INTERNATIONAL MONETARY FUND

TONGA

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION AND REQUEST FOR DISBURSEMENT UNDER THE RAPID CREDIT FACILITY—DEBT SUSTAINABILITY ANALYSIS

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Joint Bank-Fund Debt Sustainability Analysis	
Risk of external debt distress	High
Overall risk of debt distress	High
Granularity in the risk rating	Sustainable
Application of judgment	No

The risk of debt distress rating for Tonga remains high.[1] *Before the pandemic, Tonga's indebtedness gradually declined from FY2015*[2] *to FY2019 owing to much-needed fiscal consolidation efforts. Since 2020, however, the economy has been hit by multiple shocks, including the COVID-19 pandemic, tropical cyclone Harold in April 2020, and the volcanic eruption in January 2022. Against this backdrop, the public debt-to-GDP ratio rose in 2020 and 2021, reflecting increased expenditures related to reconstruction and COVID-19 response. The present value (PV) of the external debt-to-exports ratio is expected to breach the indicative threshold in FY2022-23 mainly due to the decline of exports triggered by the aforementioned external shocks. Moreover, under the baseline scenario, the PV of the external debt-to-GDP ratio is expected to breach the threshold starting in FY2032, reflecting large spending needs for climate resilience and SDGs, declining grant inflows, and rising debt repayments to multilateral development banks and China Exim Bank. The PV of the public debt-to-GDP ratio is expected to breach the benchmark starting from FY2032 under the baseline scenario. A tailored one-time large natural disaster shock would imply a significant deterioration in debt sustainability. Long-term debt sustainability hinges on fiscal adjustment and continued donor grant inflows to finance the necessary fiscal spending for climate resilience and SDGs. To rebuild fiscal buffers and enhance resilience against shocks, stronger revenue mobilization measures and expenditure rationalization, as well as external donor support in line with the historical trend are needed.*

[1] The Tonga Composite Indicator (CI) index, calculated on the basis of the October 2021 World Economic Outlook (WEO) and the 2020 Country Policy and Institutional Assessment (CPIA) released in June 2021, is at 3.12, indicating that Tonga's debt-carrying capacity is strong.

[2] All the figures are computed using fiscal year beginning in July, e.g., FY2021 runs from July 1, 2020, to June 30, 2021.

PUBLIC DEBT COVERAGE

1. Tonga's public debt includes obligations of the central government and central bank. The central bank's debt is borrowed on behalf of the government. Local governments do not incur debt, nor do other entities in the general government. As of end-June 2021, government-guaranteed debt was small, about 1 percent of GDP. Since the DSA coverage does not include debt of guaranteed and non-guaranteed state-owned enterprises due to data limitations, an additional 2 percent of GDP is added to the contingent liability test. Contingent liabilities also include a standard 5 percent of GDP cost to the government of a financial crisis, which is above the existing stock of financial sector NPLs.[3] The DSA is conducted on residency basis.

Tonga: Public Debt Coverage

	Subsectors of the public sector	Sub-sectors covered
1	Central government	X
2	State and local government	X
3	Other elements in the general government	X
4	o/w: Social security fund	X
5	o/w: Extra budgetary funds (EBFs)	X
6	Guarantees (to other entities in the public and private sector, including to SOEs)	
7	Central bank (borrowed on behalf of the government)	X
8	Non-guaranteed SOE debt	

1	The country's coverage of public debt	The general government, central bank			
		Default		Used for the analysis	Reasons for deviations from the default settings
2	Other elements of the general government not captured in 1.	0	percent of GDP	0.0	
3	SoE's debt (guaranteed and not guaranteed by the government) 1/	2	percent of GDP	2.0	
4	PPP	35	percent of PPP stock	0.0	
5	Financial market (the default value of 5 percent of GDP is the minimum value)	5	percent of GDP	5.0	
	Total (2+3+4+5) (in percent of GDP)			7.0	

1/ The default shock of 2% of GDP will be triggered for countries whose government-guaranteed debt is not fully captured under the country's public debt definition (1.). If it is already included in the government debt (1.) and risks associated with SoE's debt not guaranteed by the government is assessed to be negligible, a country team may reduce this to 0%.

BACKGROUND ON DEBT

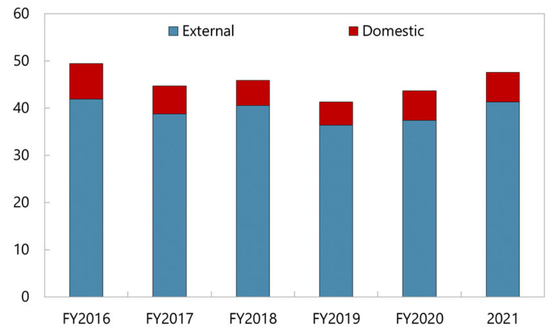
2. After years of decline, public debt level rose modestly since 2020. The public debt-to-GDP ratio declined from 51 percent at end-June 2015 to 41 percent at end-June 2019 (chart) as a result of fiscal consolidation efforts since FY2016. The recent increase reflects new issuance of domestic debt and the concessional loan under the IMF Rapid Credit Facility (RCF). To contain unfavorable debt dynamics, the government's fiscal anchors (introduced in FY2018) limit total public external debt-to-GDP to a maximum of 50 percent. Other than the RCF, Tonga has not contracted any external loans since 2018, although it is still receiving disbursements from prior loan commitments.[4]

[3] Tonga does not have arrears to external creditors.

[4] The remaining loan commitment is about 0.4 percent of GDP.

3. **Tonga's debt obligations are largely external, and over half of its total public debt is to China, with a sharp spike in debt repayments due from FY2024 onwards.** Total public and publicly guaranteed (PPG) external debt stood at USD196 million (about 41 percent of GDP) as of end-June 2021, accounting for 87 percent of total public debt. Outstanding debt to all multilateral creditors stood at USD75 million (about 15 percent of GDP), or about 41 percent of the total external debt stock. The single largest creditor remains the Export-Import Bank of China (China Exim Bank), which accounts for 58 percent of total external debt stock (chart).[5] Tonga started repayments to China Exim Bank in FY2019 with larger repayments coming due starting in FY2024. The spike reflects both the previously extended grace period and the DSSI rescheduling. Tonga's request for a temporary suspension of its calendar year 2020 debt service to the China Exim Bank under the G20 Debt Service Suspension Initiative (DSSI) has been accepted and the rescheduled debt repayments are included in the baseline scenario (text table). Reflecting the extension of the DSSI to the end of the calendar year 2021, the baseline scenario also incorporates rescheduled debt service repayments to China Exim Bank coming due during that period. Under the DSSI, debt deferral amounts to 1.4 percent of GDP in FY2021 and 0.7 percent of GDP in FY2022.

Total Public and Publically Guaranteed Debt
(in percent of GDP)



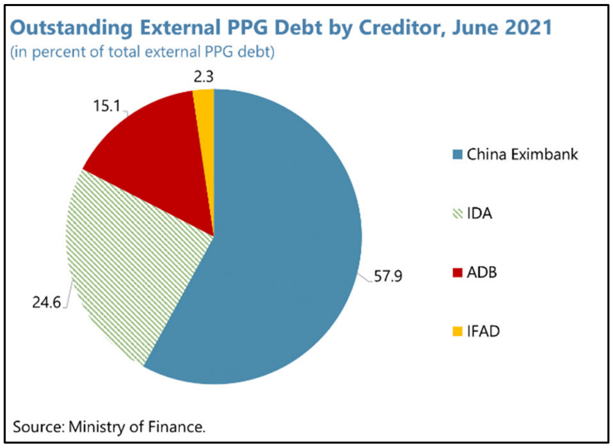
Sources: Ministry of Finance; and IMF staff estimates.

