RELATIONS WITH THE PACIFIC FINANCIAL TECHNICAL ASSISTANCE CENTRE

(As of March 2017)

Background

PFTAC has provided moderate technical assistance (TA) to Samoa in recent years mainly on macro-fiscal planning and analysis, revenue administration, and statistics. In FY2018, the volume of TA planned for Samoa will nearly triple from FY2017 (up from 77 to 245 field days), constituting 9.5 percent of PFTAC resources. In recent years, PFM support by PFTAC was focused on facilitating PEFA assessments and implementation of Samoa's PFM Roadmap. PFTAC TA was instrumental in the development of quarterly national accounts in Samoa, with recent TA on statistics focused on increasing the range, frequency, and accuracy of GDP estimates. Recent TA in the macroeconomic area has focused on revenue forecasting and enhancing the Samoa Economic and Forecasting (SERF) model; a macroeconomic programming framework to assist in budget development and undertake debt sustainability and external vulnerability assessments. Support has also been provided in the modernization of Samoa's income tax legislation.

Strategy 2015–2018

PFTAC's TA strategy is guided by the APD regional strategy note and is planned within the results framework for PFTAC's funding cycle.[1]

PFTAC TA aims to support the authorities to sustain progress on fiscal consolidation and to improve the macroeconomic environment. PFTAC will continue to focus on building macroeconomic analysis capacity and delivering specific technical inputs in the context of larger ISPs.

In the **Public Financial Management** area, PFTAC will continue to support the Ministry of Finance's PFM reform plan (1.2). Since 2015, PFTAC has been providing TA to Samoa on improving cash management (1.7), accounting, and reporting (1.8), and fiscal oversight of state-owned enterprises (1.8). PFTAC is available in the coming years to provide follow-up support to strengthen the medium-term budgeting system (1.5).

Assistance in the **macroeconomic** area will continue to be instrumental to the success of budget reforms. PFTAC will continue working with Ministry for Revenue staff to enhance tax revenue forecasting. The focus is on complementing the Ministry of Finance's top-down revenue forecasts based on economic projections with bottom-up forecasts that make use of the internal knowledge on tax trends, including on compliance improvement and risk management activities, by the tax

[1] The specific result in the framework that activities target to achieve is identified by a code in parenthesis, for example, 1.7 is the code for PFM cash management activities.

administration and greater use of individual taxpayer data. PFTAC will also continue assisting staff at the Ministry of Finance to improve GDP forecasting methodology (5.1) and to build capacity to produce their own debt sustainability analyses and external vulnerability assessments (5.2). This work continues to support building stronger links among all relevant macro fiscal entities to analyze the country's economic and fiscal outlook (5.3)

In the **revenue** area, Samoa's Ministry for Revenue continues to make good progress as evidenced by a strong legal framework and development of improved functions and processes. A Compliance Improvement Plan (1.5) introduced in 2016 to target the most significant tax risks has been strengthened through the introduction of a Compliance Risk Management Committee and the creation of a data analytics team. The design of an Industry Partnership initiative, facilitated by PFTAC, to target high risk cash economy sectors will be rolled out in FY2018. In a significant scaling-up in FY2018, other TA planned and agreed with the authorities is geared to further improve performance across core tax functions.

In **statistics**, Samoa continues to be one of the most advanced nations in the Pacific region. Based on earlier PFTAC advice, for several years Samoa has produced quarterly National Accounts (12.1) alongside several income indicators. In 2016, PFTAC assisted with a rebase of GDP by production (4.1), which will bring methods closer into line with the 2008 SNA; and also in developing a new measure of GDP by expenditure (5.2). Both projects are expected to be completed in 2017. Balance of payments (BoP) and government finance statistics (GFS) standards were improved (4.1) via missions funded by the JSA project that concluded in September 2015. The appointment of a resident GFS advisor at PFTAC in March 2017 will see GFS TA resume in FY18, while annual BP TA missions are also expected to recommence, subject to PFTAC and/or alternate regional funding.

In **financial sector supervision**, PFTAC commenced an on-site examination program (3.3) for the Central Bank of Samoa in August 2015. A Short-Term Expert was engaged to assist the Central Bank in performing three on-site examinations of local banks. Three mission were undertaken – August 2015; November 2015; and May 2016. The missions included the delivery of workshops prior to each examination on a topic relevant to the examination process, and the provision of technical assistance and guidance in all aspects of the on-site examination process.

In April 2017, PFTAC will undertake a mission to the Central Bank of Samoa to provide guidance and assistance in reviewing and updating their suite of prudential standards for banks (3.3).

RELATIONS WITH THE WORLD BANK

(As of March 21, 2017)

The World Bank Group's engagement with Samoa as outlined in the February 2017 Regional Partnership Framework (RPF) for nine Pacific Island Countries focuses on supporting Government efforts to: i) fully exploit available economic opportunities, including in agriculture and tourism; ii) enhance access to employment opportunities, including through labor mobility and improved education outcomes; iii) protect incomes and livelihoods, including by strengthening resilience against natural disasters and climate change; and iv) strengthen the enablers of growth, including macroeconomic management and infrastructure. The RPF is closely aligned with the Government's Strategy for the Development of Samoa 2017-2020. The Bank's currently active portfolio consists of 9 projects with a total commitment of US$139 million.

Samoa: IDA Lending Operations (as of March 2017)

	Year of Approval (FY)	Original Amount	Undisbursed Balance
		(In millions of US dollars)	
Current projects (IDA)			
Agriculture Competitiveness Enhancement Project	2012	8.0	3.2
Enhancing the Climate Resilience of West Coast Road	2013	14.8	13.6
Agriculture and Fisheries Cyclone Response	2014	5.0	0.5
Enhanced Road Access Project	2014	20.0	7.3
Enhancing the Climate Resilience of Coastal Resources & Communities	2014	14.6	11.1
Aviation Investment Project	2014	41.6	35.9
Pacific Resilience Program	2015	13.8	12.1
Pacific Regional Connectivity Program: Phase 3 - Samoa	2015	16.0	13.9
Second Fiscal & Economic Reform Operation	2017	5.0	5.0
Total		138.8	102.6

The Bank's current activities in Samoa are in the following areas:

1) Post-disaster recovery projects

Enhanced Road Access Project: Aims to restore key road sector assets damaged by Cyclone Evan and enhance the climate resilience of critical roads and bridges in Samoa.

Agriculture and Fisheries Cyclone Response Project: Provides recovery assistance to cyclone-affected farmers and fishers through vouchers and grants, with the aim of restoring their lost production capacity, while improving the ability of the agricultural sector to respond to future disasters.

2) Budget support

Second Fiscal & Economic Reform Operation: Supports the Government of Samoa's efforts to improve fiscal management, establish the conditions for more robust private sector growth over the medium term, and strengthen the monitoring, reporting and coordination of climate resilience activities in Samoa, including through reforms in the areas of debt management, procurement, revenue, payments systems and remittances, tourism sector policy, and PPPs policy.

3) Climate Resilience

Enhancing the Climate Resilience of West Coast Road: Focuses on 'climate-proofing' the West Coast Road from the airport to Apia.

Enhancing the Climate Resilience of Coastal Resources & Communities: Provides training and support in targeted communities to update and implement local Coastal Infrastructure Plans, and supports activities that increase the resilience of coastlines, near-shore areas, and coral reefs. The project will also help improve national climate information services and hazard mapping.

Pacific Resilience Program: Aims to strengthen early warning systems, promote resilient investments, and strengthen the financial resilience of Samoa by facilitating access to immediate liquidity after a natural disaster.

