REPUBLIC OF THE MARSHALL ISLANDS

August 10, 2018

STAFF REPORT FOR THE 2018 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITYANALYSIS

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The 2018 Debt Sustainability Analysis (DSA) assesses that the Republic of the Marshall Islands (RMI) remains at high risk of debt distress. The ratios of the present value (PV) of external public and publicly-guaranteed (PPG) debt to GDP and to exports are currently just below their respective policy-dependent indicative thresholds. The PV of the PPG debt-to-GDP ratio is expected to decline slightly in the near term, but to start increasing and exceed its indicative threshold in the medium to long term. Stress tests confirm the vulnerability of the debt position to lending terms as well as macroeconomic shocks. Although the RMI does not currently face debt servicing risks, helped by government revenue from fishing licenses and a stable flow of funds from the U.S. Compact grants until FY2023, a lack of fiscal buffers after FY2023 and risks from contingent liabilities call for a fiscal reform strategy. Containing the risk of debt distress requires continuation of grants to support the country's large development needs, and implementation of fiscal and structural reforms to promote fiscal sustainability and growth.

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[1] This DSA was prepared jointly with the World Bank, in accordance with the standard Debt Sustainability Framework for Low-income Countries approved by the Executive Boards of the IMF and the IDA (This DSA was prepared prior to July 1, 2018 based on the 2013 staff guidance note). Debt sustainability is assessed in relation to policy-dependent debt burden thresholds. The RMI, with an average Country Policy and Institutional Assessment (CPIA) score of 2.6 over the last three years, is considered to have weak policy and institutional capacity for the purposes of the DSA framework, and assessed against relatively lower debt thresholds. Thus, the external debt burden thresholds for the RMI are: (i) PV of debt-to-GDP ratio: 30 percent; (ii) PV of debt-to-exports ratio: 100 percent; (iii) PV of debt-to-revenue ratio: 200 percent; (iv) debt service-to-exports ratio: 15 percent; and (v) debt service-to-revenue ratio: 18 percent.

BACKGROUND

1.   The RMI's external public and publicly guaranteed (PPG) debt has been on a downward trajectory since the early 2000s. It declined from 74 percent of GDP in FY2002 to 38 percent in FY2017.[2] About two-thirds of outstanding debt is central government debt contracted with the Asian Development Bank (ADB), while the rest is state-owned enterprise (SOE) debt guaranteed by the government. Total debt service amounts to US$7 million in FY2018, and remains broadly stable over the medium term. All loans will be redeemed in U.S. dollars, the legal tender and official currency of the RMI. The private sector accounts for about 6 percent of total external debt.

2.   RMI faces a long-term fiscal challenge as some U.S. grants provided under the Compact of Free Association (Compact grants) will expire in FY2023. RMI is dependent on external grants and fishing license fees to finance public spending. A portion of the Compact grants has been disbursed into the Compact Trust Fund (CTF), jointly managed by the United States and the RMI, with the goal that investment earnings from the CTF could replace the expiring portion of the U.S. Compact grants after FY2023. Nevertheless, the current trajectory of the CTF is not on track to preserve the *real* value of the CTF (with about 2 percent inflation adjustment), highlighting the risk of widening financial gaps.

UNDERLYING ASSUMPTIONS

3.   Key assumptions are consistent with the macroeconomic framework based on updated data provided by the authorities and estimates by staff. Relative to the previous DSA, the outlook for real GDP growth has been revised up moderately, reflecting a recent resumption of capital investment with gradual expansion in domestic absorption. Also, the view for near- to medium-term fiscal indicators has moderately improved mainly due to the upward revision of fiscal revenues (notably further increases in fishing license fees). Regarding external finance, projected support from IDA has also been revised upward, reflecting IDA's planned scale-up for Pacific Island countries. However, the long-term fiscal challenge of the reduction of the U.S. Compact grants after FY2023 remains largely unchanged.

a. **Real GDP growth** in the long run is projected to register 1.5 percent, which incorporates the potential effects of natural disasters on growth (see section following). The GDP deflator is expected to stabilize at around 1 percent in the long run.

b. **The overall fiscal surplus** is expected to decline gradually and turn into a deficit of 1.3 percent of GDP by FY2023, when the U.S. Compact grants expire. On the revenue side, Compact grants in real terms are projected to decrease as scheduled. Grants from other donors as well as fishing license fees are assumed to be stable in nominal terms, while declining as a share of GDP. The tax revenue-to-GDP ratio is assumed to remain broadly unchanged, as the baseline scenario does not incorporate tax reforms. Beyond FY2023, investment earnings from the CTF are intended to replace the expiring portion of the U.S. Compact grants. While the projected value of CTF would generate sufficient income to supplement the expired Compact grants

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[2] Fiscal year ending September 30.