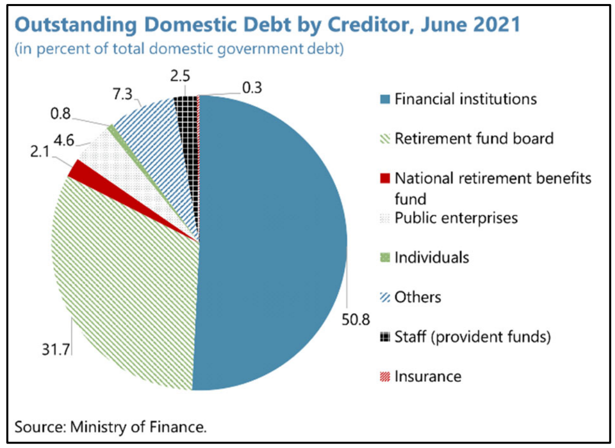
Tonga: Repayment Schedule for Existing External Debt, FY2022–32

	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
	(In percent of GDP)										
Total external debt	1.1	1.6	3.6	3.4	3.2	3.0	2.8	1.8	1.0	0.4	0.3
Multilateral	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.3
ADB	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1
IDA/WB	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
IFAD[1/]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMF	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.0	0.0
Bilateral	0.5	1.1	3.1	2.9	2.7	2.5	2.4	1.4	0.6	0.0	0.0
EXIM Bank of China	0.5	1.1	3.1	2.9	2.7	2.5	2.4	1.4	0.6	0.0	0.0

1/ Repayments are around 0.03 percent of GDP per year.
Sources: Ministry of Finance; and IMF staff estimates.

[5] The loans from China Exim Bank are denominated in Chinese renminbi.





4. **Tonga's domestic debt obligations are relatively small.** Public domestic debt stood at USD31 million (about 6 percent of GDP) at end-June 2021, accounting for 13 percent of total public debt. Domestic financial institutions hold about half of the total domestic debt with the rest held mainly by domestic pension funds (chart). The authorities plan to issue domestic debt in FY2022 and beyond, if necessary.

BACKGROUND ON MACROECONOMIC FORECASTS

5. **The assumptions in the baseline scenario are consistent with the macroeconomic framework presented in the Staff Report for the 2022 Article IV consultation and the second request for disbursement under the Rapid Credit Facility.** The baseline projections reflect the authorities' commitments to undertake reforms to enhance growth and achieve Tonga's climate resilience and SDGs under its Strategic Development Framework (SDF) 2015–2025, which comprise: enhancing trade facilitation and access to credit; building more climate-resistant public infrastructure as envisaged in the newly approved National Infrastructure Plan; boosting domestic revenues, including through tax administration reforms and rationalization of tax exemptions; and containing the public sector wage bill within the fiscal target while strengthening social protection and targeted support for the vulnerable.[6] Implementation of the SDF 2015–2025 has been sound.

- **Real GDP growth** is projected at 1.7 percent on average during FY2022–32 (Table), consistent with Tonga's long term GDP growth. Economic activity is expected to contract by 1.9 percent in FY2022 due to the effect of the volcano eruption and the ongoing war in Ukraine which pushed up fuel and food prices. With the planned gradual reopening of borders starting in early FY2023, GDP growth is expected to pick up pace in FY2023–24 in line with the global recovery and major

[6] The socioeconomic impacts from the volcanic eruption and ashfalls and COVID-19 are expected to be disproportionately larger for households relying on agriculture and tourism, likely leading to higher overall poverty given Tonga's dependence on these sectors. Two-thirds of Tonga's households derive income from agriculture, and a third of the total households had at least one member working in tourism-linked sector before the global pandemic. Furthermore, the recent increase in commodity prices has pushed up the cost of living for all households, but the economic impact is expected to be especially acute for the poor and vulnerable.

reconstruction activities. But post the reconstruction phase, GDP growth is expected to trend down to a potential growth rate of 1.8 percent over the medium- to longer-term, reflecting Tonga's remoteness and limited production base.[7] The risks to the projections are mainly on the downside. They stem from a weaker global recovery due to a new variant of the COVID-19 pandemic, faster-than-expected increase in fuel and food prices, extended global supply chain disruptions, delays in the resumption of tourism, and rising forces of deglobalization, that could have an adverse impact on Tonga via reduced remittances and donor funds from development partners. Tonga is also highly vulnerable to natural disasters and the threat of rising sea levels. Given the importance of remittance inflows and aid to Tonga's economy, disruptions in correspondent banking relationships would have knock on effects on the economy, the financial sector, and debt sustainability. On the upside, an earlier-than-anticipated resumption in tourism can help support consumption, a stronger and faster global recovery can help boost remittances, and higher capital spending on climate-resilient infrastructure projects could increase resilience to natural disasters at a faster pace.

- **Natural disaster**: The baseline scenario incorporates the effect of natural disasters and climate change over the longer-term, as well as the recent progress in strengthening contingency planning through the ongoing implementation of the Tonga Disaster Risk Financing Strategy 2021 – 2025. The years FY2023–25 are assumed to be disaster-free to simplify the policy discussion of the near-term outlook. From FY2026 onwards, the baseline incorporates the average long-term effects of natural disasters and climate change by lowering annual GDP growth by 0.16 percentage points. These estimates are based on the findings of IMF staff analysis on the impact of natural disasters in Pacific Island countries.[8]

- **Inflation** (measured by GDP deflator in USD terms) is projected to average 3 percent during FY2022–32 (Table). Inflation is expected to peak in FY2022, reflecting both the impacts of the recent increase in global commodity prices induced by the war in Ukraine and disruptions in domestic supply-side conditions (e.g., reduced agriculture production) following the volcanic eruption in January 2022, before trending down to lower levels in the medium term as global commodity prices stabilize in line with the IMF's April 2022 World Economic Outlook forecasts.

- The **non-interest current account deficit** is projected to reach 22.7 percent of GDP in FY2023 due to rising food and fuel prices, imports of reconstruction-related materials, slow recovery of tourism exports, and a decline in remittances from the exceptional levels during FY2021-FY2022. Over the medium- to long- term, the non-interest current account deficit is projected to average over FY2022–32 reflecting persistent weakness in export competitiveness, continued heavy

[7] Under the baseline projection, the spillover impacts from the war in Ukraine are mainly reflected in the form of a temporary increase in inflation pressures in 2022, which are expected to have some dampening effects on private consumption through the real income channel. Indirect spillovers through major trading partners (Australia and New Zealand), notably through the remittance channel, are expected to be small considering their commodity-exporter status.

[8] Lee, D., H. Zhang and C. Nguyen, 2018, "The Economic Impact of Natural Disaster in Pacific Island Countries: Adaptation and Preparedness", the IMF Working Paper No. 18/108.

import-reliance to support domestic demand, large imports in FY2023 for reconstruction and lower official transfer inflows after current commitments are met (Table).

- **Net FDI inflows** are expected to stand at 0.1 percent of GDP over FY2022–32.

Tonga: Baseline Macroeconomic Projections

(In percent of GDP, unless otherwise stated)

Current DSA	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2011-21 Historical average	FY2022-32 average
Real GDP growth (in percent)	-1.9	3.2	3.0	2.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.3	1.7
GDP deflator in US dollars (change in percent)	8.3	3.7	3.4	2.6	2.0	1.5	1.6	2.2	2.6	2.6	2.6	0.2	3.0
Non-interest current account deficit	5.8	22.7	19.3	8.1	13.8	13.8	16.1	9.9	10.6	9.9	9.6	5.6	12.7
Net FDI (negative = inflow)	1.2	1.2	0.8	1.0	1.0	0.9	0.0	-1.0	-1.0	-1.0	-1.2	1.3	0.1
Primary deficit	1.6	4.2	4.4	8.1	8.8	10.2	11.7	12.5	11.7	11.5	11.9	-2.4	8.8
Grants	30.2	20.5	14.6	12.7	11.1	9.3	7.4	6.5	5.0	4.9	4.1	16.5	11.5
Previous DSA													
Real GDP growth (in percent)	4.0	3.0	2.5	1.8	1.8	1.8	1.8	1.8	1.8				
GDP deflator in US dollars (change in percent)	3.1	1.9	1.9	1.9	2.0	2.1	2.1	2.1	2.1				
Inflation rate (GDP deflator, in percent)	2.1	2.0	1.9	2.3	2.4	2.7	2.6	2.2	1.9				
Non-interest current account deficit	9.1	8.1	11.5	11.3	13.6	13.2	13.2	13.0	13.1				
Net FDI (negative = inflow)	-0.9	-0.8	-0.7	-0.7	0.0	-0.7	-0.7	-1.0	-1.0				
Primary deficit	-0.4	-1.5	7.4	9.3	16.0	16.4	16.7	16.7	16.7				
Grants	18.1	20.1	10.5	8.1	0.8	0.8	0.7	0.7	0.7				

- Except for the IMF's second RCF-supported financing and rescheduled China EXIM Bank repayments under the DSSI, new external borrowing is expected to commence in FY2024 and to increase gradually over the medium term to refinance debt repayments coming due and the primary deficit which is expected to reach double digits over FY2028–2032. Even if the authorities were to rely only on grants for their budget spending needs because of the high risk of debt distress, under the baseline scenario, they would still need to borrow to meet their existing loan repayments.[9,10] The level of international reserves is expected to be sufficient to cover external debt repayments coming due until FY2023. However, when the large repayments to China EXIM Bank start coming due beginning in FY2024 (annual payments of about 2.6 percent of GDP in FY2024–29 on average), the authorities would not have enough cash buffers for debt repayments unless they borrow, or drawdown international reserves.

