INTERNATIONAL MONETARY FUND

REPUBLIC OF THE MARSHALL ISLANDS

STAFF REPORT FOR THE 2013 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

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Approved By
Stephan Danninger, Ranil Salgado, Jeffrey D. Lewis and Sudhir Shetty (World Bank)

Prepared by staff of the International Monetary Fund and the World Bank.

The Debt Sustainability Analysis (DSA) indicates that the Republic of the Marshall Islands (RMI) is at high risk of debt distress. Currently the ratios of present value (PV) of external public and publicly guaranteed (PPG) debt to GDP, exports and revenues are all above their respective indicative thresholds, and the PV of the debt-to-GDP ratio is expected to remain above its critical threshold throughout the entire projection period. Although under the baseline some indicators of external debt distress would fall below their policy-dependent indicative thresholds in FY2014, the thresholds would be breached under all scenarios with stress tests. Even though short-term risks are mitigated by the concessionality of most obligations and access to a stable flow of funds from Compact grants, risks from public contingent liabilities and lack of fiscal buffers call for a bold fiscal reform strategy.

BACKGROUND

1. RMI's PPG debt is almost entirely external. According to the limited data available, the domestic component—held by domestic banks— is only 3 percent of the total.

2. PPG external debt has been on a downward trajectory since the early 2000s. It declined from 73.7 percent of GDP in FY2002 to 55.9 percent of GDP at end FY2012. About 64 percent is central government debt contracted with the Asian Development Bank (AsDB), on concessional terms; while the remainder is State Owned Enterprise (SOE) government guaranteed debt toward bilateral development agencies.

3. Although data availability is scant, private sector external debt is estimated to be small. The only available data is on deposit money banks' external liabilities, representing less than 2 percent of GDP. Non-financial corporations' external debt is expected to be very limited.

4. The analysis is based on the standard DSA framework for Low Income Countries (LICs).[1] Debt sustainability is assessed in relation to policy-dependent debt burden thresholds.[2] RMI's policies and institutions, as measured by the CPIA, averaged 2.72 over the past 3 years. Hence the country is classified as a "weak" performer and is assessed against lower thresholds compared to countries with a stronger governance and policy environment.

5. The key assumptions of the DSA are consistent with the macroeconomic framework set out in the 2013 Article IV Report (Box 1). Under the baseline, the fiscal projections envisage an annual central government deficit of 1.9–3.5 percent of GDP in FY2015–33. The financing gap is assumed to be financed by a combination of bilateral loans from development partners and multilateral concessional lending. The DSA is also consistent with the baseline scenario for the Compact Trust Fund (CTF) outlook presented in Annex 2 of the 2013 Article IV Report and summarized in Box 2.

PPG EXTERNAL DEBT SUSTAINABILITY

6. Under the baseline scenario, RMI's external PPG debt trajectory remains above the debt-burden threshold for a protracted period of time. The Present Value (PV) of external PPG debt is expected at 43.7 percent of GDP in FY2013, nearly 14 percentage points above the indicative threshold of 30 percent and is not anticipated to fall below that limit over the projection period. Debt accumulation is expected to remain positive at least until FY2033 reflecting government deficit financing. The grant element of new borrowing is expected to increase after FY2018, as the share of concessional loans from multilateral partners in the financing mix is projected to rise. The PV of external PPG debt-to-export ratio is currently close to the critical threshold of 100 percent, but is projected to fall below it in FY2014, thanks to the projected export expansion. The PV of external PPG debt-to-revenue ratio is also above the indicative threshold of 200 percent, and also expected to fall below it in FY2014. As most of external PPG debt is on concessional terms, the debt service to export ratio is already below the relevant threshold, while the debt service to revenue ratio is expected to remain close to the threshold limit for a protracted period.

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[1] A 5 percent discount rate is assumed for the analysis.

[2] The low-income country debt sustainability framework (LIC-DSF) recognizes that better policies and institutions allow countries to manage higher levels of debt, and thus the threshold levels for debt indicators are policy-dependent. In the LIC-DSF, the quality of a country's policies and institutions is measured by the World Bank's Country Policy and Institutional Assessment (CPIA) index and classified into three categories: strong, medium, and weak.