(US$27 million), long-term self-sufficiency will not be secured because the real value of the CTF will decline over time. Total expenditure recorded a peak at 65 percent of GDP in FY2017 and is projected to remain high at around 62–65 percent of GDP until FY2023 as the authorities' high priority projects will be accelerated through financial support from IDA and ADB. Beyond FY2023, expenditures are expected to follow trends in revenues and grants—total expenditure is projected to decrease to 58 percent of GDP in FY2033 as grants and fishing license fees are expected to decline in percent of GDP.

c. **The current account deficit** (including official current transfers) is also expected to worsen gradually from 0.3 percent of GDP in FY2017 to 3.1 percent of GDP by FY2023, due to continued import demand for infrastructure projects while fishing license fee remains stable in nominal terms.

d. **External financing**. In the absence of access to the international capital market and a very limited domestic market, the financing gap is assumed to be closed by a combination of bilateral loans from development partners and multilateral concessional lending. In addition, it is assumed that the additional support from IDA and ADB will be provided on credit terms (see paragraph 6 for more details).

INCORPORATING THE IMPACT OF NATURAL DISASTER

4.   RMI is one of the countries expected to be most affected by climate change. The vulnerability arises from the exposure to rising sea levels, given its low elevation, and to natural disaster such as droughts and floods. Historical data on natural disasters from the Emergency Events Database indicate that the average likelihood of a severe natural disaster is 5.4 percent per year, with about 25 percent of total population being affected by a severe disaster event.
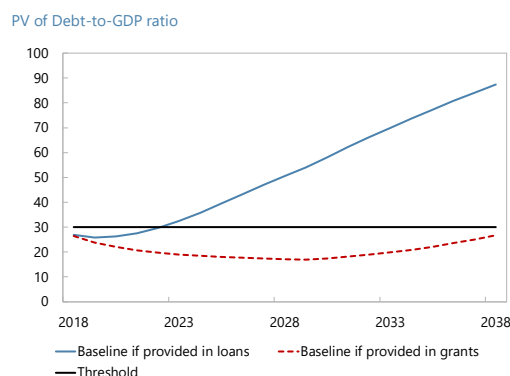
5.   The DSA incorporates the costs and risks of natural disasters. The baseline scenario considers the impact of future natural disasters, in line with the 2016 IMF Board Paper on "Small States' Resilience to Natural Disasters and Climate Change."[3] For FY2018–2023, staff's projections assume no natural disasters, in line with the guidance from the Board Paper. This ensures that adjustments for natural disasters do not complicate near-term policy discussions. However, for a realistic assumption over the longer horizon, the baseline projections after FY2023 take into account the average annual impact of natural disasters by adjusting downward the average growth rate. In particular, long-term growth is adjusted down by 0.1 percentage points to 1.5 percent, compared with a non-disaster potential growth rate of 1.6 percent. In addition, the near-term risk of a one-off extreme natural disaster is incorporated in the DSA through a standard customized scenario (see Figures 1 and 2). Based on Lee, Zhang and Nguyen (2018), this risk scenario assumes that a one-off extreme natural disaster would decrease real GDP growth by 2 percentage

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[3] The 2016 Board Paper is available at: https://www.imf.org/en/News/Articles/2016/12/12/PR16550-IMF-Discusses-Small-States-Resilience-to-Natural-Disasters-and-Climate-Change-and-IMF-Role.

points, and increase the trade deficit and public expenditure by 5 percent of GDP respectively in the near term.[4]

EXTERNAL DEBT SUSTAINABILITY ANALYSIS

6.   Under the baseline scenario, RMI's PPG external debt trajectory is projected to exceed the indicative threshold in the medium to long term. The PV of external debt-to-GDP ratio is expected to ease in the near term following the recent downward trajectory. However, it is expected to start increasing and to exceed the threshold of 30 percent from FY2022 (Figure 1). The ratio of the PV of external debt-to-exports is also expected to increase and remain above the threshold of 100 percent during most of the projection period. As the bulk of external debt is on concessional terms, debt service will be relatively contained. Nonetheless, the debt service-to-exports ratio will gradually approach the indicative threshold by the end of the projection period because of continued debt accumulation. Alternatively, if the RMI continues to benefit from its grant-only status, the PV of debt-to-GDP ratio will gradually decline and stay below the threshold throughout the projection period (see text chart).[5]

PV of Debt-to-GDP ratio

Legend: —— Baseline if provided in loans   - - - Baseline if provided in grants   —— Threshold

7.   Stress tests confirm the vulnerability of debt dynamics to lending terms, export market conditions as well as macroeconomic shocks. Given continued debt accumulation in the baseline scenario, the debt trajectory is particularly sensitive to changes in the terms of new lending as shown in the most extreme shock scenario. In addition, other stress-test scenarios, including the severe natural disaster scenario, illustrate the vulnerability of the debt trajectory to external shocks.

PUBLIC DEBT SUSTAINABILITY ANALYSIS

8.   Public debt follows very closely the dynamic of external debt. Under the baseline scenario, the PV of total public debt-to-GDP ratio is projected to increase from 29 percent of GDP in FY2017 to 50 percent of GDP in FY2028, exceeding the benchmark of 38 percent. A sensitivity analysis on the primary deficit—holding the annual primary surplus at the FY2018 level of 2.6 percent, relative to projected average of 0.2 percent (FY2018–FY2028) in the baseline scenario—will decrease the PV of public debt-to-GDP ratio by 13 percentage points in FY2028. This highlights that fiscal consolidation in the early years of the

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[4] Lee, Zhang and Nguyen. *The Economic Impact of Natural Disasters in Pacific Island Countries: Adaptation and Preparedness.* IMF WP/18/108.