- **Fiscal outlook:** The primary deficit is expected to increase from 1.6 percent of GDP in FY2022 to 4.2 percent in FY2023 and then to 11.9 percent of GDP in FY2032 (Table). The higher deficit in FY2023 reflects the government's larger budget envelope aimed to support reconstruction and recovery despite higher domestic revenues. The deterioration over the long term is mainly due to lower grant inflows after existing commitments are met, and large spending needs to cover

[9] For the World Bank (IDA) and other multilateral development banks, regular credit terms on all lending are assumed for all years in the projection period for which grant finance has not already been committed, consistent with "Guidance Note on the Bank-Fund Debt Sustainability Framework for Low-income Countries" (http://www.imf.org/en/Publications/Policy-Papers/Issues/2018/02/14/pp122617guidance-note-on-lic-dsf).

[10] From 2024 onwards, new commitments from multilateral donors are assumed to be on full credit terms. The credit terms are 40-year maturity, 10-year grace period, 0.75 percent service charge. The discount rate used to calculate the net PV of external debt is the default value set at 5 percent.

infrastructure gaps and meet climate resilience and Sustainability Development Goals (SDGs). At the same time, domestic revenues are expected to improve over time reflecting the authorities' ongoing efforts in revenue administration and tax arrears collection. Public sector wages are also projected to decline gradually to a level below the fiscal target of 53 percent of domestic revenue in FY2025. The fiscal deficit as share of GDP is expected to decline beyond 2032 as capital spending needs moderate after the completion of the authorities' multi-year reconstruction program and accumulation of climate-resilient capital in the next decade.

6. **The realism tools indicate that the primary balance projections are reasonable** (Figure 4). The fiscal forecasts between FY2022 and FY2025 are not overly optimistic as the projected three-year adjustment lies in the left section of the distribution of past adjustments of the primary fiscal deficit (Figure 4). The real growth forecast for FY2022 is within the range calculated by the model, while a strong rebound is expected in FY2023 as the economy emerges from the twin shock in FY2022. The realism of projections for public and private investment rates and their contribution to real GDP could not be calculated due to the unavailability of data.

COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

7. **Tonga's debt-carrying capacity applied in the 2022 DSA is strong**. Tonga's Composite Indicator (CI) index, which has been calculated based on the October 2021 WEO and the 2020 CPIA is 3.12, indicating that the county's debt-carrying capacity is strong according to the revised low-income country (LIC)-DSA framework.

8. **Given the severity and frequency of natural disasters in Tonga, a tailored one-time stress test for natural disaster shocks was conducted.**[11] As a small developing state prone to natural disasters, Tonga is automatically subject to the standard natural disaster shock in the DSA. The Emergency Events Database (EM-DAT) shows that the country's largest damage from natural disasters during 1980–2016 was 28.2 percent of GDP. Since only part of the economic damage is expected to be financed by external debt, the DSA assumes a one-off shock of 14 percentage points (ppts) to the debt to-GDP ratio in FY2023. Real GDP growth and exports are lowered by 3 and 7 ppts, respectively, in the year of the shock (Lee et al., 2018).

[11] All the standardized stress tests (i.e., growth shock, export shock, combination shock, historical scenario) are described in Table 8 of the new "Guidance Note on the Bank-Fund Debt Sustainability Framework for Low-income Countries" (http://www.imf.org/en/Publications/Policy-Papers/Issues/2018/02/14/pp122617guidance-note-on-lic-dsf).

Tonga: Composite Indicator and Threshold Tables

Calculation of the CI Index

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	3.478	1.34	43%
Real growth rate (in percent)	2.719	1.549	0.04	1%
Import coverage of reserves (in percent)	4.052	53.467	2.17	70%
Import coverage of reserves^2 (in percent)	-3.990	28.588	-1.14	-37%
Remittances (in percent)	2.022	15.494	0.31	10%
World economic growth (in percent)	13.520	2.928	0.40	13%
CI Score			3.12	100%
CI rating			Strong	

Applicable thresholds

APPLICABLE	
EXTERNAL debt burden thresholds	
PV of debt in % of	
Exports	240
GDP	55
Debt service in % of	
Exports	21
Revenue	23

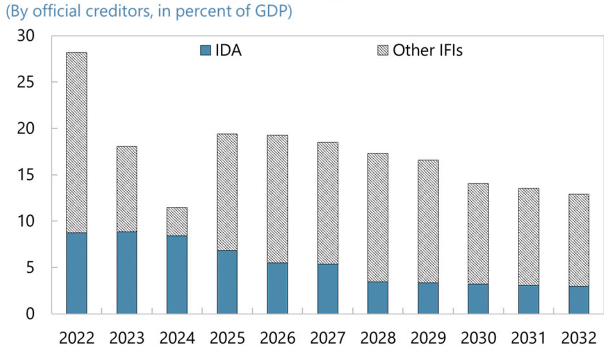
APPLICABLE	
TOTAL public debt benchmark	
PV of total public debt in percent of GDP	70

EXTERNAL DEBT SUSTAINABILITY ANALYSIS

9. **Under the baseline scenario, PV of external debt-to-GDP ratio will breach its threshold from FY2032** (Figure 1 and Table 3). In the near term, the external debt-to-GDP ratio is expected to decline from 41 percent in FY2021 to 32 percent in FY2024, reflecting large repayments to China Exim Bank and a shift to domestic debt financing and the second RCF. From FY2025 onwards, Tonga will need to incur new external debt to help finance its large investment needs to achieve SDGs and climate resilience. As a result, external debt-to-GDP ratio will breach the authorities' fiscal anchor of 50 percent in FY2027. The PV of the external debt-to-GDP ratio is expected to breach the threshold of 55 percent starting from FY2032. Under a combination of diverse shocks, which is the most extreme scenario, the PV of external debt-to-GDP ratio would breach the threshold earlier in FY2028.

Projected External Net Financing Flows

(By official creditors, in percent of GDP)



Sources: IMF Staff Projections

Note: net financing flows are calculated as grants plus new debt disbursement minus repayment

10. **Due to Tonga's narrow export base and temporarily depressed export levels due to the COVID-19 outbreak and volcanic eruption, the debt service-to-exports ratio will breach the threshold in the near and medium term, and PV of the external debt-to-exports ratio will breach its threshold in the next two years and again after FY2029.** Debt service-to-revenue ratio is also expected to increase sharply in FY2024 to 16 percent as the larger debt payments to China Exim Bank start coming

due in FY2024. As Figure 3 shows, the main driver of external debt dynamics is worsening current account balances reflecting the large import content of public infrastructure projects, unless there are new commitments for official transfers.[12] Under an export shock, the PV of the external debt-to-exports ratio will remain breached in all future years.

11. The tailored natural disaster shock would significantly worsen the external debt path (Table 3)**.** The PV of external debt-to-GDP ratio would jump up in FY2023 when the one-off shock is assumed, breach the threshold two years earlier in FY2030. Given recent experience, there is a significant possibility that multiple severe natural disasters could occur within a ten-year timeframe. Multiple natural disasters could have a larger cumulative negative effect on external debt sustainability due to larger reconstruction needs (which may require additional debt financing) and also by lowering long-term growth.

PUBLIC DEBT SUSTAINABILITY ANALYSIS

12. Under the baseline scenario, the PV of the public debt-to-GDP ratio would breach 70 percent from FY2032 onwards (Figure 2). The public debt dynamic is driven by large primary fiscal deficit, as shown in Figure 3. Compared to the previous DSA, nominal public debt-to-GDP ratio is higher in FY2023 due to reconstruction activity, while the ratio improved after FY2024 with more grants assumed in the baseline in line with historical trends.