4) ICT Sector

Pacific Regional Connectivity Program – Phase 3: Aims to reduce the cost and increase the availability of internet services in Samoa. The project encompasses construction of a submarine cable connecting Samoa to Fiji; the establishment of the Samoa Submarine Cable Company (SSCC), a public-private partnership; and the provision of technical assistance to review, development and implement ICT regulation in Samoa.

5) Agriculture Sector

Agriculture Competitiveness Enhancement Project: Aims to support fruit and vegetable growers and livestock producers to improve their productivity and take greater advantage of market opportunities. The project covers three components – (i) livestock production and marketing, (ii) fruit and vegetable production and marketing, and (iii) institutional strengthening.

6) Aviation sector

Samoa Aviation Investment Project: Aims to improve operational safety and oversight of international air transport and associated infrastructure, including through improvements to runways, facilities, and navigation aids at the main international airport.

The IFC has also been active in Samoa, particularly in the telecoms sector. The IFC has invested substantially in Digicel, with market liberalization and increased competition helping to increase mobile access in Samoa to over 80 per cent of the population. The IFC has also provided assistance to the tourism sector, and has helped with the expansion of banking services to allow small and medium entrepreneurs find capital to start and run their businesses.

RELATIONS WITH THE ASIAN DEVELOPMENT BANK

(As of March 15, 2017)

The Asian Development Bank operations in Samoa started in 1966: As at year-end 2016, $186.19 million in loans, $127.97 million in grants, and $32.16 million in technical assistance (TA) have been provided to Samoa. One loan, 6 grants, and 1 TA projects are active.

ADB's country operations business plan (COBP) 2017-2019, adopts a harmonized approach to donor assistance with other development partners and maintaining the focus of its Pacific Approach targeting improvement of growth prospects and living standards, especially for disadvantaged members of the community. The COBP is closely aligned with the Strategy for the Development of Samoa (SDS).

Samoa has received support from the Pacific Infrastructure Advisory Center (PIAC) for infrastructure master planning and has also participated in the PIAC initiative for strengthening of power and water utilities. Samoa has received ADB regional technical assistance for economic management for development results, energy efficiency, statistics and private sector development (including SOE reforms and secured transactions). ADB continues to include Samoa in new regional TA activities. ADB has also committed to provide technical assistance for the development of the private sector.

In November 2015, the Samoa Submarine Cable Project ($25 million grant) was approved with co-financing from Government of Australia ($1.5 million grant) and World Bank ($16 million grant). The project will improve broadband connectivity by building a submarine cable system connecting Samoa to regional and global communications infrastructure. The cable system will allow other countries in the region to connect to the network. Another component will support e-health solutions.

In 2016, ADB helped complete a master plan for Samoa's ports while a project to develop the Apia port will be considered in 2018.

In December 2016, the Fiscal Resilience Improvement Program (Subprogram 1) was approved for ($5 million grant). ADB will also continue to support reforms to promote economic use of customary land, build sustainable capacity for sound economic and public sector management and implement state-owned enterprises reforms.

ADB will assist Samoa through the Renewable Energy and Power Sector Rehabilitation Project that are nearing completion.

ADB loans to Samoa, 2011–16

	2011	2012	2013	2014	2015	2016
Loan Approvals	10.82	0	0	0	0	0
Loan Disbursements	9.8	17.9	4.3	2.03	1.1	0.0
Cumulative loan amount available	167.09	177.51	177.45	177.24	176.37	176.34
Cumulative disbursements	149.9	167.8	172.1	174.13	175.21	175.25
Net loan amount undisbursed	17.1	9.7	5.3	3.1	2.0	2.0

STATISTICAL ISSUES

SAMOA—STATISTICAL ISSUES APPENDIX (As of March 2017)	
I. Assessment of Data Adequacy for Surveillance	
General: Data provision has some shortcomings but is broadly adequate for surveillance. Core macroeconomic and monetary data are regularly reported to the IMF and published on official websites. However, there are weaknesses in national accounts, monetary and financial, and external sector statistics.	
National Accounts: National account statistics has been improved during the last three years. GDP is compiled quarterly, predominantly using the VAGST data. GDP was recently rebased from 2002 to 2009 constant prices. However, one third of GDP is "non-monetary," and difficult to measure with any precision (both levels and growth rates). The experimental estimate of GDP by expenditure is being refined and hasn't been released yet.	
Price Statistics: The CPI is compiled monthly (February 2016=100). A quarterly import price index is also published coverage being limited to chapters 01-27 of the Harmonized System.	
Government Finance Statistics: Samoa has participated in the JSA-funded regional 3-year GFS capacity development project since April 2012. Assisted by the technical assistance provided under this project, the authorities migrated their GFS data from GFS 86 to the GFSM 2001 format. Additionally, the Samoa Bureau of Statistics (SBS) worked to improved data quality by: identifying and incorporating new data sources and statistical estimation techniques in its GFS compilation processes; as well as increased data confrontation with other macro-economic data sets. The authorities began publishing the improved data in 2013 and, for the first time, submitting data for inclusion in IMF publications. Gaps remain in coverage (general government is not yet compiled or published), instrument detail, and consistency across the macro-framework; work is ongoing in Samoa to address these remaining deficiencies.	
Monetary and Financial Statistics: Samoa reports monetary data to the IMF on a regular basis. Monetary data for the Central Bank and other depository corporations are submitted in Standardized Report Form (SRF) format. Samoa does not report data on other financial corporations (OFCs). In November 2014, authorities requested technical assistance from STA to compile SRFs for OFCs.	
Financial Sector Surveillance: Samoa began reports Financial Soundness Indicators to the IMF in March 2016.	
External sector statistics: The quality of ESS is overall poor, mostly hindered by the frail data collection framework; access to source data for the compilation of some of the most relevant ESS components is limited. ESS coverage overall presents important limitations due to the omission of cross-border transactions and positions of offshore enterprises. As a reference on the relevance of offshore centers in Samoa, Samoan non-bank enterprises hold at least US$ 4.6 billion according to the BIS (Locational Banking Statistics database). The CBS produces and disseminates the balance of payments of Samoa on a quarterly basis, following the BPM6, but restricted to main aggregates and with poor coverage. The IIP is not currently disseminated but the SBS is expected to provide IIP data to the Fund during 2017.	
II. Data Standards and Quality	
Samoa is a participant in the GDDS since September 2012 and eGDDS will launch in April 2017.	No data module ROSC has so far been conducted in Samoa.

Samoa—Table of Common Indicators Required for Surveillance

(As of March 2017)

	Date of latest observation	Date received	Frequency of Data[4]	Frequency of Reporting[4]	Frequency of Publication[4]	Memo Items: Data Quality – Methodological soundness	Memo Items: Data Quality – Accuracy and reliability
Exchange Rates	03/21/17	03/21/17	D	D	D		
International Reserve Assets and Reserve Liabilities of the Monetary Authorities	01/17	03/20/17	M	M	M		
Reserve/Base Money	12/16	02/17/17	M	M	M		
Broad Money	12/16	02/17/17	M	M	M		
Central Bank Balance Sheet	12/16	02/17/17	M	M	N/A		
Consolidated Balance Sheet of the Banking System[1]	12/16	02/17/17	M	M	N/A		
Interest Rates[2]	12/16	02/17/17	M	M	M		
Consumer Price Index	2/17	03/21/17	M	M	M		
Revenue, Expenditure, Balance and Composition of Financing[3] – Central Government	Q3 2016	03/15/17	Q	Q	Q		
Stocks of Central Government and Central Government-Guaranteed Debt	Q3 2016	03/15/17	Q	Q	N/A		
External Current Account Balance	Q3 2016	02/17/17	Q	Q	Q		
Exports and Imports of Goods and Services	Q3 2016	02/17/17	M	M	M		
GDP	Q3 2016	02/17/17	Q	Q	Q		
Gross External Debt	Q3 2016	03/15/17	Q	Q	Q		
International Investment Position[5]							

[1]Data obtained directly from the Central Bank of Samoa.
[2]Officially-determined rates (yields on central bank securities) and commercial banks' deposit and lending rates.
[3]Domestic and external financing.
[4]Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A), Irregular (I); Not Available (NA).
[5]Samoa does not provide International Investment Position data due to capacity constraints.