[5] In the IMF's macroeconomic framework, it is assumed that the RMI will continue to benefit from its grant-only status. However, in preparing the LIC-DSA, for World Bank (IDA) and other MDBs, regular credit terms on all lending is assumed for all years in the projection period for which grant finance has not already been committed. This is required as lenders link the terms of their assistance and allocation of grants to the DSF risk rating, and hence a clean assessment without possible grants is needed. Grants committed on the basis of the DSA can then be captured at the next DSA cycle.

projections will substantially improve prospects for debt sustainability. As discussed in the staff report, fiscal consolidation could be achieved through unwinding the surge in recurrent spending, improving revenue administration, and implementing growth-friendly tax reforms.
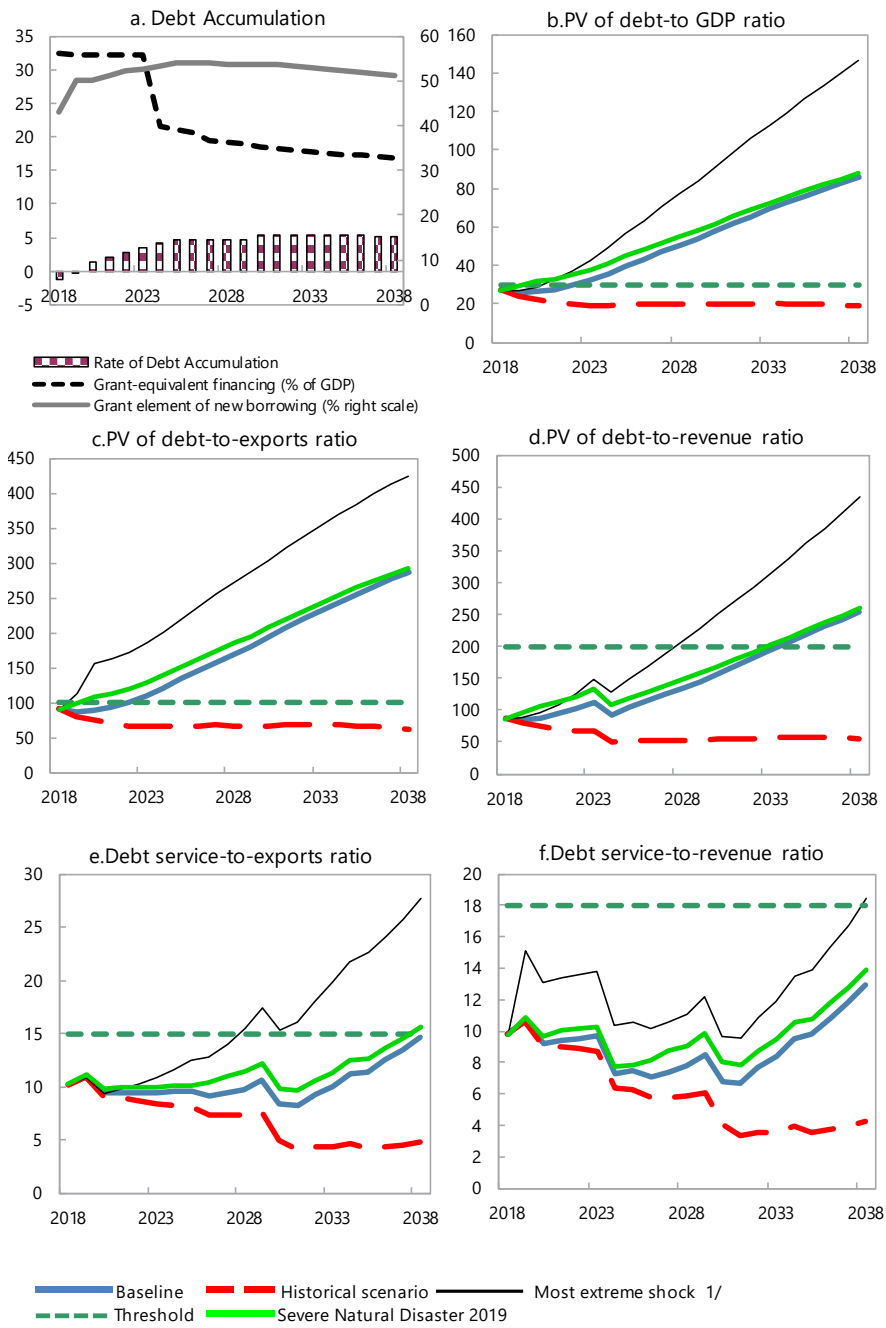
THE AUTHORITIES VIEWS

9.   The authorities agreed with the DSA assessment, noting that the current risk of debt distress is high. In addition to continued grants from bilateral donors and international financial institutions, they saw the need to build adequate fiscal buffers by FY2023 through fiscal adjustment to preserve the real value of CTF after the reduction of the U.S. compact grant. To this end, they underscored ongoing fiscal reforms, including revenue mobilization, targeted expenditure cuts, and public finance management reforms. The authorities are also seeking additional concessional loans and grants from bilateral donors and international financial institutions with a view to partly offsetting the reduction in the U.S. compact grants. In this context, the authorities also recognized the need to comply with the non-concessional borrowing policies for securing grant support from the WB and ADB.