13. The standardized sensitivity analysis indicates an earlier breach of debt threshold (Figure 2, Table 4).[13] The PV of the public debt-to-GDP ratio would cross 70 percent of GDP in FY2028 under a multi-year GDP growth shock and breach the threshold in FY2029 under a capital inflow shock.

14. The tailored one-time natural disaster shock worsens public debt sustainability. The PV of public debt relative to both GDP and exports is expected be higher compared to the baseline scenario. In particular, the PV of the public debt-to-GDP ratio would cross 70 percent of GDP in FY2029.

15. A tailored stress test for the combined contingent liability shock also causes a deterioration in public debt sustainability. The trajectory of the PV of the public debt-to-GDP ratio shifts upwards by 4 percentage points from the baseline.

[12] The residual is mainly explained by the capital account inflows that are large in Tonga and not included in the model (about 10 percent of GDP on average over FY2016–2020).

[13] Real GDP growth (in USD) is set to its historical average minus one standard deviation or the baseline projection minus one standard deviation, whichever is lower in the second and third years of the projection period.

RISK RATING AND VULNERABILITIES

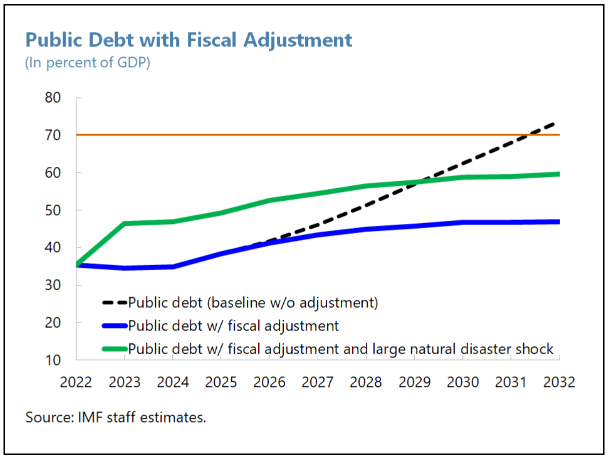
16. The 2022 debt sustainability analysis under the new LIC debt sustainability framework suggests that Tonga's risk of external debt distress remains high. Under the baseline scenario, the indicative threshold for the PV of the external debt-to-GDP ratio is expected to be breached starting from FY2032. Due to Tonga's narrow export base, the PV of the external debt-to-exports ratio will breach its threshold in the next two years and again after FY2029. The external debt service-to-export ratio is expected to breach the threshold from FY2022 to FY2028.

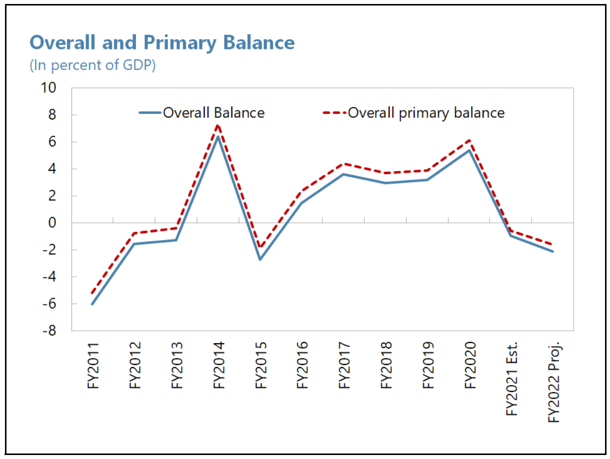
17. The DSA suggests that the overall risk of debt distress is also high. The PV of the public debt-to-GDP ratio is projected to breach the indicative benchmark from FY2032 onwards, reflecting large investment needs, and declining capital grant commitments over the medium-to-long term.[14] In addition, Tonga is highly vulnerable to natural disaster, growth, and exports shocks.

18. The government can mitigate the adverse socioeconomic impacts of recent shocks by adopting an expansionary fiscal stance in FY2023, with focus on reconstruction and social protection. A set of well-targeted financial assistance measures, including cash transfers and concessional loans, will be essential to protect the vulnerable households and businesses, especially in sectors hit hard by border closures, the volcanic eruption, COVID-related mobility restrictions, and the high inflation driven by global commodity prices and disruptions in domestic supply conditions following the volcanic eruption. Furthermore, accelerating reconstruction of damaged infrastructure, together with efforts to improve the build quality and relocate away from high-risk areas, will be important to strengthen Tonga's climate resilience. The government's FY2023 budget is consistent with these priorities.

19. Beyond the short term, staff assess that Tonga's public debt could be put on a sustainable path with feasible domestic fiscal measures and additional external donor support. Under an illustrative fiscal adjustment scenario, the PV of public debt-to-GDP ratio could stabilize below the 70 percent threshold over the long term, even with a large natural disaster shock. The fiscal adjustments could take place post-reconstruction and include a gradual increase of tax revenues and reduction of current expenditure to levels similar to other PICs. New grant commitments consistent with the historical trends are also essential under this fiscal path to fund capital investment projects for SDGs and climate resilience. The government's strategy to further improve revenue administration, collect tax arrears, contain public wage bill within the fiscal target, and pursue additional grants from development partners and avoid any new non-concessional borrowing from external creditors is aligned with this fiscal adjustment path and feasible considering Tonga's strong policy track record in the run up to the global pandemic.

[14] Cash and in-kind grants averaged 16.7 percent of GDP annually over FY2015–2019. Under the baseline, staff assume continued budget support in line with historical levels and capital grants falling to zero from FY2028 onwards.





Illustrative Fiscal Adjustment Path Relative to Baseline
(In percent of GDP)

	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Domestic fiscal measures	0.8	1.6	2.4	3.2	4.0	4.5
Taxes	0.5	1.0	1.5	2.0	2.5	3.0
Goods and services / Wage bill	-0.3	-0.6	-0.9	-1.2	-1.5	-1.5
Additional Grants		1.9	3.1	4.2	5.0	5.0
Change in primary balance	0.8	3.5	5.5	7.4	9.0	9.5
Memo.						
Projected primary balance	-7.3	-5.3	-4.7	-4.3	-3.5	-2.2

Note: In the baseline scenario, grants would gradually decline to below 10 percent of GDP after FY2026. The adjustment path assumes additional grants as shown above. Grants averaged 18 percent of GDP between FY2016-FY2021.

AUTHORITIES' VIEWS

20. **The authorities agreed with the debt sustainability assessment and stressed the need for continued donor support in the medium-to-long term.** They recognized the need to build adequate fiscal buffers over the medium term after the recovery is firmly underway. In this regard, they reiterated the commitment to rationalize tax exemptions, improve the targeting of economic support, further enhance revenue administration, and implement spending controls in line with recommendations from IMF and World Bank technical assistance. The authorities will continue to seek new concessional and grant financing commitments from bilateral donors and international financial institutions to contain external debt levels and to refrain from non-concessional borrowing (consistent with Tonga's compliance with a non-concessional external borrowing ceiling as part of the World Bank's Sustainable Development Finance Policy, SDFP). These priorities are reflected in the government's medium-term debt strategy, which is being used to guide fiscal policy and debt management decisions. Revised public financial management (PFM) legislation, currently under preparation, is also expected to improve debt management. Both the debt strategy and PFM legislation are supported by the World Bank's SDFP.