SAMOA

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

April 13, 2017

Approved By
Odd Per Brekk (IMF), and John Panzer (IDA)

Prepared by the staffs of the International Monetary Fund (IMF) and the International Development Association (IDA)[1]

The update of the DSA shows that under current policies Samoa faces a high risk of debt distress, based on an assessment of public external debt. In the 2015 Article IV report, Samoa was assessed as moderate risk of debt distress. The change in the assessment is driven by a change in methodology to take into account the impact of natural disasters both in the near term and over the medium-to-long term. In the near term, the impact of a natural disaster shock is assessed. The change in methodology is to incorporate the average annual impacts of natural disasters on growth and on fiscal and external debt. The impact of natural disasters has a significant impact of debt dynamics, emphasizing that the government will need to maintain its medium-term and long-term fiscal debt targets (of 50 percent of GDP and 40 percent of GDP respectively) to keep its debt burden manageable. Samoa faces a heightened overall risk of public debt distress, reflecting contingent liabilities from government guarantees and on-lending to public enterprises from public financial institutions (PFIs). Structural reforms to reduce the impact of natural disasters on average growth rates can also contribute to debt sustainability.

[1] This DSA was prepared jointly with the World Bank, in accordance with the Debt Sustainability Framework for low-income countries approved by the Executive Boards of the IMF and the IDA. Samoa is rated as a strong performer for its policies and institutions for the purposes of the IMF-World Bank low-income country DSA framework. The DSA uses a 5 percent discount rate.

BACKGROUND

1. **Rapid fiscal expansion and borrowing following the global financial crisis and natural disasters in 2009 and 2012 have left Samoa with a large stock of debt.** The 2015/16 fiscal deficit outturn of 0.4 percent of GDP has helped alleviate risks from elevated debt, however, Samoa's vulnerability to natural disasters entails significant costs. The recovery efforts and reconstruction required after the 2009 tsunami and 2012 cyclone were largely financed by borrowing and total public debt increased to 57.8 percent of GDP at end-2015 which was well above the government's threshold of 50 percent.

2. **The risk rating is increased to high, reflecting the potential impact of natural disasters on Samoa's fiscal position over the medium term.** Following the methodology outlined in the 2016 IMF Board Paper on "Small States' Resilience to Natural Disasters and Climate Change" the medium-term projections are adjusted to account for the average impact of natural disasters on growth and the fiscal and current account deficits. These adjustments have a significant impact on the debt-dynamics.

3. **The 2015 DSA lowered the risk rating for debt distress for Samoa from high to moderate, reflecting an increase in the discount rate and rebasing of GDP.**[2] The assessment of moderate debt distress was based on the external debt assessment. However, the overall risk of public debt distress was found to be higher, due to contingent liabilities. The conclusions emphasized the importance for the authorities to adhere to consolidation plans to reach their debt target.

4. **Although Samoa's debt service is low relative to projected foreign reserves and government revenue, debt service requirements have increased significantly in recent years**. Much of Samoa's debt is long-term and concessional, with approximately 60 percent owed to multilateral agencies and 40 percent to bilateral partners. Total debt service requirements are projected to increase over the next few years to about 2.7 percent of GDP, due largely to increasing principal repayments.

5. **The central government's net domestic debt is small, but domestic liabilities in SOEs pose a potential risk.** The government issues guarantees to its SOEs, and has five on-lending arrangements active with the Electric Power Corporation (EPC), Development Bank of Samoa (DBS) and Unit Trust of Samoa (UTOS) as of end-2015, posing some risk for the government, given the relatively poor financial performance of many of Samoa's SOEs.

METHODOLOGY AND ASSUMPTIONS

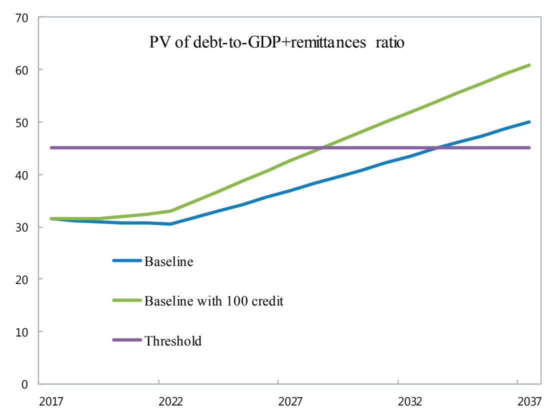
6. **Debt sustainability is assessed in relation to indicative group-specific debt burden thresholds that depend on the quality of policies and institutions**. Having established a strong track record of sound macroeconomic management, Samoa has one of the highest Country Policy and

[2] GDP data were revised to 2009 prices (previously 2002) and the coverage widened through new censuses and surveys, increasing nominal GDP from SAT1.6billion to SAT1.8billion in 2012/13.

Institutional Assessment (CPIA) ratings among the Bank's Pacific Island member states. Samoa's debt is therefore assessed against higher thresholds.[3]

7. The underlying assumptions are consistent with the macroeconomic framework, based on updated data provided by the authorities, and estimates by staff:[4]

- **Real GDP growth** is projected at 2.1 percent on average over 2017-2022, in the baseline scenario, which assumes no natural disasters. To account for the average impact of natural disasters, the growth rate is lowered by 1.3 percentage points after 2022.
- **Inflation** remains subdued and is expected to stabilize at around 3 percent over the medium term.
- **The current account** widened to -6.1 percent in FY2015/2016 due to a deterioration of the income account and lower charitable remittances but the deficit is projected to remain below 5 percent of GDP between 2017-2022, in the baseline scenario. To account for the average annual impact of natural disasters, the deficit is widened by 1.5 percentage points after 2022.
- **The primary fiscal balance** is estimated to be in balance between 2017-2022 but widens by 1.5 percentage points after 2022 to account for the average annual impact of natural disasters.
- **New external borrowing will be required to finance the fiscal deficit.** Continued eligibility for concessional borrowing from multilateral development partners is assumed for the forecast period. The grant element of new loans is 40 percent on average. Alternatively, if it is assumed that borrowing from the World Bank is at full credit terms, then the breach in the threshold occurs about 5 years earlier in 2028. (see text chart).



- **Contingent liabilities related to SOEs and PFIS** are estimated at 18.8 percent of GDP (government guarantees of 8.8 percent and on-lending to SOEs of 10 percent).

[3] Samoa's CPIA rating for 2015 is 4.0.

[4] The 5 percent discount rate used to calculate the net present value (NPV) of external debt.

INCORPORATING THE IMPACT OF NATURAL DISASTERS

8. **Samoa is ranked as the most vulnerable to natural disasters among small states in the 2016 IMF Board Paper on "Small States' Resilience to Natural Disasters and Climate Change"** The probability of Samoa being struck by a natural disaster is about average for Pacific island countries with a probability of about 25 percent each year.[5] However, the annual average damage and losses (**estimated** at over 12 percent of GDP) are by far the highest in the region. Cyclone Evan, the most recent Category 5 cyclone to hit Samoa, caused total damage and losses of approximately US$210 million (about 30 percent of annual GDP). The combination of both high frequency and extreme impact leads to Samoa's ranking as the most vulnerable small state.