CONCLUSION

10.   The standard DSA framework for LICs suggests that the RMI is at high risk of debt distress. The baseline scenario indicates that the PV of PPG external debt-to-GDP ratio would breach the indicative threshold during most of the projection period. Furthermore, stress tests suggest that RMI's external PPG debt trajectory could even worsen. RMI's vulnerability to debt distress is mitigated by a number of factors: the decline in external support from the Compact grants will be gradual, sheltering the country from the risk of a sudden stop in foreign financing; the government is building up the CTF that will provide a stable source of funding after FY2023; and RMI currently benefits from its grant-only status. On the other hand, vulnerabilities are exacerbated by the lack of fiscal buffers, uncertainty about prospective SOE losses, volatility in CTF investment returns, and contingent liabilities from climatic events and the social security system. Thus, the government needs to implement fiscal and structural reforms to generate sufficient fiscal surpluses by FY2023 to shore up the CTF while safeguarding social spending and economic growth.

Figure 1. Marshall Islands: Indicators of Public and Public Guaranteed External Debt Under Alternative Scenarios FY2018–38 1/

a. Debt Accumulation

b.PV of debt-to GDP ratio

Rate of Debt Accumulation

Grant-equivalent financing (% of GDP)

Grant element of new borrowing (% right scale)

c.PV of debt-to-exports ratio

d.PV of debt-to-revenue ratio

e.Debt service-to-exports ratio

f.Debt service-to-revenue ratio

Baseline — Historical scenario — Most extreme shock 1/

Threshold — Severe Natural Disaster 2019

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 2028. In figure b, it corresponds to a Terms shock; in c, to a Exports shock; in d, to a Terms shock; in e, to a Terms shock and in figure f, to a One-time depreciation shock
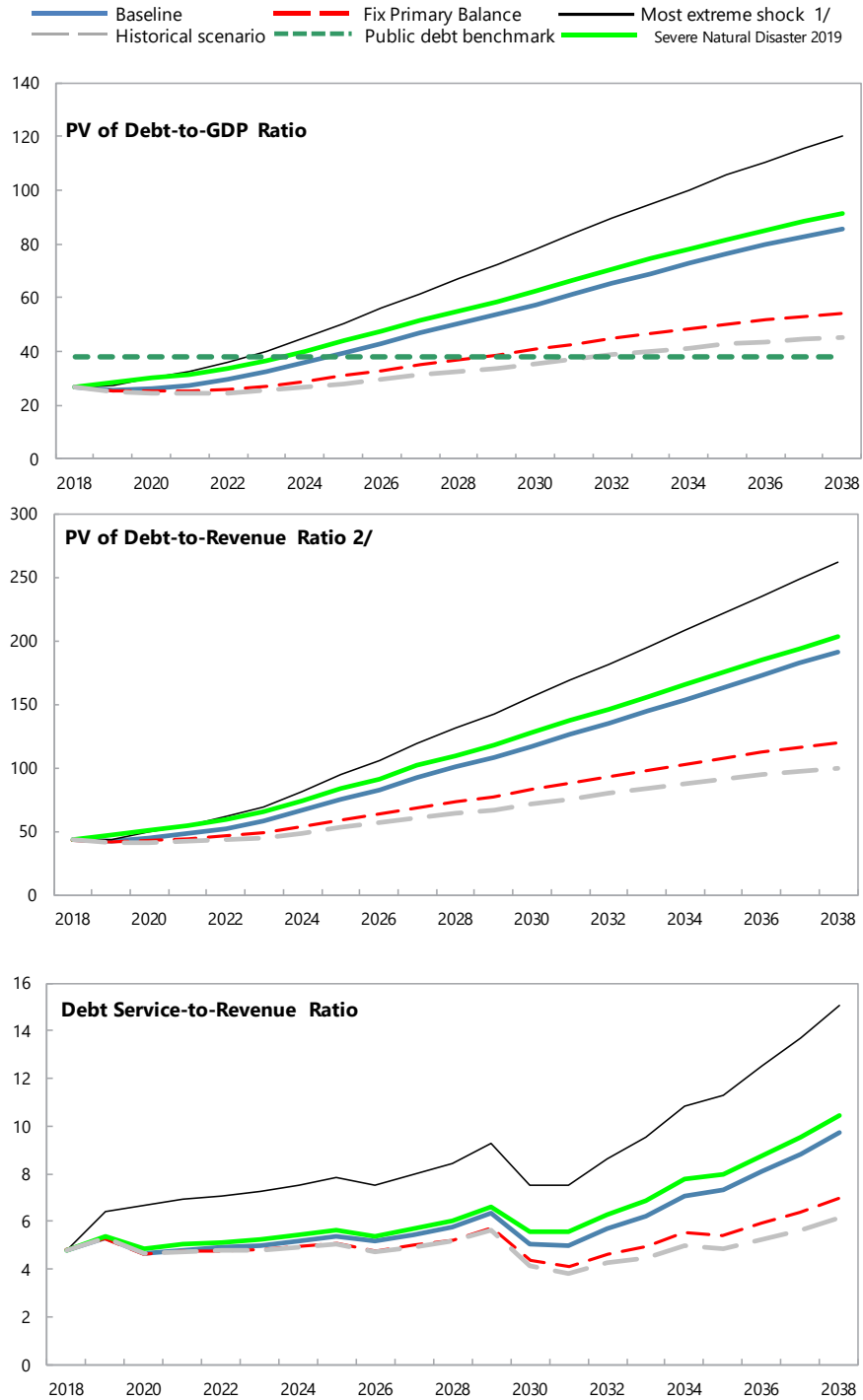
Figure 2. Marshall Islands: Indicators of Public Debt
Under Alternative Scenarios, 2018–38 1/

