalization should also be considered a necessary component of fiscal policy reforms. Policymakers do not adequately emphasize this aspect of the fiscal equation either. Many expenditure items are associated with unnecessary and duplicative government institutions, political and administrative structures, and non-priority areas.

The state-owned enterprises (SOEs) have been a source of drain on the government budget. The loss-making SOEs are sustained through budgetary support and Treasury-guaranteed funding from the banking sector. For example, the losses of the key 52 SOEs in 2021 amounted to Rs. 86 billion, and 20 of them incurred net losses amounting to Rs. 286 billion. The key among the loss-making SOEs are Sri Lankan Airlines, Ceylon Petroleum Corporation, Ceylon Electricity Board, Sri Lankan Transport Board, Water Supply and Drainage Board, State Engineering Corporation, Hotel Developers Company Limited, and Lanka Sathosa.[30] In addition to being a budgetary burden for recurrent and capital expenditure and a drag on the financial sector, the financially distressed and economically underperforming SOEs have led to inefficient allocation of resources, exerting a severe negative impact on economic growth. One of the main lessons of the crisis is that Sri Lanka no longer has the luxury of maintaining a bloated government sector with unprofitable SOEs and excessive public sector employment. Therefore, SOE restructuring, including divestitures to make them commercially viable and to minimize the budgetary burden, is critical to fiscal sustainability and enhancing Sri Lanka's growth potential. Further, the extensive and varied welfare and social safety nets are ill-targeted, ineffective in uplifting the poor, and have no effective exit goals or mechanisms. Policy reforms must address removing unnecessary and wasteful expenditures and redirecting the fiscal space so created to productive growth-enhancing public investments.

Sri Lanka would have to resume servicing external debt obligations at some point after debt restructuring is completed. Before the crisis, external debt service payments were in the US$ 4 to 5 billion range. Although a successful restructuring of external debt could reduce the amount of external service payments in the medium term, Sri Lanka would likely need substantial foreign currency to service them beyond any grace periods offered. To ensure healthy levels of FX reserves, Sri Lanka should rebuild its primary foreign currency earnings sources, including exports, remittances, and net tourism earnings. In addition, foreign investment policies must be geared towards attracting non-debt foreign direct investments, which Sri Lanka never had in any significant amount even before the crisis. Otherwise, Sri Lanka will be forced to resort to market-based foreign borrowings once again to refinance and service foreign debt, which led to the current debt crisis in the first place.

While debt restructuring and fiscal reforms are absolutely necessary conditions for medium-term stability, long-term economic stability requires consistently higher economic growth. Steering the economy into a higher growth trajectory requires substantial structural reforms. Such structural reforms need a comprehensive, long-term development policy framework to create a diversified, export-oriented economy. Industrialization, trade reforms, and promoting foreign direct investments are cornerstones of enhancing export-oriented growth.

Furthermore, Sri Lanka lacks a credible and coordinated economic policy formulation and implementation mechanism. At best, it is highly ad hoc and uncoordinated. There is no credible national policy-making body staffed by economic, financial, and other sectoral experts providing independent and non-partisan evaluation and advice to the government on various policy proposals put forward by various government entities, including the Ministry of Finance, the Central Bank of Sri Lanka, and other ministries. Establishing a credible national economic plan and an effective institutional mechanism for policy formulation and implementation is essential to any measurable and long-term success in addressing significant socio-economic problems facing Sri Lanka.

In the context of the debt default, severe financial distress, and loss of investor confidence, the country will benefit from the IMF program to implement the necessary fiscal policy and structural reforms with the discipline provided by IMF policy conditions and monitoring and to restore international investor confidence. However, the current or future IMF programs are not the panacea for the country's economic and financial problems, as amply evidenced by 16 previous IMF programs implemented in Sri Lanka. The current economic crisis has given an awaking and a window of opportunity for Sri Lanka to take ownership of its own destiny and formulate policies that are not only prudent but also appropriate for the country's socio-economic conditions and stage of development and implement them aggressively within a comprehensive

[28] See Grigorian (2023) for a discussion of financial stability considerations in domestic debt restructuring.

[29] The government has already rolled back some of the tax cuts that were announced in late 2019.

[30] See Ministry of Finance, Economic Stabilization and National Policies of Sri Lanka, Annual Report, 2021.

and integrated socio-economic development plan. Ultimately, economic and financial reforms must create conditions for Sri Lanka to break from the deficit-debt spiral and grow out of debt in the long term, which requires higher and sustained economic growth. Based on Sri Lanka's past record of economic reforms, compounded by the prevailing domestic and global social, political, and economic conditions, the success of economic reforms this time requires an extraordinary effort by the government and all stakeholders.

10. Summary and conclusions

This paper provides a comprehensive analysis of the causes of Sri Lanka's economic crisis and its key policy implications. The analysis clearly shows that the root cause of Sri Lanka's ongoing economic crisis is persistent and large fiscal deficits.