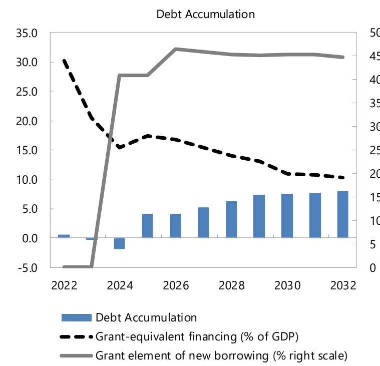
Table 1. Tonga: External Debt Sustainability Framework, Baseline Scenario, FY2019–2042

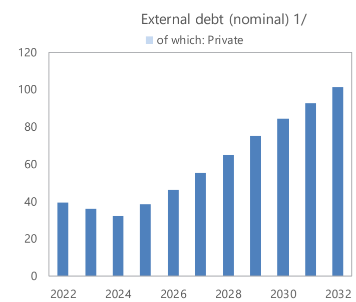
(In percent of GDP, unless otherwise indicated)

(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2032	2042	Historical	Projections
External debt (nominal) 1/	36.4	37.4	41.2	39.3	35.8	32.0	38.5	46.2	55.2	101.2	133.6	41.5	60.5
of which: public and publicly guaranteed (PPG)	36.4	37.4	41.2	39.3	35.8	32.0	38.5	46.2	55.2	101.2	133.6	41.5	60.5
Change in external debt	-4.2	1.0	3.9	-2.0	-3.5	-3.8	6.6	7.7	9.0	8.6	3.8		
Identified net debt-creating flows	-1.5	6.3	0.1	8.1	23.2	19.6	8.6	14.6	14.4	7.8	-16.0	7.0	12.5
Non-interest current account deficit	0.0	3.4	-3.1	5.8	22.7	19.3	8.1	13.8	13.8	9.6	-13.9	5.6	12.7
Deficit in balance of goods and services	42.0	43.7	59.1	74.4	75.0	67.0	56.5	55.2	53.7	49.0	27.1	44.1	58.0
Exports	22.0	19.1	4.7	1.6	4.1	11.6	12.5	13.7	15.1	17.7	40.3		
Imports	64.0	62.8	63.8	76.1	79.0	78.6	68.9	68.9	68.9	66.7	67.4		
Net current transfers (negative = inflow)	-33.4	-31.2	-48.9	-58.3	-42.1	-38.4	-39.9	-33.0	-31.6	-31.6	-33.4	-33.0	-36.7
of which: official	-8.8	-4.1	-7.0	-22.0	-14.4	-10.6	-12.2	-5.2	-4.2	-4.1	-4.0		
Other current account flows (negative = net inflow)	-8.6	-9.1	-13.3	-10.3	-10.2	-9.3	-8.5	-8.4	-8.4	-7.8	-7.6		
Net FDI (negative = inflow)	0.1	0.7	1.5	1.2	1.2	0.8	1.0	1.0	0.9	-1.3	-1.2	1.3	0.1
Endogenous debt dynamics 2/	-1.5	2.1	1.7	1.1	-0.7	-0.6	-0.4	-0.2	-0.3	-0.5	-0.8		
Contribution from nominal interest rate	0.9	0.5	0.2	0.4	0.5	0.4	0.4	0.5	0.5	1.0	1.4		
Contribution from real GDP growth	-0.3	-0.2	1.0	0.8	-1.2	-1.0	-0.8	-0.7	-0.8	-1.6	-2.2		
Contribution from price and exchange rate changes	-2.2	1.7	0.5	...	...	...	...	...	...	...	...		
Residual 3/	-2.6	-5.3	3.8	-10.1	-26.7	-23.4	-2.1	-6.9	-5.4	0.8	19.8	-7.3	-7.0
of which: exceptional financing	0.0	0.0	-1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	27.8	26.7	24.7	21.4	24.3	27.5	31.6	58.6	79.5		
PV of PPG external debt-to-exports ratio	...	...	590.4	1624.7	605.4	184.3	195.2	200.2	209.1	331.4	197.3		
PPG debt service-to-exports ratio	9.1	7.9	15.6	86.6	50.9	35.0	30.5	27.0	23.6	13.8	14.5		
PPG debt service-to-revenue ratio	8.6	6.0	2.8	6.7	8.2	16.1	15.2	14.8	14.2	9.1	21.6		
Gross external financing need (Million of U.S. dollars)	10.4	27.8	-4.2	42.0	138.9	138.0	76.9	114.8	117.2	84.3	-104.9		
Key macroeconomic assumptions													
Real GDP growth (in percent)	0.7	0.5	-2.7	-1.9	3.2	3.0	2.5	1.8	1.8	1.8	1.8	1.3	1.7
GDP deflator in US dollar terms (change in percent)	5.6	-4.6	-1.4	8.3	3.7	3.4	2.6	2.0	1.5	2.6	0.9	0.2	3.0
Effective interest rate (percent) 4/	2.3	1.4	0.4	0.9	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.5	1.2
Growth of exports of G&S (US dollar terms, in percent)	9.2	-16.6	-76.4	-62.9	165.7	203.6	12.9	14.2	13.9	9.0	5.9	-2.8	35.0
Growth of imports of G&S (US dollar terms, in percent)	3.2	-5.9	-2.5	26.7	11.2	5.9	-7.8	3.8	3.3	4.5	1.4	1.7	5.5
Grant element of new public sector borrowing (in percent)	...	...	20.1	...	...	41.0	41.0	46.5	45.9	44.8	44.2	...	44.5
Government revenues (excluding grants, in percent of GDP)	23.4	25.1	25.9	21.2	25.3	25.3	25.0	25.0	25.1	27.0	27.0	22.7	25.3
Aid flows (in Million of US dollars) 5/	516.6	512.0	517.6	551.2	490.4	421.9	396.5	357.1	307.0	189.5	158.9	...	
Grant-equivalent financing (in percent of GDP) 6/	18.3	19.1	22.4	30.2	20.5	15.4	17.4	16.8	15.4	10.3	9.1	...	15.9
Grant-equivalent financing (in percent of external financing) 6/	100.0	100.0	100.0	98.0	92.1	93.0	72.0	72.0	68.0	57.5	58.6	...	72.6
Nominal GDP (Million of US dollars)	511	490	470	500	535	570	599	622	643	786	1,125		
Nominal dollar GDP growth	6.4	-4.1	-4.0	6.2	7.1	6.5	5.2	3.8	3.3	4.4	2.6	1.5	4.8
Memorandum items:													
PV of external debt 7/	...	...	27.8	26.7	24.7	21.4	24.3	27.5	31.6	58.6	79.5		
In percent of exports	...	...	590.4	1624.7	605.4	184.3	195.2	200.2	209.1	331.4	197.3		
Total external debt service-to-exports ratio	9.1	7.9	15.6	86.6	50.9	35.0	30.5	27.0	23.6	13.8	14.5		
PV of PPG external debt (in Million of US dollars)			130.7	133.3	131.9	122.0	145.9	170.8	203.1	460.6	894.8		
(PVt-PVt-1)/GDPt-1 (in percent)				0.5	-0.3	-1.9	4.2	4.2	5.2	8.1	4.5		
Non-interest current account deficit that stabilizes debt ratio	4.1	2.4	-7.0	7.7	26.1	23.2	1.5	6.1	4.7	1.0	-17.7		

Definition of external/domestic debt	Residency-based
Is there a material difference between the two criteria?	Yes





Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as [r - g - ρ(1+g) + Εα (1+r)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, ρ = growth rate of GDP deflator in U.S. dollar terms, Ε=nominal appreciation of the

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Current-year interest payments divided by previous period debt stock.

5/ Defined as grants, concessional loans, and debt relief.

6/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

7/ Assumes that PV of private sector debt is equivalent to its face value.

8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

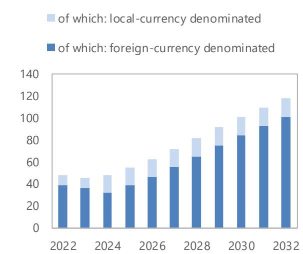
Table 2. Tonga: Public Sector Debt Sustainability Framework, Baseline Scenario, FY2019–2042