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 2028.

2/ Revenues are defined inclusive of grants.

Table 1. Marshall Islands: External Debt Sustainability Framework, Baseline Scenario, 2015–38 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/	Standard 6/	Projections						2018-2023			2024-2038
				Average	Deviation							Average			Average
	2015	2016	2017			2018	2019	2020	2021	2022	2023		2028	2038	
External debt (nominal) 1/	**51.9**	**45.3**	**37.7**			**35.1**	**34.8**	**37.5**	**41.7**	**47.4**	**54.3**		**94.6**	**153.3**	
of which: public and publicly guaranteed (PPG)	49.1	42.5	35.2			32.8	32.5	35.3	39.5	45.3	52.3		92.8	151.9	
Change in external debt	-1.7	-6.5	-7.6			-2.6	-0.3	2.7	4.2	5.7	7.0		7.4	4.4	
Identified net debt-creating flows	-15.7	-14.0	-7.6			-2.9	-2.2	-1.2	-0.3	0.0	0.1		0.4	1.5	
Non-interest current account deficit	**-16.3**	**-8.7**	**-0.6**	**-0.2**	**9.7**	**-0.3**	**0.2**	**1.2**	**1.9**	**2.2**	**2.4**		**3.0**	**4.5**	**3.4**
Deficit in balance of goods and services	55.5	56.3	56.5			56.2	56.2	56.3	56.3	56.1	55.9		54.6	49.7	
Exports	36.9	26.9	29.5			29.7	29.7	29.6	29.5	29.6	29.7		29.7	29.9	
Imports	92.4	83.3	86.0			86.0	85.9	85.9	85.8	85.7	85.6		84.3	79.6	
Net current transfers (negative = inflow)	-32.2	-30.7	-26.6	-33.3	4.2	-25.4	-24.2	-22.9	-22.0	-21.4	-20.8		-12.9	-11.1	-12.4
of which: official	-31.2	-30.0	-25.7			-24.9	-23.7	-22.5	-21.8	-21.2	-20.6		-12.9	-11.1	
Other current account flows (negative = net inflow)	-39.6	-34.3	-30.5			-31.1	-31.9	-32.3	-32.3	-32.5	-32.8		-38.7	-34.1	
Net FDI (negative = inflow)	**-1.8**	**-2.5**	**-2.6**	**-5.5**	**6.4**	**-2.5**	**-2.4**	**-2.4**	**-2.3**	**-2.3**	**-2.3**		**-2.3**	**-2.3**	**-2.3**
Endogenous debt dynamics 2/	**2.4**	**-2.8**	**-4.4**			**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**		**-0.3**	**-0.7**	
Contribution from nominal interest rate	1.3	1.1	0.9			0.9	0.8	0.8	0.7	0.8	0.8		1.0	1.4	
Contribution from real GDP growth	0.3	-1.0	-1.4			-0.9	-0.8	-0.7	-0.7	-0.7	-0.7		-1.3	-2.2	
Contribution from price and exchange rate changes	0.8	-3.0	-3.9			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**14.0**	**7.4**	**0.0**			**0.3**	**1.9**	**3.9**	**4.5**	**5.7**	**6.8**		**7.0**	**3.0**	
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/	...	...	31.5			29.3	28.0	28.5	29.7	31.7	34.4		52.0	87.2	
In percent of exports	...	...	106.7			98.5	94.4	96.4	100.6	107.3	116.0		175.3	291.2	
PV of PPG external debt	**...**	**...**	**29.0**			**26.9**	**26.2**	**26.3**	**27.6**	**29.6**	**32.4**		**50.2**	**85.7**	
In percent of exports	**...**	**...**	**98.4**			**90.6**	**86.7**	**88.9**	**93.4**	**100.2**	**109.2**		**169.2**	**286.5**	
In percent of government revenues	**...**	**...**	**75.6**			**86.8**	**84.5**	**87.8**	**93.6**	**102.0**	**112.9**		**135.1**	**254.2**	
Debt service-to-exports ratio (in percent)	11.4	13.0	10.7			10.2	10.9	9.3	9.4	9.4	9.4		9.7	14.6	
PPG debt service-to-exports ratio (in percent)	**11.4**	**13.0**	**10.7**			**10.2**	**10.9**	**9.3**	**9.4**	**9.4**	**9.4**		**9.7**	**14.6**	
PPG debt service-to-revenue ratio (in percent)	**15.3**	**10.9**	**8.2**			**9.8**	**10.6**	**9.2**	**9.4**	**9.5**	**9.7**		**7.8**	**12.9**	
Total gross financing need (Millions of U.S. dollars)	-25.2	-15.0	-0.2			0.5	2.3	3.9	6.2	7.1	7.6		10.8	25.1	
Non-interest current account deficit that stabilizes debt ratio	-14.6	-2.1	7.0			2.2	0.5	-1.5	-2.2	-3.5	-4.6		-4.4	0.0	
Key macroeconomic assumptions															
Real GDP growth (in percent)	-0.6	2.0	3.6	1.4	2.9	2.5	2.3	2.2	2.0	1.8	1.6	2.1	1.5	1.5	1.4
GDP deflator in US dollar terms (change in percent)	-1.5	6.1	9.3	2.4	3.6	0.9	1.0	1.2	1.3	0.9	1.0	1.0	1.0	1.0	1.0
Effective interest rate (percent) 5/	2.4	2.3	2.2	2.6	0.4	2.4	2.4	2.3	2.0	1.9	1.7	2.1	1.2	1.0	1.1
Growth of exports of G&S (US dollar terms, in percent)	-8.1	-20.9	24.1	7.8	20.7	4.3	3.2	3.0	3.0	2.9	2.9	3.2	2.5	2.6	2.5
Growth of imports of G&S (US dollar terms, in percent)	-7.2	-2.5	17.0	4.1	9.8	3.4	3.3	3.3	3.2	2.6	2.4	3.0	1.9	1.8	1.9
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	43.1	50.0	50.3	51.3	52.1	52.5	49.9	53.7	51.2	53.0
Government revenues (excluding grants, in percent of GDP)	27.5	32.2	38.4			31.0	30.5	29.9	29.4	29.0	28.7		37.2	33.7	36.2
Aid flows (in Millions of US dollars) 7/	58.7	59.1	65.9			75.8	80.5	86.2	90.5	94.6	98.7		73.3	85.0	
of which: Grants	58.7	59.1	65.9			73.8	72.9	71.8	71.7	71.7	71.6		39.1	43.0	
of which: Concessional loans	0.0	0.0	0.0			2.0	7.6	14.4	18.8	22.9	27.2		34.2	42.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			32.5	32.3	32.2	32.1	32.1	32.1		19.1	16.8	18.6
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			98.5	95.3	91.7	89.9	88.4	86.9		78.4	75.9	78.0
Memorandum items:															
Nominal GDP (Millions of US dollars)	181.3	196.3	222.3			229.9	237.7	245.8	253.8	260.7	267.4		300.2	383.1	
Nominal dollar GDP growth	-2.1	8.2	13.3			3.4	3.4	3.4	3.3	2.7	2.6	3.1	2.5	2.5	2.4
PV of PPG external debt (in Millions of US dollars)			64.6			61.9	61.2	64.6	70.0	77.2	86.6		150.8	328.5	
(PVt-PVt-1)/GDPt-1 (in percent)						-1.2	-0.3	1.4	2.2	2.9	3.6	1.4	4.8	5.1	5.1
Gross workers' remittances (Millions of US dollars)	7.7	8.6	9.6			10.0	10.3	10.6	11.0	11.3	11.6		13.0	16.6	
PV of PPG external debt (in percent of GDP + remittances)	...	...	27.8			25.8	24.7	25.2	26.4	28.4	31.0		48.1	82.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	85.8			79.1	75.6	77.5	81.4	87.4	95.2		147.6	250.3	
Debt service of PPG external debt (in percent of exports + remittance	...	...	9.3			8.9	9.5	8.1	8.2	8.2	8.2		8.5	12.7	