Samoa: Vulnerability to Natural Disasters

	1990-2014		**1950-2014**
	Probability of Disaster in a Year	Average Annual Damage	Ranking by Vulnerability 1/
	(in percent)	(in percent of GDP)	
Samoa	**24.4**	**12.36**	**1**
Vanuatu	64.7	0.12	4
Tonga	30.2	1.62	11
Solomon Is	53.2	0.08	14
Fiji	66.0	0.67	19
Micronesia Fed States	24.4	0.01	20

1/ IMF staff calculations, combining rankings on the frequency of disasters and effects of those disasters.
Source: IMF Board Paper 2016 "Small States' Resilience to Natural Disasters and Climate Change: Role for the

9. **The findings of the substantial literature on the macroeconomic impact of natural disasters findings are mixed.**[6] There is a clear temporary negative impact on growth although estimates vary. Laframboise and Boileau (2012) estimate that a country's growth drops by an average 0.7 percent in the first year after a disaster, with a cumulative output loss three years after the disaster of about 1.5 percent over and above the immediate direct losses, and a drop in per capita real GDP of 1 percent on average in low-income countries.[7] Lee et al (2017) estimated that on average for the pacific islands, the growth rate declines by 4 percent in the disaster year, with a further decline of 0.5 percent in the following year.[8] Cabezon *et al* found that for the Pacific islands, trend growth over 1980-2014 was 0.7 percentage point

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[5] The probability of a natural disaster averages around 24 percent for Pacific island countries. For details, refer to Cabezon *et al,* 2015, "Enhancing Macroeconomic Resilience to Natural Disasters and Climate Change in the Small States of the Pacific" WP/15/125.

[6] See 2016 Board paper for further discussion.

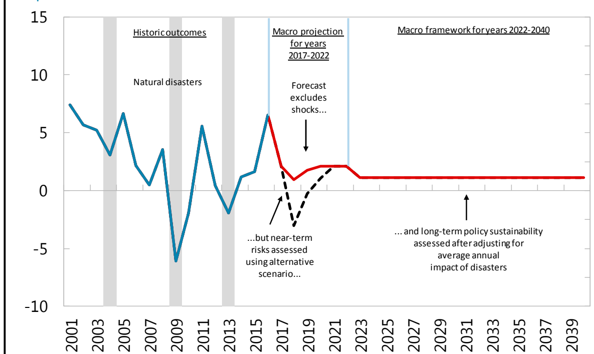
[7] Laframboise and Boileau, 2012, "Natural Disasters: Mitigating Impact, Managing Risks," WP 12/245.

[8] Lee, Dongyeol, Patrizia Tumbarello, Kazuaki Washimi and Tlek Zeinullayev, 2017, "Mind the Gap: Public Investment, Growth and Natural Disaster Risk in the Small States of the Pacific", IMF Working Paper, forthcoming.

lower than it would have been in the absence of natural disasters. Fiscal balances are also adversely affected. Lee et al estimate that natural disasters increase public debt by 14.4 percent on average in the disaster year. Synthetic control analysis suggests that the 2009 tsunami increased Samoa's public debt by 10 percent of GDP and the 2012 cyclone increased debt by a further 5 percent.[9]

10. These major long-term costs and risks are incorporated into the DSA to assess how they impact a countries' fiscal position and external debt sustainability. Accordingly, the baseline scenario considers the impact of future natural disasters, in line with the 2016 Board Paper on Small States' Resilience to Natural Disasters and Climate Change. From 2016-2022, staff's projections assume no natural disasters. This ensures that adjustments for natural disasters do not complicate the near-term policy discussions. However, this is not a realistic assumption over a longer horizon. Therefore, the baseline projections after 2022 take into account the average annual impact of natural disasters by adjusting downwards the average growth rate and increasing the current account and fiscal deficits. This approach is illustrated in the text figure. Given the high frequency and severity of natural disasters in Samoa, the average growth rate was adjusted down by 1.3 percent (to 0.8 percent compared with a non-disaster potential growth rate of 2.1 percent and the historical average of 0.9 percent) and the current account and fiscal deficits are estimated to widen by 1.5 percentage points.

Growth Projections with Disaster Impacts for DSA Analysis
(In percent)



Sources: Country authorities; and IMF staff calculations.

EXTERNAL DEBT SUSTAINABILITY ANALYSIS

11. In the baseline scenario the external debt-to-GDP+remittances ratio increases to over 46 percent by 2034, breaching the indicative threshold. By the end of the sample is 11.1 by 2037 percentage points above the threshold. In the baseline scenario, the average growth rate is 0.8 percent after 2022, compared with an historical average of 0.9 percent. On average, growth is expected to be lower than historically due to the expected increased severity of natural disasters. The deviation of the baseline from the historical scenario primarily reflects a lower projected change in the GDP deflator in U.S. dollar terms.[10] Though Samoa has historically implemented sound macroeconomic policies and reforms that have resulted in strong growth, the effects of natural disasters have reduced Samoa's economic growth and contributed to a weaker fiscal position.

12. Stress tests show Samoa's PV of debt-to-GDP and debt service-to-revenue ratios are vulnerable to exogenous shocks. There is a protracted and significant breach of the PV of debt to GDP

[9] IMF Samoa 2015 Article IV Staff Report.

[10] The historical scenario generates a new path of debt by freezing key macroeconomic variables at their 10-year historical average.

following a one-time depreciation shock (the most extreme shock scenario). Similarly, a severe natural disaster shock in 2018 leads to a breach of the PV of debt-to-GDP ratio after 2024

13. Measured by Samoa's debt service to revenue and debt service to exports ratios, Samoa's debt service burden increases significantly when the average impact of natural disasters is incorporated into the baseline. Samoa's debt service capacity is supported by foreign exchange earnings from the tourism industry, large inflows of remittances and revenue collection efforts. However, under the most extreme shock scenario, the threshold for both the debt service to exports is breached starting in 2027 and debt service to revenue ratio is breaches towards the end of the projection period. The debt service to revenue ratio also breaches the threshold following a one-time depreciation shock, but at the end of the projection horizon.

PUBLIC DEBT SUSTAINABILITY ANALYSIS

14. Public sector debt rises in the baseline scenario but is stable in the historical scenario. An extreme shock drives up the PV of debt to GDP and debt service to revenue ratios. The baseline includes government guarantees and on-lending to SOEs, of about 8.8 percent and 10 percent as a share of GDP respectively and these are added to the debt-to-GDP ratio in 2016. The extreme shock scenario leads to a sustained breach of the PV of debt-to-GDP ratio and a protracted elevation of the debt service to revenue ratio.