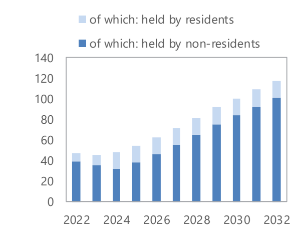
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 6/	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2032	2042	Historical	Projections
Public sector debt 1/	**41.3**	**43.6**	**47.5**	**47.6**	**45.5**	**47.9**	**54.5**	**62.2**	**71.4**	**117.9**	**143.9**	**47.5**	**75.5**
of which: external debt	**36.4**	**37.4**	**41.2**	**39.3**	**35.8**	**32.0**	**38.5**	**46.2**	**55.2**	**101.2**	**133.6**	**41.5**	**60.5**
Change in public sector debt	-4.6	2.3	3.9	0.1	-2.1	2.4	6.6	7.7	9.2	8.6	2.8		
Identified debt-creating flows	**-6.4**	**-3.5**	**2.3**	**1.9**	**2.5**	**3.0**	**6.9**	**7.8**	**9.1**	**9.8**	**2.0**	**-2.0**	**7.4**
Primary deficit	**-3.9**	**-6.1**	**0.6**	**1.6**	**4.2**	**4.4**	**8.1**	**8.8**	**10.2**	**11.9**	**4.9**	**-2.4**	**8.8**
Revenue and grants	41.7	44.2	48.3	51.5	45.8	39.9	37.7	36.1	34.3	31.1	31.0	**39.2**	**36.7**
of which: grants	18.3	19.1	22.4	30.2	20.5	14.6	12.7	11.1	9.3	4.1	4.0		
Primary (noninterest) expenditure	37.9	38.1	48.9	53.1	50.0	44.3	45.8	44.9	44.6	43.0	35.9	**36.8**	**45.5**
Automatic debt dynamics	**-2.5**	**2.6**	**1.7**	**0.4**	**-1.7**	**-1.4**	**-1.2**	**-1.0**	**-1.1**	**-2.2**	**-2.9**		
Contribution from interest rate/growth differential	-0.3	0.1	1.1	0.4	-1.7	-1.4	-1.2	-1.0	-1.1	-2.2	-2.9		
of which: contribution from average real interest rate	0.0	0.3	-0.1	-0.6	-0.2	-0.1	0.0	0.0	0.0	-0.3	-0.5		
of which: contribution from real GDP growth	-0.3	-0.2	1.2	0.9	-1.5	-1.3	-1.2	-0.9	-1.1	-1.9	-2.4		
Contribution from real exchange rate depreciation	-2.2	2.5	0.6	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recognition of contingent liabilities (e.g., bank recapitalization)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Debt relief (HIPC and other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other debt creating or reducing flow (please specify)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Residual	**1.8**	**5.8**	**1.6**	**-1.9**	**-4.5**	**-0.6**	**-0.3**	**-0.1**	**0.1**	**-1.1**	**0.8**	**1.6**	**-1.0**
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	**...**	**...**	**33.8**	**35.2**	**34.4**	**37.4**	**40.4**	**43.6**	**48.0**	**75.5**	**90.5**		
PV of public debt-to-revenue and grants ratio	**...**	**...**	**70.0**	**68.5**	**75.0**	**93.7**	**107.2**	**120.8**	**139.8**	**242.9**	**291.6**		
Debt service-to-revenue and grants ratio 3/	**8.7**	**8.1**	**5.4**	**5.8**	**8.9**	**13.6**	**24.5**	**23.6**	**31.0**	**25.7**	**34.1**		
Gross financing need 4/	-0.2	-2.6	3.2	4.6	8.2	9.9	17.3	17.3	20.9	19.9	15.5		
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	0.7	0.5	-2.7	-1.9	3.2	3.0	2.5	1.8	1.8	1.8	1.8	**1.3**	**1.7**
Average nominal interest rate on external debt (in percent)	2.3	1.4	0.4	0.9	1.4	1.3	1.2	1.2	1.2	1.2	1.1	**1.5**	**1.2**
Average real interest rate on domestic debt (in percent)	-4.3	7.9	5.6	-5.1	-1.6	-0.1	0.5	0.7	0.9	0.4	1.0	**-0.1**	**-0.1**
Real exchange rate depreciation (in percent, + indicates depreciation)	-5.5	6.8	1.6	...	...	...	...	...	...	...	...	**2.3**	**...**
Inflation rate (GDP deflator, in percent)	7.7	-4.2	-1.9	8.4	4.7	3.4	2.8	2.7	2.5	3.0	2.4	**2.2**	**3.5**
Growth of real primary spending (deflated by GDP deflator, in percent)	-2.0	1.1	25.0	6.4	-2.8	-8.7	5.9	-0.2	1.0	1.1	1.7	**6.3**	**0.6**
Primary deficit that stabilizes the debt-to-GDP ratio 5/	0.7	-8.4	-3.4	1.5	6.2	2.0	1.5	1.1	1.0	3.3	2.1	**-3.7**	**2.4**
PV of contingent liabilities (not included in public sector debt)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Definition of external/domestic debt	**Residency-based**
Is there a material difference between the two criteria?	**Yes**

Public sector debt 1/





Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The general government, central bank . Definition of external debt is Residency-based.

2/ The underlying PV of external debt-to-GDP ratio under the public DSA differs from the external DSA with the size of differences depending on exchange rates projections.

3/ Debt service is defined as the sum of interest and amortization of medium and long-term, and short-term debt.

4/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period and other debt creating/reducing flows.

5/ Defined as a primary deficit minus a change in the public debt-to-GDP ratio ((-): a primary surplus), which would stabilizes the debt ratio only in the year in question.

6/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

"Other debt creating or reducing flow" is the net acquisition of financial assets.

Table 3. Tonga: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, FY2022–2032

(In percent)

	Projections 1/										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PV of debt-to GDP ratio											
Baseline	27	25	21	24	27	32	37	42	48	53	**59**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	27	17	8	11	10	10	11	16	20	25	31
B. Bound Tests											
B1. Real GDP growth	27	26	24	28	31	36	42	48	55	**61**	**67**
B2. Primary balance	27	26	23	26	30	34	40	45	51	**56**	**62**
B3. Exports	27	26	29	32	35	39	44	50	**55**	**60**	**66**
B4. Other flows 3/	27	33	37	39	42	47	52	**57**	**63**	**68**	**73**
B5. Depreciation	27	31	17	21	25	30	36	43	50	**57**	**64**
B6. Combination of B1-B5	27	37	37	40	44	48	54	**61**	**67**	**73**	**79**
C. Tailored Tests											
C1. Combined contingent liabilities	27	27	23	27	30	35	40	46	51	**56**	**62**
C2. Natural disaster	27	30	26	31	35	40	46	52	**58**	**64**	**70**
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	55	55	55	55	55	55	55	55	55	55	55
PV of debt-to-exports ratio											
Baseline	**1625**	**605**	184	195	200	209	238	**267**	**292**	**314**	**331**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	**1625**	**427**	71	84	71	65	69	98	124	150	176
B. Bound Tests											
B1. Real GDP growth	**1625**	**605**	184	195	200	209	238	**267**	**292**	**314**	**331**
B2. Primary balance	**1625**	**627**	200	212	218	227	**256**	**285**	**310**	**331**	**348**
B3. Exports	**1625**	**2627**	**4671**	**4783**	**4778**	**4861**	**5391**	**5910**	**6368**	**6747**	**7046**
B4. Other flows 3/	**1625**	**816**	**315**	**315**	**309**	**308**	**335**	**361**	**383**	**401**	**415**
B5. Depreciation	**1625**	**605**	117	133	144	158	188	218	**245**	**269**	**289**
B6. Combination of B1-B5	**1625**	**2728**	**278**	**3443**	**3406**	**3429**	**3765**	**4090**	**4375**	**4608**	**4788**
C. Tailored Tests											
C1. Combined contingent liabilities	**1625**	**654**	201	217	220	229	**258**	**286**	**311**	**333**	**349**
C2. Natural disaster	**1625**	**724**	226	**249**	**252**	**264**	**295**	**326**	**353**	**376**	**394**
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	240	240	240	240	240	240	240	240	240	240	240
Debt service-to-exports ratio											
Baseline	**87**	**51**	**35**	**31**	**27**	**24**	**22**	17	13	12	14
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	**87**	**54**	**37**	**31**	**28**	**24**	**22**	16	10	10	12
B. Bound Tests											
B1. Real GDP growth	**87**	**51**	**35**	**31**	**27**	**24**	**22**	17	13	12	14
B2. Primary balance	**87**	**51**	**35**	**31**	**27**	**24**	**23**	18	13	13	14
B3. Exports	**87**	**208**	**674**	**611**	**540**	**472**	**446**	**355**	**267**	**251**	**281**
B4. Other flows 3/	**87**	**51**	**37**	**34**	**30**	**26**	**25**	20	15	14	16
B5. Depreciation	**87**	**51**	**35**	**29**	**25**	**22**	21	16	12	11	13
B6. Combination of B1-B5	**87**	**167**	**456**	**403**	**356**	**312**	**295**	**235**	**178**	**168**	**187**
C. Tailored Tests											
C1. Combined contingent liabilities	**87**	**51**	**35**	**31**	**28**	**24**	**23**	18	13	13	14
C2. Natural disaster	**87**	**52**	**37**	**32**	**29**	**25**	**24**	19	15	14	15
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	21	21	21	21	21	21	21	21	21	21	21
Debt service-to-revenue ratio											
Baseline	7	8	16	15	15	14	14	11	8	8	9
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	7	9	17	16	15	14	13	10	6	6	8
B. Bound Tests											
B1. Real GDP growth	7	9	18	17	17	16	16	13	9	9	10
B2. Primary balance	7	8	16	15	15	14	14	11	8	8	9
B3. Exports	7	8	16	16	16	15	14	12	9	8	10
B4. Other flows 3/	7	8	17	17	16	16	15	13	9	9	10
B5. Depreciation	7	10	20	18	17	17	16	13	9	9	11
B6. Combination of B1-B5	7	9	20	19	18	18	17	14	10	10	11
C. Tailored Tests											
C1. Combined contingent liabilities	7	8	16	15	15	15	14	11	8	8	9
C2. Natural disaster	7	8	17	16	15	15	14	12	9	8	10
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	23	23	23	23	23	23	23	23	23	23	23
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	49	49	49	49	49	49	49	49	49	49	**49**