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 2. Marshall Islands: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2018–38
(In percent)

				Projections				
	2018	2019	2020	2021	2022	2023	**2028**	2038
PV of debt-to GDP ratio								
Baseline	27	26	26	28	30	32	**50**	86
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	27	24	22	21	20	19	**20**	19
A2. New public sector loans on less favorable terms in 2018-2038 2	27	27	29	32	37	42	**77**	146
Severe Natural Disaster 2019	27	29	32	33	35	38	**55**	88
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	27	27	28	30	32	35	**54**	92
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	27	28	33	34	36	39	**58**	91
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	27	26	28	29	31	34	**53**	90
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	27	25	24	25	27	30	**48**	84
B5. Combination of B1-B4 using one-half standard deviation shocks	27	24	24	25	27	30	**49**	88
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	27	37	37	39	42	46	**71**	122
PV of debt-to-exports ratio								
Baseline	91	87	89	93	100	109	**169**	286
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	91	81	75	70	67	65	**66**	62
A2. New public sector loans on less favorable terms in 2018-2038 2	91	90	97	109	124	143	**260**	488
Severe Natural Disaster 2019	91	99	107	112	119	128	**185**	293
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	91	87	89	93	100	109	**169**	286
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	91	112	155	162	172	185	**272**	424
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	91	87	89	93	100	109	**169**	286
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	91	84	81	86	93	101	**161**	281
B5. Combination of B1-B4 using one-half standard deviation shocks	91	84	85	90	98	108	**174**	311
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	91	87	89	93	100	109	**169**	286
PV of debt-to-revenue ratio								
Baseline	87	84	88	94	102	113	**135**	254
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	87	79	74	70	68	67	**53**	55
A2. New public sector loans on less favorable terms in 2018-2038 2	87	87	96	109	126	148	**208**	433
Severe Natural Disaster 2019	87	96	106	112	121	132	**148**	260
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	87	88	95	101	110	122	**146**	274
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	87	92	109	116	125	136	**155**	268
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	87	86	92	98	107	118	**141**	266
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	87	82	80	86	94	105	**128**	249
B5. Combination of B1-B4 using one-half standard deviation shocks	87	80	80	85	94	105	**131**	260
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	87	120	125	133	145	161	**192**	362