Financing large budget deficits through borrowings caused the accumulation of public debt. More importantly, the increased reliance on foreign commercial borrowings through international sovereign bonds to finance deficits and rolling over of maturing foreign debt obligations led to an unsustainable build-up of foreign debt. Once the COVID-19 pandemic hit Sri Lanka, the cost of external borrowing became prohibitively expensive, and the country lost access to international capital markets. With a pegged exchange rate and current and capital account controls, the available FX reserves were exhausted by the Central Bank's interventions in the FX market to support the currency, current account transactions, and payment of external debt obligations, among others, leading to the loss of reserves. The loss of reserves caused a severe FX liquidity crisis, leading to a BoP crisis. The currency plummeted, exacerbating the already high inflation due to the shortage of domestic food production. The weakening socio-economic conditions led to political turmoil and popular unrest in the country. Financial exigency forced Sri Lanka into defaulting on external debt. The country is engulfed in multiple crises—fiscal, debt, currency, inflation, and BoP—which necessitates difficult, far-reaching, and painful economic and financial reforms.

The main policy implications arising from the crisis are fairly straightforward. First, Sri Lanka must undertake a comprehensive program for substantial restructuring of its foreign and domestic debt and ensure debt sustainability. Second, sweeping fiscal policy reforms anchored by revenue increases and expenditure rationalization are necessary to reduce fiscal deficits, which will, in turn, positively impact debt sustainability. Along with these measures, Sri Lanka will need to minimize the monetizing of fiscal deficits through domestic debt issuances to avoid destabilizing monetary and financial conditions. While debt restructuring and fiscal reforms are necessary conditions for medium-term stability, long-term economic stability requires consistently higher economic growth. To this end, Sri Lanka must establish a credible and robust framework for national economic policy formulation and implementation and vigorously implement comprehensive growth-enhancing reforms within an integrated and long-term socio-economic development plan.

CRediT authorship contribution statement

Lalith Samarakoon: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Appendix

The evolution of Sri Lanka's economic crisis.

Date or Year	Key Events and Information
April 21, 2019	Easter Sunday bomb attacks on several Catholic churches and hotels in Colombo and surrounding areas, killing scores of people and crippling the economy and tourism.
November 27, 2019	The government announces sweeping tax cuts that include reducing the value-added tax (VAT) from 15% to 8%, increasing the VAT threshold from Rs. 12 million to 300 million, lowering the top marginal personal income tax rate from 24% to 18%, reducing the standard corporate income tax rate from 28% to 24%, eliminating the Nation Building Tax, Economic Service Charge, and the Debt Repayment Levy, among others, severely damaging the already weak revenue position.
December 2019	The budget deficit widens from 5% in 2018 to 9% in 2019. The debt ratio rises from 78% in 2018 to 82% in 2019. GDP growth declines from 2.3% in 2018 to -0.2% in 2019. FX reserves are US$ 7.6 billion. Inflation is 4.8%. The rupee-denominated one-year Treasury bill yield is 8.5%, and the 10-year Treasury bond yield is 10.2%. Dollar-denominated International Sovereign bonds (ISBs) with an approximate maturity of 5 years yield 6.4%.
March 11, 2020	The WHO declares COVID-19 to be a global pandemic.
March 2020	Central Bank of Sri Lanka (CBSL) issues regulations to suspend the release of foreign exchange with immediate effect for the importation of certain non-essential consumer goods under certain payment terms, limit the foreign travel allowance to US$ 5000, suspend motor vehicle imports and non-essential goods under certain payment terms, and suspend purchases of Sri Lankan international sovereign bonds.
April 02, 2020	CBSL announces temporary restrictions on outward remittances on capital transactions for three months.
April 24, 2020	Fitch downgrades Sri Lanka's international sovereign credit rating from B to B-.
May 2020	Sri Lanka's international sovereign bond yields jump to the 17% to 41% range, with the yield of the 5-year maturity rising to 21%, making it prohibitively expensive to borrow and shutting off Sri Lanka's access to international capital markets.
November 27, 2020	Fitch downgrades Sri Lanka's international sovereign credit rating to CCC.
December 2020	The budget deficit widens to 10.6%, the debt ratio rises to 96.5%, and the economy contracts by 4.6%. FX reserves decline to US$ 5.7 billion. Inflation is at 4.2%. The rupee-denominated one-year Treasury bill yield is 5%, and the 10-year Treasury bond yield is 7.6%. The yield on ISBs with an approximate maturity of 5 years reaches 28%.
February 18, 2021	CBSL mandates that export proceeds should be received in Sri Lanka for all goods exported within 180 days from the date of shipment and that 25% of the total export proceeds should be converted into Sri Lanka rupees immediately upon receiving such export proceeds into Sri Lanka.
April 2021	The government bans the importation and use of synthetic fertilizers and pesticides in a move to organic farming.
July 02, 2021	The government announces limits on outward remittances from personal or business foreign currency accounts for six months.
October 28, 2021	CBSL requires that the export proceeds be mandatorily received in Sri Lanka, in respect of all goods exported or services provided outside Sri Lanka, within 180 days from the date of shipment or provisioning of services and that the residual of the export proceeds received in Sri Lanka be mandatorily converted into Sri Lanka rupees, upon utilizing such proceeds only in respect of the authorized payments.
December 17, 2021	Fitch downgrades Sri Lanka's international sovereign credit rating to CC, citing high budget deficits and debt as critical vulnerabilities.