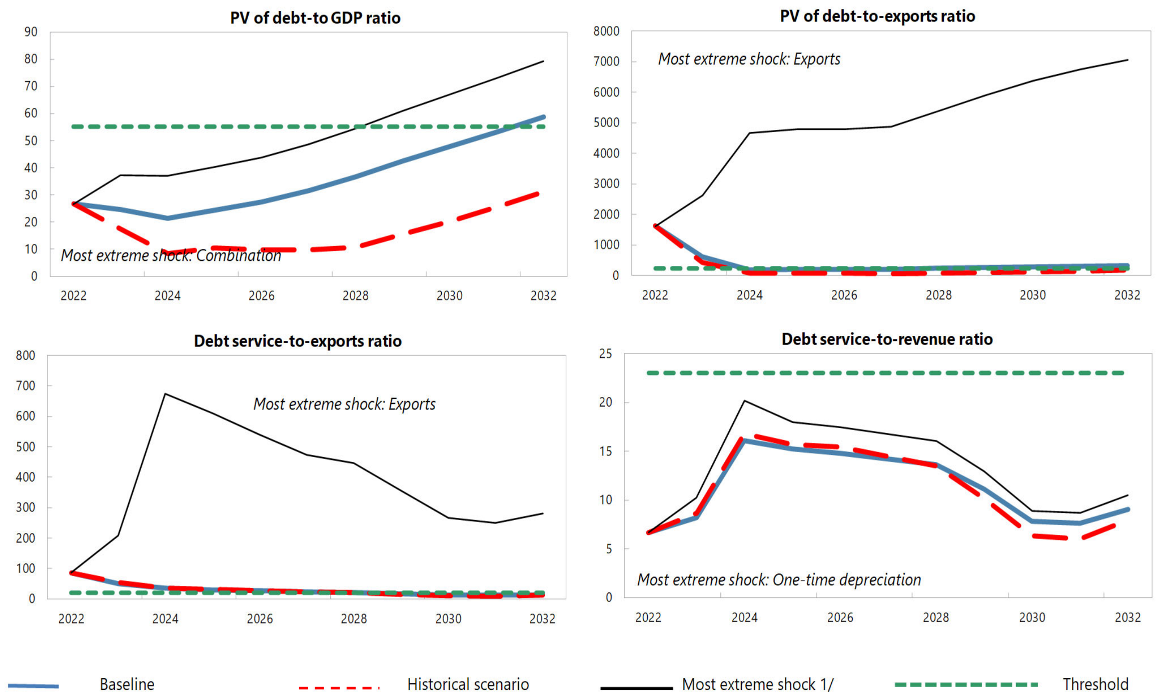
Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the threshold.
2/ Variables include real GDP growth, GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
3/ Includes official and private transfers and FDI.

Table 4. Tonga: Sensitivity Analysis for Key Indicators of Public Debt, FY2022–2032
(In percent)

	Projections 1/										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	PV of Debt-to-GDP Ratio										
Baseline	35.2	34.4	37.4	40.4	43.6	48.0	53.4	59.1	64.5	69.9	**75.5**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	35	31	30	30	26	21	23	24	23	22	21
B. Bound Tests											
B1. Real GDP growth	35	38	47	52	58	65	**73**	**81**	**90**	**98**	**106**
B2. Primary balance	35	37	42	45	47	52	57	62	68	**73**	**79**
B3. Exports	35	36	44	47	51	55	60	66	**71**	**77**	**82**
B4. Other flows 3/	35	43	53	55	59	63	68	**74**	**79**	**85**	**90**
B5. Depreciation	35	41	42	41	40	41	42	45	47	50	53
B6. Combination of B1-B5	35	36	40	42	45	49	55	61	67	**72**	**78**
C. Tailored Tests											
C1. Combined contingent liabilities	35	39	42	44	48	52	57	63	68	**73**	**79**
C2. Natural disaster	35	46	49	51	55	59	65	**71**	**77**	**83**	**89**
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL public debt benchmark	70	70	70	70	70	70	70	70	70	70	70
	PV of Debt-to-Revenue Ratio										
Baseline	68	75	94	107	121	140	164	188	202	220	243
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	68	66	73	77	69	59	68	75	71	68	66
B. Bound Tests											
B1. Real GDP growth	68	81	111	132	154	182	217	251	275	300	334
B2. Primary balance	68	80	105	118	131	150	174	198	212	230	253
B3. Exports	68	78	112	126	140	160	185	210	224	242	265
B4. Other flows 3/	68	94	132	147	162	184	210	235	249	266	290
B5. Depreciation	68	93	107	111	115	122	132	144	150	159	172
B6. Combination of B1-B5	68	78	98	110	124	143	168	193	208	226	250
C. Tailored Tests											
C1. Combined contingent liabilities	68	86	106	118	132	150	175	199	213	230	254
C2. Natural disaster	68	99	123	135	151	171	198	224	240	259	285
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Debt Service-to-Revenue Ratio										
Baseline	6	9	14	24	24	31	29	25	28	26	26
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	6	9	14	18	16	32	10	6	28	25	24
B. Bound Tests											
B1. Real GDP growth	6	9	15	29	30	40	39	36	40	38	39
B2. Primary balance	6	9	14	28	28	33	31	27	29	27	26
B3. Exports	6	9	14	25	24	32	29	26	29	27	26
B4. Other flows 3/	6	9	14	26	25	32	30	27	29	27	27
B5. Depreciation	6	9	17	27	26	33	31	27	28	27	27
B6. Combination of B1-B5	6	9	14	25	24	32	29	26	29	27	27
C. Tailored Tests											
C1. Combined contingent liabilities	6	9	14	32	24	35	29	27	29	27	26
C2. Natural disaster	6	9	15	41	26	41	32	32	32	31	29
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the benchmark.
2/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.
3/ Includes official and private transfers and FDI.

Figure 1. Tonga: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, FY2022–2032



Customization of Default Settings	Size	Interactions
Tailored Stress		
Combined CL	No	
Natural disaster	Yes	Yes
Commodity price 2/	n.a.	n.a.
Market financing	n.a.	n.a.

Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	1.5%	1.5%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	34	34
Avg. grace period	16	16

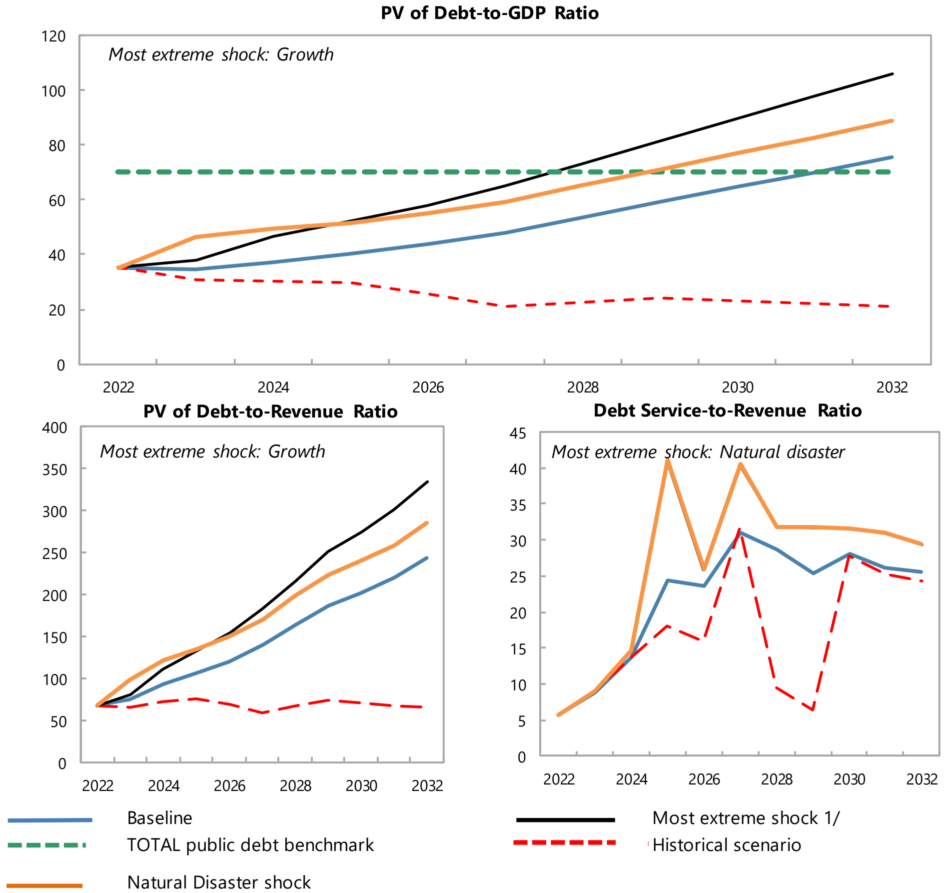
* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2032. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

2/ The magnitude of shocks used for the commodity price shock stress test are based on the commodity prices outlook prepared by the IMF research department.

Figure 2. Tonga: Indicators of Public Debt Under Alternative Scenarios, FY2022–2032



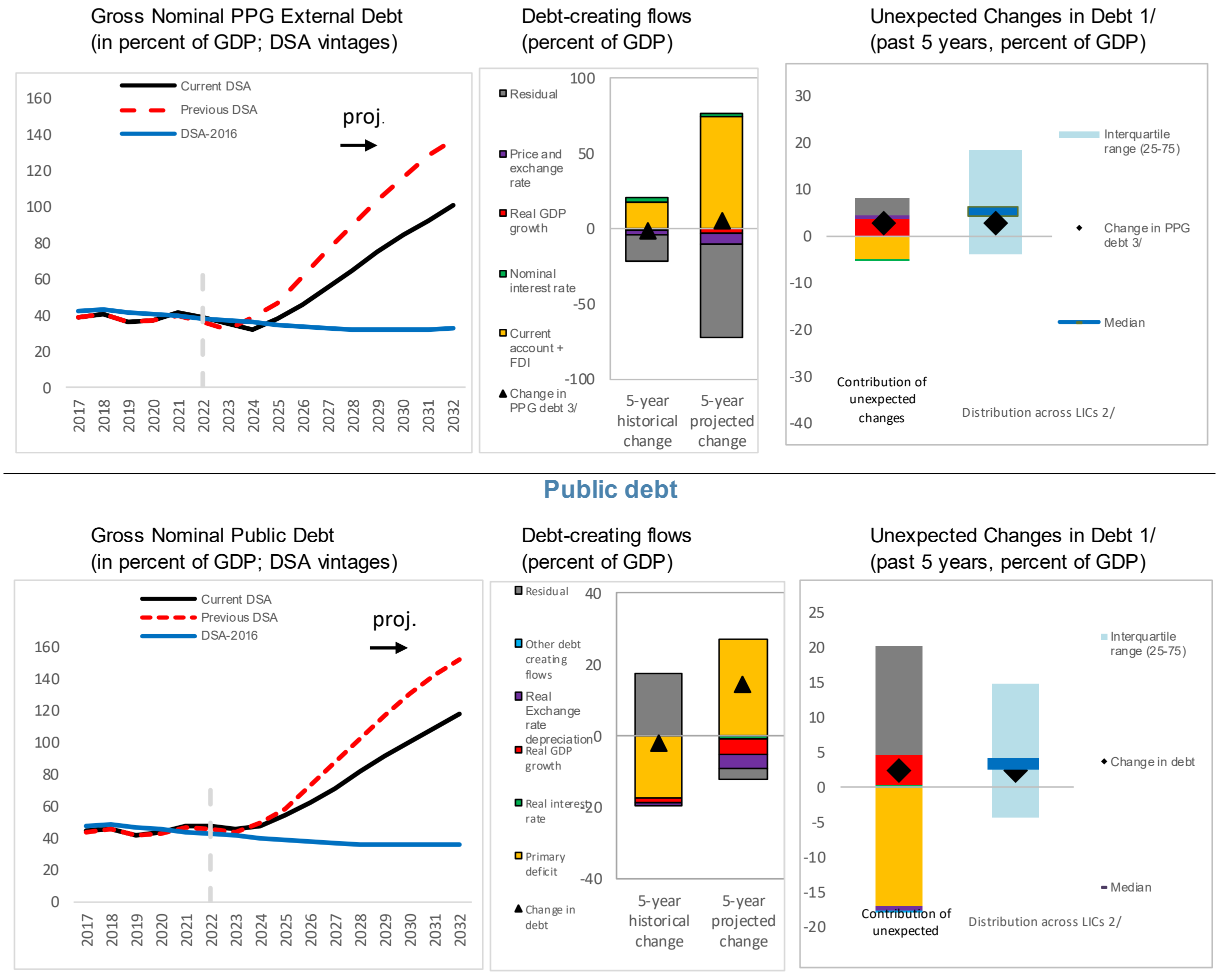
Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	56%	56%
Domestic medium and long-term	44%	44%
Domestic short-term	0%	0%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.5%	1.5%
Avg. maturity (incl. grace period)	34	34
Avg. grace period	16	16
Domestic MLT debt		
Avg. real interest rate on new borrowing	-0.1%	-0.1%
Avg. maturity (incl. grace period)	2	2
Avg. grace period	1	1
Domestic short-term debt		
Avg. real interest rate	0.0%	0.0%

* Note: The public DSA allows for domestic financing to cover the additional financing needs generated by the shocks under the stress tests in the public DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2032. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 3. Tonga: Drivers of Debt Dynamics—Baseline Scenario External Debt



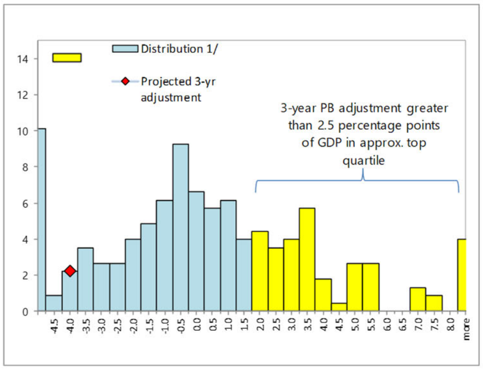
1/ Difference betw een anticipated and actual contributions on debt ratios.

2/ Distribution across LICs for w hich LIC DSAs w ere produced.

3/ Given the relatively low private external debt for average low-income countries, a ppt change in PPG external debt should be largely explained by the drivers of the external debt dynamics equation.

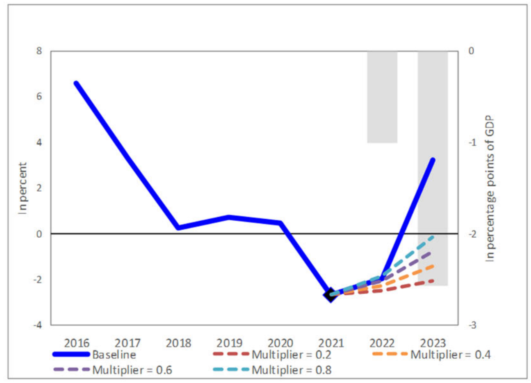
Figure 4. Tonga: Realism Tools

3-Year Adjustment in Primary Balance
(Percentage points of GDP)



1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

Fiscal Adjustment and Possible Growth Paths 1/



1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).