Table 2. Marshall Islands: Sensitivity Analysis for Key Indicators
of Public and Publicly Guaranteed External Debt, 2018–38 (concluded)
(In percent)

				Projections				
	2018	2019	2020	2021	2022	2023	2028	2038
Debt service-to-exports ratio								
Baseline	10	11	9	9	9	9	**10**	15
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	10	11	9	9	9	8	**7**	5
A2. New public sector loans on less favorable terms in 2018-2038 2	10	11	9	10	10	11	**15**	28
Severe Natural Disaster 2019	10	11	10	10	10	10	**11**	16
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	10	11	9	9	9	9	**10**	15
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	10	13	13	14	14	14	**14**	22
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	10	11	9	9	9	9	**10**	15
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	10	11	9	9	9	9	**10**	14
B5. Combination of B1-B4 using one-half standard deviation shocks	10	12	10	10	10	10	**11**	15
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	10	11	9	9	9	9	**10**	15
Debt service-to-revenue ratio								
Baseline	10	11	9	9	10	10	**8**	13
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	10	11	9	9	9	9	**6**	4
A2. New public sector loans on less favorable terms in 2018-2038 2	10	11	9	10	10	11	**12**	25
Severe Natural Disaster 2019	10	11	10	10	10	10	**9**	14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	10	11	10	10	10	10	**8**	14
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	10	11	9	10	10	10	**8**	14
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	10	11	10	10	10	10	**8**	14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	10	11	9	9	9	10	**8**	12
B5. Combination of B1-B4 using one-half standard deviation shocks	10	11	10	10	10	10	**8**	13
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	10	15	13	13	14	14	**11**	18
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	51	51	51	51	51	51	**51**	51

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 3. Marshall Islands: Public Sector Debt Sustainability Framework, Baseline Scenario, 2015–38
(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections					2018-23 Average			2024-38 Average
	2015	2016	2017			2018	2019	2020	2021	2022	2023		2028	2038	
Public sector debt 1/	49.1	42.5	35.2			32.8	32.5	35.3	39.5	45.3	52.3		92.8	151.9	
of which: foreign-currency denominated	49.1	42.5	35.2			32.8	32.5	35.3	39.5	45.3	52.3		92.8	151.9	
Change in public sector debt	-2.2	-6.5	-7.3			-2.5	-0.3	2.8	4.3	5.7	7.0		7.4	4.5	
Identified debt-creating flows	-1.8	-7.7	-8.0			-2.9	-2.1	-1.2	-0.7	-0.2	0.1		-0.5	-0.8	
Primary deficit	-4.1	-5.1	-3.9	-3.7	1.7	-2.6	-1.8	-0.9	-0.3	0.1	0.5	-0.9	0.6	1.3	0.7
Revenue and grants	59.9	62.3	68.0			63.1	61.1	59.2	57.7	56.5	55.4		50.2	45.0	
of which: grants	32.4	30.1	29.6			32.1	30.7	29.2	28.3	27.5	26.8		13.0	11.2	
Primary (noninterest) expenditure	55.7	57.3	64.2			60.5	59.3	58.3	57.4	56.6	55.9		50.8	46.3	
Automatic debt dynamics	2.4	-2.6	-4.1			-0.3	-0.3	-0.3	-0.4	-0.3	-0.4		-1.1	-2.1	
Contribution from interest rate/growth differential	2.4	-2.6	-4.1			-0.3	-0.3	-0.3	-0.4	-0.3	-0.4		-1.1	-2.1	
of which: contribution from average real interest rate	2.1	-1.6	-2.6			0.5	0.5	0.4	0.3	0.4	0.4		0.2	0.0	
of which: contribution from real GDP growth	0.3	-1.0	-1.5			-0.8	-0.7	-0.7	-0.7	-0.7	-0.7		-1.2	-2.2	
Contribution from real exchange rate depreciation	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		...	...	
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	-0.4	1.2	0.7			0.5	1.8	4.0	4.9	6.0	6.9		7.9	5.3	
Other Sustainability Indicators															
PV of public sector debt	...	...	29.0			26.9	25.7	26.3	27.6	29.6	32.4		50.2	85.7	
of which: foreign-currency denominated	...	...	29.0			26.9	25.7	26.3	27.6	29.6	32.4		50.2	85.7	
of which: external	...	...	29.0			26.9	25.7	26.3	27.6	29.6	32.4		50.2	85.7	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	0.2	-1.6	-0.7			0.4	1.4	1.9	2.5	2.8	3.2		3.4	5.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	42.7			42.7	42.1	44.4	47.8	52.4	58.4		100.0	190.7	
PV of public sector debt-to-revenue ratio (in percent)	...	...	75.6			86.8	84.5	87.8	93.6	102.0	112.9		135.1	254.2	
of which: external 3/	...	...	75.6			86.8	84.5	87.8	93.6	102.0	112.9		135.1	254.2	
Debt service-to-revenue and grants ratio (in percent) 4/	7.0	5.6	4.6			4.8	5.3	4.7	4.8	4.9	5.0		5.8	9.7	
Debt service-to-revenue ratio (in percent) 4/	15.3	10.9	8.2			9.8	10.6	9.2	9.4	9.5	9.7		7.8	12.9	
Primary deficit that stabilizes the debt-to-GDP ratio	-1.9	1.4	3.4			-0.2	-1.5	-3.7	-4.6	-5.7	-6.6		-6.9	-3.2	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	-0.6	2.0	3.6	1.4	2.9	2.5	2.3	2.2	2.0	1.8	1.6	2.1	1.5	1.5	1.4
Average nominal interest rate on forex debt (in percent)	2.5	2.4	2.4	2.7	0.4	2.5	2.6	2.4	2.2	2.0	1.8	2.2	1.2	1.0	1.1
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	... ...	
Real exchange rate depreciation (in percent, + indicates depreciation)	0.0	0.0	0.0	0.0	0.0	0.0	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	-1.5	6.1	9.3	2.4	3.6	0.9	1.0	1.2	1.3	0.9	1.0	1.0	1.0	1.0	1.0
Growth of real primary spending (deflated by GDP deflator, in percent)	14.9	4.9	16.1	3.6	6.5	-3.4	0.4	0.4	0.4	0.4	0.3	-0.3	0.5	0.6	0.2
Grant element of new external borrowing (in percent)	...	...	...	...	...	43.1	50.0	50.3	51.3	52.1	52.5	49.9	53.7	51.2	...