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Date or Year	Key Events and Information
December 2021	The budget deficit widens to 11.7%. The debt ratio rises to 100% with total debt of US$ 88 billion, of which foreign debt is US$ 32.5 billion. The economy recovers by 3.5%. FX reserves drop to US$ 3.1 billion. Currency reaches Rs. 200 per US$, marking a 7% depreciation for the year. Inflation rises to 12%. Rupee-denominated one-year Treasury bill yield increases to 8.2% while the 10-year Treasury bond yield rises to 11.8%. The yield on ISBs with an approximate maturity of 5 years is 26%.
March 07, 2022	CBSL allows the depreciation of the exchange rate.
March 09, 2022	Ministry of Finance announces import restrictions on 367 non-essential and non-urgent items due to the foreign exchange shortage.
March 31, 2022	Inflation reaches 18.7%. Sri Lankan rupee plummets to 299 per US$. Popular demonstrations (Aragalaya) begin over the country's worsening political and economic conditions.
April 08, 2022	CBSL raises policy interest rates by 7% to control the falling currency; The standard deposit rate is raised from 6.5% to 13.5%, and the standard lending rate is raised from 7.5% to 14.5%.
April 12, 2022	Sri Lanka unilaterally suspends payments on its external debt obligations.
April 13, 2022	Fitch downgrades Sri Lanka's international sovereign credit rating to C.
May 06, 2022	The government announces restrictions on payment terms for imports.
May 09, 2022	Prime Minister Mahinda Rajapaksa resigns.
May 13, 2022	CBSL commences daily exchange rate guidance with a band. The rupee reaches 360 per US$.
May 19, 2022	Fitch downgrades Sri Lanka's international sovereign credit rating to restricted default (RD). CBSL introduces a 100% margin deposit requirement on certain goods.
May 2022	The currency further depreciates to Rs. 361 per US$ by the end of May, marking a 44% drop in five months. Inflation reaches 39.1%.
June 10, 2023	The government eases import restrictions on 286 items.
July 06, 2022	CBSL raises policy interest rates further by 1%; standard deposit and lending rates rise to 14.5% and 15.5%, respectively.
July 14, 2022	President Gotabaya Rajapaksa resigns.
July 20, 2022	The former prime minister, Ranil Wickremasinghe, is elected the new president by the parliament.
July 22, 2022	The Member of Parliament, Dinesh Gunawardena, is appointed the new prime minister.
August 23, 2022	The government announces temporary suspension of selected imports.
September 01, 2022	Sri Lanka reaches a staff-level agreement with the IMF for an extended fund facility (EFF) arrangement.
September 2022	Annual inflation reaches 70%, while annual food inflation reaches 95%.
December 2022	The budget deficit narrows slightly to 10.2%. The debt ratio rises to 114%. The economy plummets by 7.8%. The rupee depreciates to 363 by year-end, marking a 45% drop for the year. FX reserves drop to US$ 1.9 billion. Annual inflation reaches 57%, while food inflation is 64%. Rupee-denominated one-year Treasury bill yield increases to 29% while the 10-year Treasury bond yield rises to 26%. The yield on ISBs with an approximate maturity of 5 years reaches 40%.
March 03, 2023	CBSL raises policy interest rates further by 1%; standard deposit and lending rates rise to 15.5% and 16.5%, respectively.
March 07, 2023	CBSL removes exchange rate guidance and mandatory forex sales requirements by banks.
March 20, 2023	The IMF approves a 48-month extended arrangement under the Extended Fund Facility (EFF) of US$ 3 billion, and Sri Lanka receives the first tranche of payments amounting to US$ 330 million.
April 28, 2023	The Sri Lankan Parliament approves the IMF agreement.
May 24, 2023	Sri Lanka hires Lazard to act as Sri Lanka's financial advisor and Clifford Chance LLP as the legal advisor for debt restructuring.
May 31, 2023	CBSL cuts policy interest rates by 2.5%; standard deposit and lending rates decline to 13% and 14%, respectively.

Sources: Central Bank of Sri Lanka and the Ministry of Finance.

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