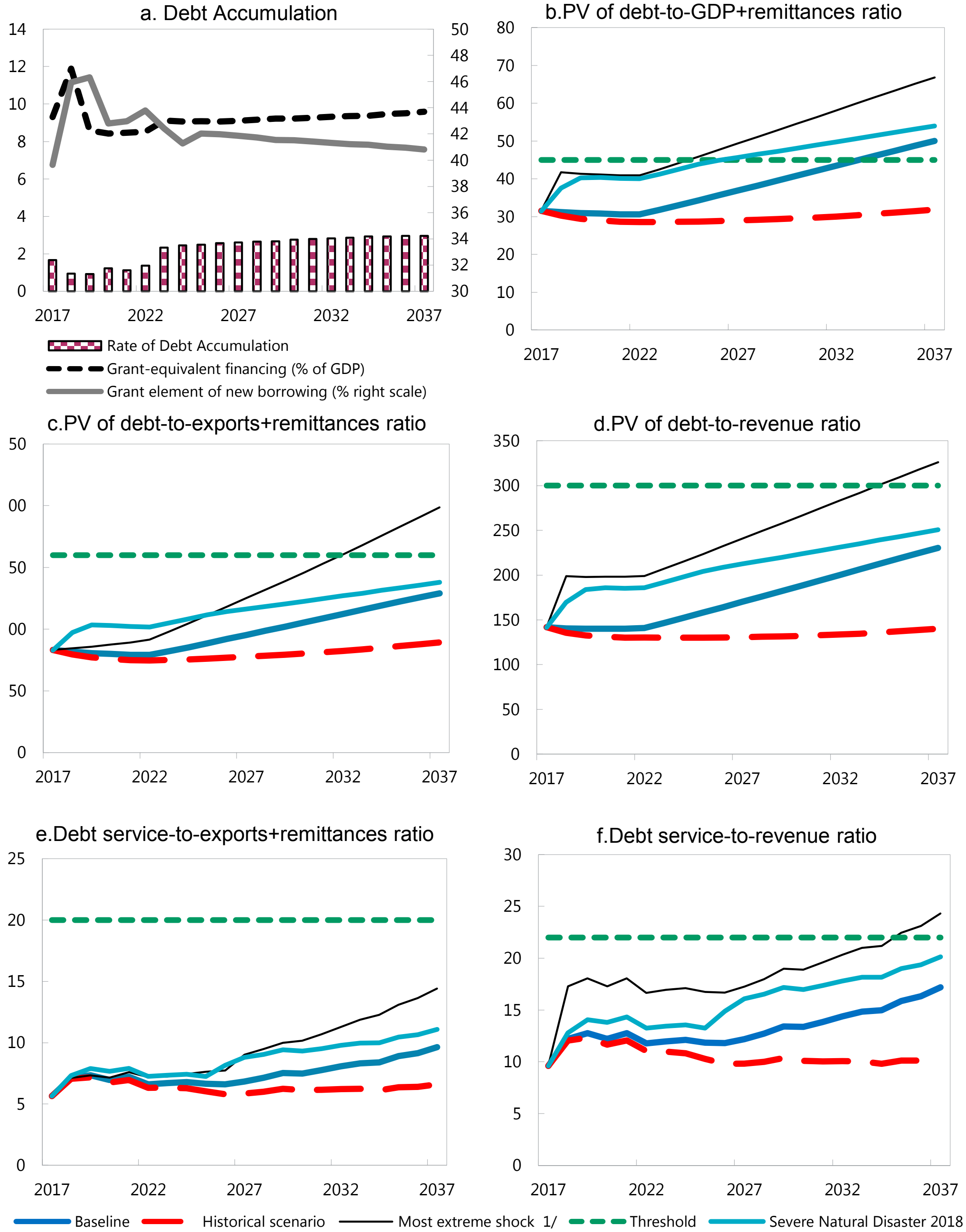
CONCLUSION

15. The DSA highlights the central role of fiscal policy. With the public debt portfolio dominated by external loans, exposure to foreign currency risk remains high. Moreover, should Samoa fail to consolidate its fiscal position and experience natural disasters, public debt would increase rapidly and become unsustainable, leading to a breach in the PV of debt-to-GDP ratio. Future external borrowing should be limited to loans with at least a 35 percent grant element, and that support projects with a return sufficient to cover the interest and repayment costs. Improving resilience to natural disasters and reform of SOEs can help reduce Samoa's debt burden and should be part of the overall debt management strategy.

Authorities' Views

16. The authorities recognize the risks posed by high debt levels and are committed to achieving their medium-term fiscal deficit targets to keep Samoa's debt burden manageable. With debt repayments rising, the government has put in place a credible fiscal consolidation plan and is committed to meeting the objectives of Samoa's medium-term debt management strategy by: i) restricting the level of public debt to less than 50 percent of GDP; ii) ensuring that loans contracted are highly concessional, with a grant element of at least 35 percent; and iii) effectively managing SOEs guarantees.

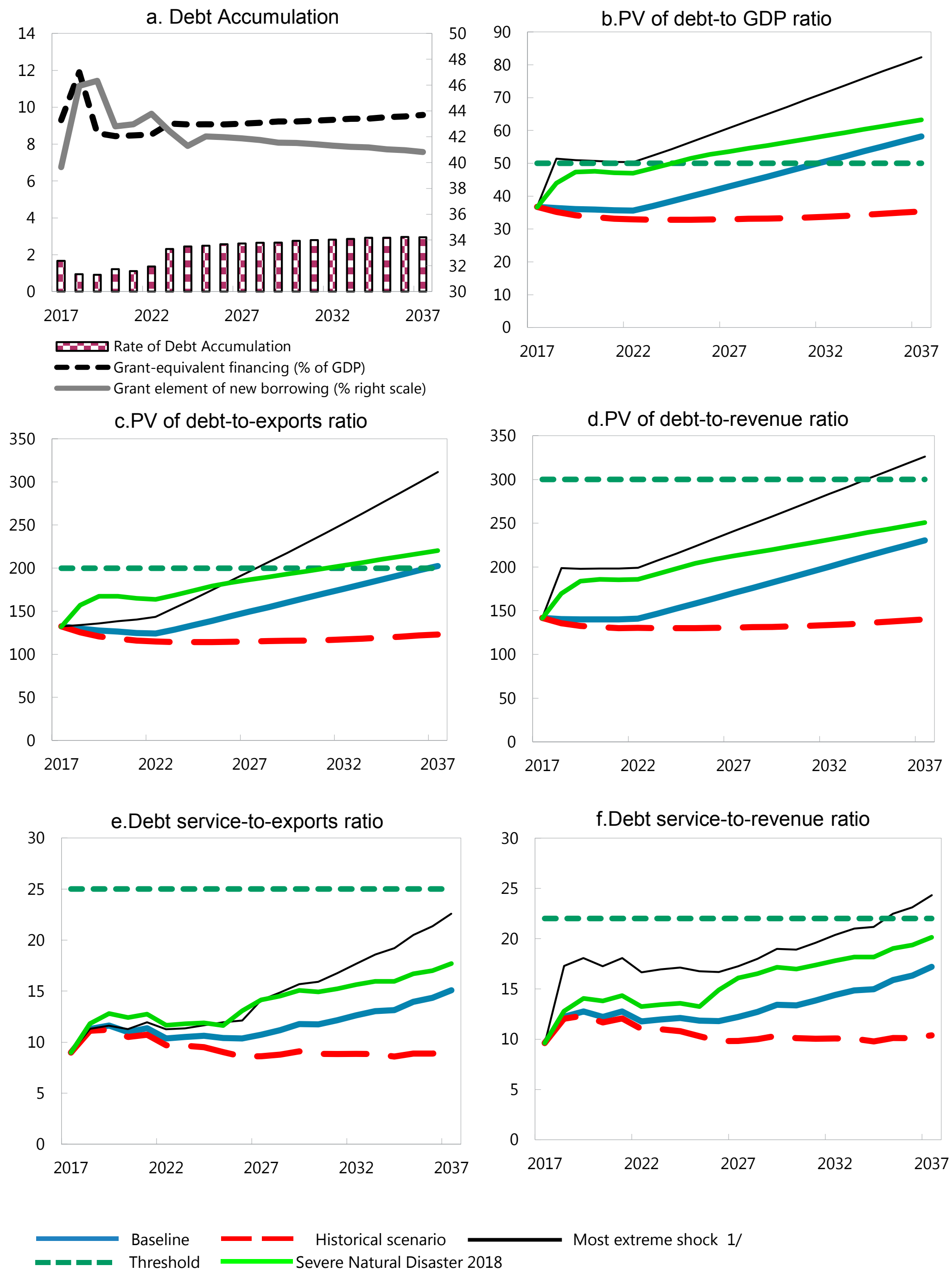
Figure 1a. Samoa: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2017-2037 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2027. In figure b. it corresponds to a One-time depreciation shock; in c. to a Terms shock; in d. to a One-time depreciation shock; in e. to a Terms shock and in figure f. to a One-time depreciation shock