Box 1: Marshall Islands: Macroeconomic Assumptions

GDP growth is projected to decline from 3.2 percent in FY2012 to about 1½ percent over the medium term, weighted down by the decline in Compact grants and limited private sector expansion.

The **GDP deflator** is expected to remain about 1 percentage point below CPI inflation growth, consistent with historical trends. CPI inflation is assumed to approach over the medium-long term the US rate of 2.2 percent.

A **fiscal deficit** of around 1.9–3.5 percent of GDP is projected until FY2033. Wage bills are assumed to grow in line with the GDP deflator and also reflect increased social security contributions due to the forthcoming pension reform.[1] Subsidies to SOEs are assumed to decline very moderately in real terms. On the revenue side, Compact grants in nominal terms are projected to decrease according to schedule, while grants from other donors are expected to remain stable at an annual average of about 6 percent of GDP. The tax revenues-to-GDP ratio is assumed to remain broadly unchanged, as the baseline scenario does not incorporate any impact from the tax reform awaiting approval. Fishing licenses fees are assumed to increase moderately.

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 financed by a combination of bilateral loans from development partners and multilateral concessional lending. The annual interest rate on bilateral loans is assumed at 3 percent, consistent with the rate currently charged to public entities by bilateral development partners. In the medium term, it is assumed that the RMI will also be eligible for IDA and IDA-like concessional lending. The RMI benefits from the exception provided to small states that allows them to access IDA resources even though their per capita GNI exceeds the current IDA threshold of US$1205 (Atlas Methodology).

The **Compact Trust Fund** (CTF) outlook is summarized in Box 2.

The **current account deficit** is expected to widen in FY2014, driven by the acquisition of two ships provided by donors and higher imports for the resumption of infrastructure projects. It is expected to tighten in the medium term, as the impact of these temporary factors abates, and thanks to some expansion in fish exports and fishing license fees.

[1] If the pension reform were not approved, the fund of the social security administration would be depleted in FY2022, thereafter imposing on the government an implicit liability of over $12 million (5 percent of GDP) per year, due to the projected deficits of the social security administration in the absence of reforms. With the reform the system is projected to record a surplus until FY2022, but further deficits are likely to arise later on.

7. Stress tests confirm the vulnerability of the debt position relative to GDP, exports and revenues. In the most extreme shock scenario—with export value growth in FY2014–15 one standard deviation below the historical average— the PV of the debt to export ratio would only fall below its relevant threshold at the end of the projection period while the PV of debt-to-GDP ratio remains above the threshold. The debt to revenue ratio would fall below its relevant threshold not earlier than FY2024. Under a more benign scenario whereby key macroeconomic variables are assumed at their historical averages—characterized by positive primary balances— the PV of the debt-to-GDP, debt-to-exports, and debt-to-revenue ratios would fall below their critical thresholds in FY2014 or FY2015.

Box 2: Brief Overview of the Compact Trust Fund Under the Baseline Scenario

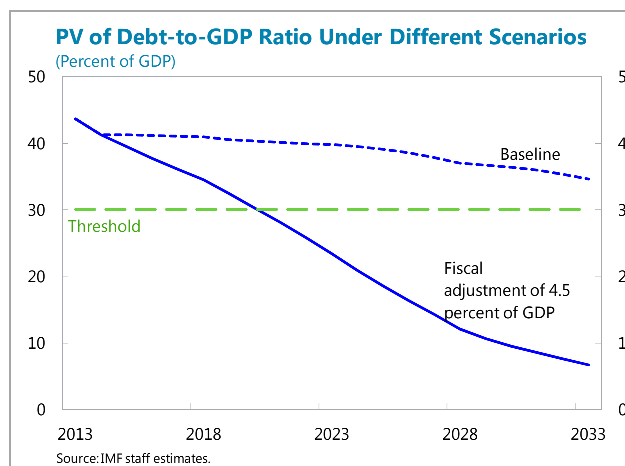
The Compact Trust Fund (CTF) was established in FY2004 to contribute to the long-term budgetary self-reliance of the RMI after the current Compact Agreement with the US terminates in FY2023. The CTF is administered by an independent committee formed by representatives from the RMI, USA, and Taiwan Province of China, and is managed by a professional investment advisor. RMI's contributions to the CTF have not been steady over the years and depend on the country's fiscal position. Contributions have been mainly provided by the US and, to a lower extent, by Taiwan Province of China. From FY2024 onwards, income returns from the CTF can be withdrawn to finance budget needs, under some limitations.[1]