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or 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 4. Marshall Islands: Sensitivity Analysis for Key Indicators of Public Debt, 2018–38

	Projections							
	2018	2019	2020	2021	2022	2023	2028	2038
PV of Debt-to-GDP Ratio								
Baseline	27	26	26	28	30	32	50	86
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	27	25	24	24	25	25	32	45
A2. Primary balance is unchanged from 2018	27	25	25	25	26	27	37	54
A3. Permanently lower GDP growth 1/	27	26	27	29	31	35	60	123
Severe Natural Disaster 2019	27	28	30	31	34	36	55	91
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2019-2020	27	27	30	33	36	40	67	120
B2. Primary balance is at historical average minus one standard deviations in 2019-2020	27	26	26	27	29	32	49	85
B3. Combination of B1-B2 using one half standard deviation shocks	27	26	26	28	31	34	58	104
B4. One-time 30 percent real depreciation in 2019	27	37	35	35	35	35	42	66
B5. 10 percent of GDP increase in other debt-creating flows in 2019	27	31	31	32	35	37	56	91
PV of Debt-to-Revenue Ratio 2/								
Baseline	43	42	44	48	52	58	100	191
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	43	41	41	42	43	45	64	99
A2. Primary balance is unchanged from 2018	43	41	42	44	46	49	73	120
A3. Permanently lower GDP growth 1/	43	42	45	49	55	62	117	265
Severe Natural Disaster 2019	43	46	51	54	59	66	110	203
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2019-2020	43	44	49	54	61	69	131	262
B2. Primary balance is at historical average minus one standard deviations in 2019-2020	43	42	43	47	51	57	99	189
B3. Combination of B1-B2 using one half standard deviation shocks	43	42	43	48	53	61	113	228
B4. One-time 30 percent real depreciation in 2019	43	60	60	60	61	63	83	146
B5. 10 percent of GDP increase in other debt-creating flows in 2019	43	50	53	56	61	67	111	202
Debt Service-to-Revenue Ratio 2/								
Baseline	5	5	5	5	5	5	6	10
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	5	5	5	5	5	5	5	6
A2. Primary balance is unchanged from 2018	5	5	5	5	5	5	5	7
A3. Permanently lower GDP growth 1/	5	5	5	5	5	5	6	12
Severe Natural Disaster 2019	5	5	5	5	5	5	6	10
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2019-2020	5	5	5	5	5	5	7	13
B2. Primary balance is at historical average minus one standard deviations in 2019-2020	5	5	5	5	5	5	6	10
B3. Combination of B1-B2 using one half standard deviation shocks	5	5	5	5	5	5	6	11
B4. One-time 30 percent real depreciation in 2019	5	6	7	7	7	7	8	15
B5. 10 percent of GDP increase in other debt-creating flows in 2019	5	5	5	5	5	5	6	10

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.