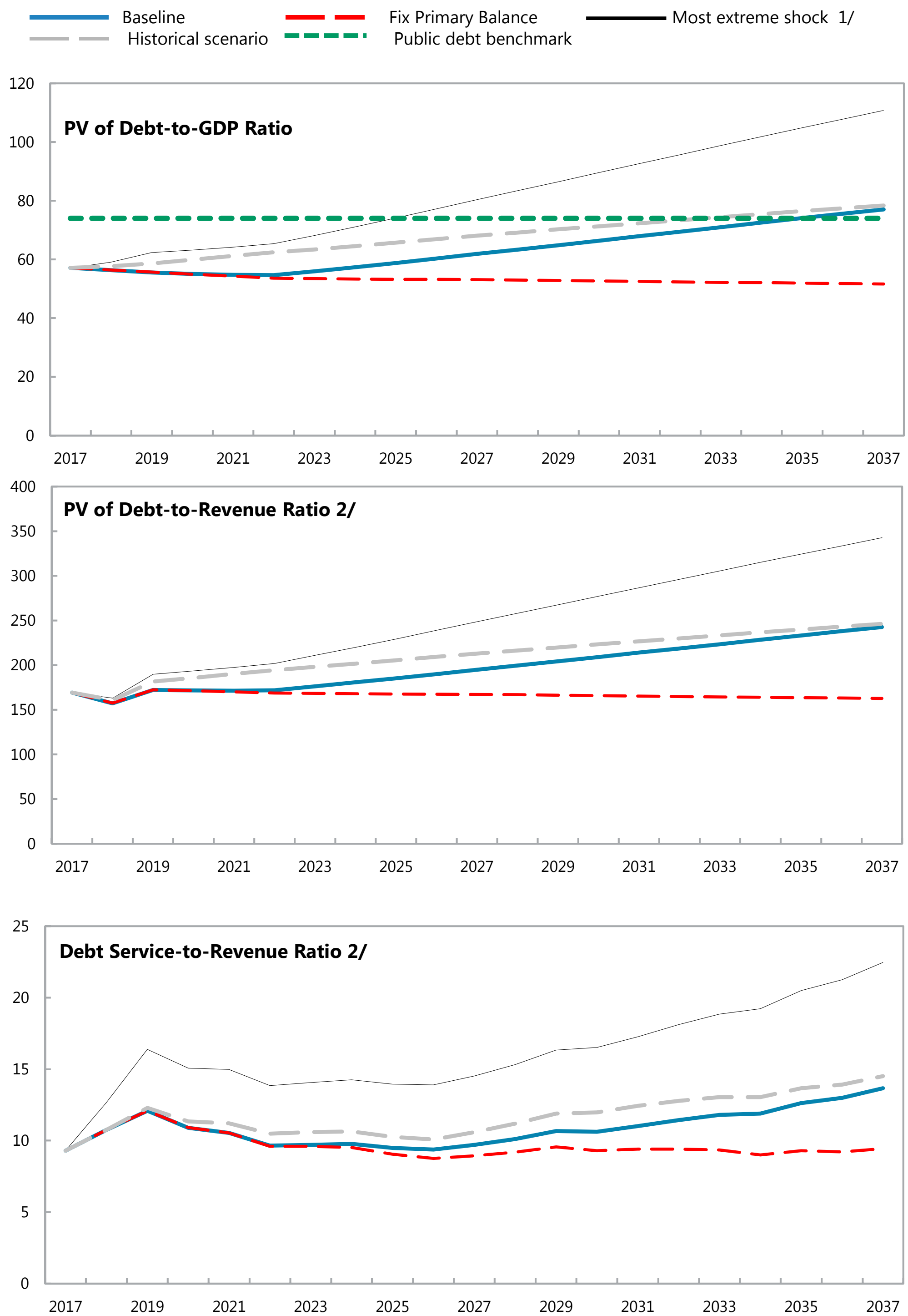
Figure 1b. Samoa: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, Excluding Remittances 2017-20317 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2027. In figure b. it corresponds to a One-time depreciation shock; in c. to a Terms shock; in d. to a One-time depreciation shock; in e. to a Terms shock and in figure f. to a One-time depreciation shock

Figure 2. Samoa: Indicators of Public Debt under Alternative Scenarios, 2017-2037 1/



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio on or before 2027.
2/ Revenues are defined inclusive of grants.

Table. 1a. Samoa: External Debt Sustainability Framework Baseline Scenario, 2014-2037 1/

(In percent of GPD, unless otherwise indicated)

	Actual			Historical 6/	Standard 6/	Projections									
	2014	2015	2016	Average	Deviation	2017	2018	2019	2020	2021	2022	2017-2022 Average	2027	2037	2023-2037 Average
External debt (nominal) 1/	**51.8**	**55.3**	**50.7**			**50.8**	**51.1**	**51.7**	**52.0**	**52.3**	**52.6**		**64.8**	**86.8**	
of which: public and publicly guaranteed (PPG)	51.8	55.3	50.7			50.8	51.1	51.7	52.0	52.3	52.6		64.8	86.8	
Change in external debt	0.2	3.6	-4.6			0.0	0.3	0.6	0.3	0.3	0.3		2.4	2.1	
Identified net debt-creating flows	6.2	-0.4	6.6			4.3	4.7	3.6	2.9	2.6	2.4		4.5	4.4	
Non-interest current account deficit	**7.4**	**2.3**	**5.3**	**5.5**	**2.6**	**5.2**	**4.9**	**4.1**	**3.8**	**3.6**	**3.6**		**5.0**	**4.8**	4.9
Deficit in balance of goods and services	24.6	21.2	20.5			20.5	20.3	19.7	19.2	18.8	18.5		20.0	20.0	
Exports	27.8	27.5	29.4			27.8	28.0	28.3	28.4	28.6	28.7		28.7	28.7	
Imports	52.5	48.7	49.9			48.3	48.3	48.0	47.6	47.4	47.2		48.7	48.7	
Net current transfers (negative = inflow)	-20.2	-20.2	-16.8	-20.1	1.9	-16.4	-16.5	-16.5	-16.5	-16.5	-16.3		-16.3	-16.3	-16.3
of which: official	-0.3	-0.2	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	3.1	1.3	1.6			1.1	1.0	1.0	1.2	1.2	1.4		1.3	1.1	
Net FDI (negative = inflow)	**-2.0**	**-3.4**	**-0.8**	**-2.5**	**2.3**	**-0.8**	**-0.8**	**-0.8**	**-0.8**	**-0.8**	**-0.8**		**-0.8**	**-0.8**	-0.8
Endogenous debt dynamics 2/	**0.8**	**0.7**	**2.1**			**-0.1**	**0.5**	**0.2**	**-0.1**	**-0.2**	**-0.4**		**0.3**	**0.4**	
Contribution from nominal interest rate	0.7	0.7	0.8			0.9	1.0	1.1	0.9	0.9	0.7		0.8	1.0	
Contribution from real GDP growth	-0.6	-0.8	-3.7			-1.0	-0.5	-0.9	-1.0	-1.1	-1.1		-0.5	-0.6	
Contribution from price and exchange rate changes	0.7	0.8	5.0			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-6.0**	**4.0**	**-11.2**			**-4.3**	**-4.3**	**-3.0**	**-2.6**	**-2.4**	**-2.1**		**-2.2**	**-2.3**	
of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	36.7			36.7	36.4	36.1	35.9	35.7	35.6		43.0	58.2	
In percent of exports	...	...	125.0			132.3	129.8	127.5	126.2	124.7	124.0		149.5	202.4	
PV of PPG external debt	**...**	**...**	**36.7**			**36.7**	**36.4**	**36.1**	**35.9**	**35.7**	**35.6**		**43.0**	**58.2**	
In percent of exports	**...**	**...**	**125.0**			**132.3**	**129.8**	**127.5**	**126.2**	**124.7**	**124.0**		**149.5**	**202.4**	
In percent of government revenues	**...**	**...**	**137.0**			**141.7**	**140.5**	**140.1**	**140.3**	**140.2**	**140.8**		**170.2**	**230.5**	
Debt service-to-exports ratio (in percent)	**2.4**	**2.5**	**2.6**			**9.0**	**11.3**	**11.6**	**11.0**	**11.4**	**10.4**		**10.7**	**15.1**	
PPG debt service-to-exports ratio (in percent)	**2.4**	**2.5**	**2.6**			**9.0**	**11.3**	**11.6**	**11.0**	**11.4**	**10.4**		**10.7**	**15.1**	
PPG debt service-to-revenue ratio (in percent)	**2.6**	**2.8**	**2.9**			**9.6**	**12.2**	**12.8**	**12.2**	**12.8**	**11.8**		**12.2**	**17.2**	
Total gross financing need (Millions of U.S. dollars)	49.1	-2.9	41.6			58.6	63.5	59.8	57.9	58.9	58.2		83.5	122.7	
Non-interest current account deficit that stabilizes debt ratio	7.2	-1.2	9.9			5.2	4.5	3.5	3.5	3.3	3.2		2.6	2.7	
Key macroeconomic assumptions															
Real GDP growth (in percent)	1.2	1.6	6.6	0.9	3.7	2.1	0.9	1.8	2.1	2.1	2.1	1.9	0.8	0.8	0.8
GDP deflator in US dollar terms (change in percent)	-1.3	-1.6	-8.3	4.0	8.2	5.1	2.4	1.6	1.7	1.6	1.8	2.4	1.8	1.8	1.8
Effective interest rate (percent) 5/	1.3	1.3	1.4	1.2	0.5	1.9	2.0	2.2	1.8	1.8	1.4	1.8	1.3	1.2	1.3
Growth of exports of G&S (US dollar terms, in percent)	-4.1	-1.2	4.5	4.6	7.4	1.4	4.3	4.4	4.4	4.4	4.4	3.9	2.5	2.5	2.6
Growth of imports of G&S (US dollar terms, in percent)	6.0	-7.1	0.1	4.2	8.8	3.8	3.6	2.6	3.1	3.4	3.5	3.3	2.5	2.5	2.8
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	39.6	45.9	46.3	42.8	43.0	43.8	43.6	41.9	40.8	41.5
Government revenues (excluding grants, in percent of GDP)	25.4	25.3	26.8			25.9	25.9	25.7	25.6	25.4	25.3		25.2	25.2	25.2
Aid flows (in Millions of US dollars) 7/	101.5	78.5	52.5			65.9	86.6	58.7	60.9	63.2	65.7		74.6	96.0	
of which: Grants	101.5	78.5	52.5			65.9	86.6	58.7	60.9	63.2	65.7		74.6	96.0	
of which: Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			9.3	11.9	8.6	8.4	8.5	8.5		9.1	9.6	9.3
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			80.5	83.8	78.1	76.7	76.5	76.8		71.6	68.3	70.5
Memorandum items:															
Nominal GDP (Millions of US dollars)	803.6	804.0	785.9			843.2	871.5	901.2	935.7	971.0	1009.4		1145.5	1473.5	
Nominal dollar GDP growth	-0.2	0.0	-2.2			7.3	3.4	3.4	3.8	3.8	4.0	4.3	2.5	2.5	2.6
PV of PPG external debt (in Millions of US dollars)			296.0			309.1	317.0	324.9	335.9	346.3	359.6		492.0	857.0	
(PVt-PVt-1)/GDPt-1 (in percent)						1.7	0.9	0.9	1.2	1.1	1.4	1.2	2.6	3.0	2.7
Gross workers' remittances (Millions of US dollars)	160.0	160.9	131.7			138.1	143.3	148.8	154.4	159.4	164.6		186.8	240.3	
PV of PPG external debt (in percent of GDP + remittances)	...	...	31.4			31.6	31.2	30.9	30.8	30.6	30.6		36.9	50.0	
PV of PPG external debt (in percent of exports + remittances)	...	...	79.6			83.2	81.8	80.5	79.9	79.2	79.1		95.3	129.1	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.7			5.6	7.1	7.3	7.0	7.2	6.6		6.8	9.6	

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)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.

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

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

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

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

8/ 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).

Table 1b. Samoa: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017-2037

(In percent)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
PV of debt-to-GDP+remittances ratio								
Baseline	32	31	31	31	31	31	**37**	50
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	32	30	29	29	29	29	**29**	32
A2. New public sector loans on less favorable terms in 2017-2037 2	32	32	33	34	35	35	**48**	77
A3. Alternative Scenario: Severe Natural Disaster in 2018	31	38	40	40	40	40	**46**	54
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	32	32	33	33	33	33	**40**	54
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	32	32	34	34	34	34	**40**	51
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	32	33	34	34	34	34	**41**	56
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	32	30	29	30	29	29	**36**	50
B5. Combination of B1-B4 using one-half standard deviation shocks	32	31	32	32	32	32	**39**	53
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	32	42	41	41	41	41	**49**	67
PV of debt-to-exports+remittances ratio								
Baseline	83	82	80	80	79	79	**95**	129
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	83	80	77	76	75	75	**78**	89
A2. New public sector loans on less favorable terms in 2017-2037 2	83	84	86	87	89	92	**125**	199
A3. Alternative Scenario: Severe Natural Disaster in 2018	83	97	103	103	102	102	116	138
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	83	82	80	80	79	79	**95**	129
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	83	88	96	95	95	95	**112**	145
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	83	82	80	80	79	79	**95**	129
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	83	77	75	77	76	76	**92**	128
B5. Combination of B1-B4 using one-half standard deviation shocks	83	77	78	79	78	78	**95**	130
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	83	82	80	80	79	79	**95**	129
PV of debt-to-revenue ratio								
Baseline	142	140	140	140	140	141	**170**	231
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	142	136	133	131	130	130	**131**	140
A2. New public sector loans on less favorable terms in 2017-2037 2	142	145	149	154	158	163	**223**	355
A3. Alternative Scenario: Severe Natural Disaster in 2018	141	170	184	186	185	186	**212**	251
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	142	146	152	152	152	153	**185**	251
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	142	145	153	153	153	154	**184**	237
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	142	150	159	159	159	160	**193**	262
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	142	138	135	135	135	136	**165**	228
B5. Combination of B1-B4 using one-half standard deviation shocks	142	143	150	150	150	151	**183**	251
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	142	199	198	198	198	199	**241**	326

Table 1b. Samoa: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017-2037 (concluded)

(In percent)

Debt service-to-exports+remittances ratio								
Baseline	6	7	7	7	7	7	**7**	10
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	6	7	7	7	7	6	**6**	7
A2. New public sector loans on less favorable terms in 2017-2037 2	6	7	7	7	8	7	**9**	14
A3. Alternative Scenario: Severe Natural Disaster in 2018	6	7	8	8	8	7	**9**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	6	7	7	7	7	7	**7**	10
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	6	7	8	8	8	7	**8**	11
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	6	7	7	7	7	7	**7**	10
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	6	7	7	7	7	7	**7**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	6	7	7	7	7	7	**7**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	6	7	7	7	7	7	**7**	10
Debt service-to-revenue ratio								
Baseline	10	12	13	12	13	12	**12**	17
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	10	12	12	12	12	11	**10**	10
A2. New public sector loans on less favorable terms in 2017-2037 2	10	12	13	13	13	13	**16**	26
A3. Alternative Scenario: Severe Natural Disaster in 2018	10	13	14	14	14	13	**16**	20
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	10	13	14	13	14	13	**13**	19
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	10	12	13	12	13	12	**13**	18
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	10	13	14	14	14	13	**14**	20
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	10	12	13	12	13	12	**12**	17
B5. Combination of B1-B4 using one-half standard deviation shocks	10	13	14	13	14	13	**13**	19
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	10	17	18	17	18	17	**17**	24
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	41	41	41	41	41	41	**41**	41

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in the baseline.
3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).
4/ Includes official and private transfers and FDI.
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 2a. Samoa: Public Sector Debt Sustainability Framework Baseline Scenario, 2014-2037

(In percent of GDP, unless otherwise indicated))

	Actual					Estimate						Projections			
	2014	2015	2016	Average 5/	Standard Deviation 5/	2017	2018	2019	2020	2021	2022	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	74.0	76.6	71.4			71.1	71.0	71.2	71.2	71.4	71.7		83.7	105.7	
of which: foreign-currency denominated	51.8	55.3	50.7			50.8	51.1	51.7	52.0	52.3	52.6		64.8	86.8	
Change in public sector debt	0.5	2.5	-5.2			-0.3	-0.1	0.1	0.0	0.2	0.2		2.4	2.1	
Identified debt-creating flows	2.0	7.3	-3.9			-1.0	-0.6	-0.6	-0.8	-0.7	-0.7		1.7	1.4	
Primary deficit	4.4	2.6	-0.9	2.7	2.4	0.6	0.4	0.6	1.0	1.2	1.5	0.9	3.1	3.2	3.1
Revenue and grants	38.0	35.1	33.5			33.7	35.8	32.3	32.1	32.0	31.8		31.7	31.7	
of which: grants	12.6	9.8	6.7			7.8	9.9	6.5	6.5	6.5	6.5		6.5	6.5	
Primary (noninterest) expenditure	42.4	37.7	32.6			34.3	36.2	32.8	33.1	33.1	33.3		34.9	34.9	
Automatic debt dynamics	-2.3	4.7	-3.1			-1.6	-1.0	-1.2	-1.8	-1.9	-2.2		-1.5	-1.8	
Contribution from interest rate/growth differential	-1.5	-2.1	-4.6			-1.3	-0.7	-1.4	-1.9	-2.0	-2.2		-1.5	-1.9	
of which: contribution from average real interest rate	-0.7	-0.9	0.1			0.1	0.0	-0.1	-0.4	-0.6	-0.8		-0.9	-1.1	
of which: contribution from real GDP growth	-0.9	-1.2	-4.7			-1.5	-0.7	-1.2	-1.5	-1.5	-1.5		-0.6	-0.8	
Contribution from real exchange rate depreciation	-0.8	6.8	1.5			-0.3	-0.3	0.1	0.1	0.1	0.1		...	...	
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	
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 implicit or contingent liabilities	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 (specify, 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	
Residual, including asset changes	-1.5	-4.8	-1.3			0.7	0.5	0.8	0.9	0.9	0.9		0.7	0.7	
Other Sustainability Indicators															
PV of public sector debt	...	...	57.4			57.1	56.3	55.5	55.1	54.7	54.6		61.8	77.0	
of which: foreign-currency denominated	...	...	36.7			36.7	36.4	36.1	35.9	35.7	35.6		43.0	58.2	
of which: external	...	...	36.7			36.7	36.4	36.1	35.9	35.7	35.6		43.0	58.2	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	5.3	3.9	0.8			3.7	4.3	4.5	4.5	4.5	4.6		6.2	7.5	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	171.6			169.2	157.1	172.1	171.5	171.3	171.8		194.8	242.6	
PV of public sector debt-to-revenue ratio (in percent)	...	...	214.4			220.2	217.4	215.7	215.2	215.2	216.0		245.1	305.3	
of which: external 3/	...	...	137.0			141.7	140.5	140.1	140.3	140.2	140.8		170.2	230.5	
Debt service-to-revenue and grants ratio (in percent) 4/	2.6	3.6	4.9			9.3	10.8	12.1	10.9	10.5	9.7		9.7	13.7	
Debt service-to-revenue ratio (in percent) 4/	3.9	4.9	6.1			12.1	14.9	15.1	13.7	13.2	12.1		12.2	17.2	
Primary deficit that stabilizes the debt-to-GDP ratio	3.9	0.1	4.3			0.9	0.5	0.4	0.9	1.0	1.3		0.8	1.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	1.2	1.6	6.6	0.9	3.7	2.1	0.9	1.8	2.1	2.1	2.1	1.9	0.8	0.8	0.8
Average nominal interest rate on forex debt (in percent)	1.3	1.3	1.4	1.2	0.5	1.9	2.0	2.2	1.8	1.8	1.4	1.8	1.3	1.2	1.3
Real exchange rate depreciation (in percent, + indicates depreciation)	-1.6	13.6	3.0	-1.4	8.9	-0.6	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	0.3	2.7	-1.1	3.1	3.4	1.8	1.9	2.5	2.8	3.0	3.0	2.5	3.0	3.0	3.0
Growth of real primary spending (deflated by GDP deflator, in percent)	17.4	-9.6	-7.8	0.0	7.1	7.6	6.5	-7.8	2.8	2.3	2.7	2.4	0.8	0.8	1.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	39.6	45.9	46.3	42.8	43.0	43.8	43.6	41.9	40.8	...

Sources: Country authorities; and staff estimates and projections.

1/ Includes public sector debt and 18.8 percent of GDP contingent liabilities from PFIs and SOEs. Gross debt is used.

2/ 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.

3/ Revenues excluding grants.

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

5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 2b. Samoa: Sensitivity Analysis for Key Indicators of Public Debt 2017-2037

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	57	56	56	55	55	55	62	77
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	57	58	59	60	61	62	68	78
A2. Primary balance is unchanged from 2017	57	56	56	55	54	54	53	52
A3. Permanently lower GDP growth 1/	57	57	57	57	58	59	74	121
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	57	59	62	63	64	65	80	111
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	57	59	61	61	60	60	68	82
B3. Combination of B1-B2 using one half standard deviation shocks	57	59	62	62	63	63	75	98
B4. One-time 30 percent real depreciation in 2018	57	71	69	68	67	66	69	82
B5. 10 percent of GDP increase in other debt-creating flows in 2018	57	62	62	61	61	61	68	83
PV of Debt-to-Revenue Ratio 2/								
Baseline	169	157	172	172	171	172	195	243
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	169	161	181	186	190	194	213	246
A2. Primary balance is unchanged from 2017	169	157	172	171	170	169	167	163
A3. Permanently lower GDP growth 1/	169	158	176	177	180	183	230	368
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	169	163	190	193	197	202	249	343
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	169	165	189	189	189	189	213	259
B3. Combination of B1-B2 using one half standard deviation shocks	169	165	191	193	195	198	234	306
B4. One-time 30 percent real depreciation in 2018	169	199	215	211	208	206	218	257
B5. 10 percent of GDP increase in other debt-creating flows in 2018	169	174	191	190	190	191	215	261
Debt Service-to-Revenue Ratio 2/								
Baseline	9	11	12	11	11	10	10	14
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	9	11	12	11	11	10	11	15
A2. Primary balance is unchanged from 2017	9	11	12	11	11	10	9	9
A3. Permanently lower GDP growth 1/	9	11	12	11	11	10	11	20
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	9	11	13	12	12	11	12	20
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	9	11	12	11	11	10	11	15
B3. Combination of B1-B2 using one half standard deviation shocks	9	11	13	12	11	11	11	18
B4. One-time 30 percent real depreciation in 2018	9	13	16	15	15	14	15	22
B5. 10 percent of GDP increase in other debt-creating flows in 2018	9	11	13	12	11	10	11	15

Sources: Country authorities; and staff estimates and projections.
1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.
2/ Revenues are defined inclusive of grants.