Under the baseline scenario, the CTF is assumed to yield an average annual return of 6 percent. Under this assumption, long-term self-sufficiency will not be secured because the real value of the CTF will decline over time, even though income flows in the years immediately after FY2023 are expected to be sufficient to cover the anticipated reduction in grants.[2] Compact-related grants are expected to be reduced by US$32 million in FY2024, while CTF's investment earnings are projected at US$37.6 million. As the gap between investment returns and grant reduction is expected to be too small to compensate for inflation, the real value of the fund is projected to start declining in FY2024. These projections are sensitive to the assumption on CTF annual investment returns, which have been quite volatile in the past.

[1] Annual distributions from the CTF, starting in FY2024, can only come from earnings from the previous year up to a maximum limit (grant assistance amount as of FY2023, fully inflation adjusted). The following analysis does not take into consideration funds held in the D account, which held US$11.4 million at end-FY2013 and is under a different governance structure.

[2] The baseline scenario assumes no contribution of the RMI into the CTF going forward, due to projected fiscal deficits.

8. **Fiscal consolidation would greatly reduce the risk of debt distress.** Under staff's recommended fiscal adjustment of 4.5 percent of GDP by FY2018, the PV of the debt-to-GDP would fall below the relevant threshold in FY2021. All other external debt distress indicators would remain below the policy-dependent indicative thresholds during the projection period.



9. **Taking into account the current dominant role of the public sector, the fiscal adjustment path and composition would need to strike a right balance between consolidation and growth implications.** Consolidation measures should include SOE reforms, selective spending cuts, improved public financial management, social security reforms, and approval and swift implementation of the tax reform bill.

PUBLIC SECTOR DEBT SUSTAINABILITY

10. Total PPG debt follows very closely the dynamics of PPG external debt. The PV of PPG debt-to-GDP and to revenue ratios is projected to decline very slowly over the projection period. The debt dynamics is particularly sensitive to growth shocks. Under the most extreme shock, the PV of debt-to-GDP and debt-to-revenue would remain on an upward trend at least until FY2033.[3] Under a shock to the primary balance, the debt service-to-revenue ratio would also keep growing throughout the projection period.

THE AUTHORITIES VIEWS

11. The authorities recognized the risks posed by PPG debt. They saw the need for fiscal adjustment and improvements in public financial management. They emphasized that a *Fiscal Responsibility and Debt Management Act* is before parliament. A comprehensive public financial management reform, including measures to enhance debt management, has also been developed and is awaiting cabinet approval.

CONCLUSIONS

12. 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 debt-to-GDP ratio would breach the threshold throughout the entire projection period. Furthermore, stress tests suggest that RMI's external PPG debt trajectory could remain above relevant thresholds for an even more protracted period of time. RMI's vulnerability to debt distress is mitigated by a number of factors, as most debt is on concessional terms and from development partners, the decline in external support from the Compact will be gradual, sheltering the country from the risk of a sudden stop in foreign financing, and the government is building up a trust fund that will provide a stable source of funding after FY2023. On the other hand, vulnerabilities are exacerbated by the lack of fiscal buffers, uncertainty about prospective SOE losses and by their plans to borrow further with government guarantees, future contingent liabilities from the social security system even after the approval of the pending pension reform, and uncertainty on prospective income returns from the CTF. These vulnerabilities call for an immediate and bold fiscal adjustment strategy.

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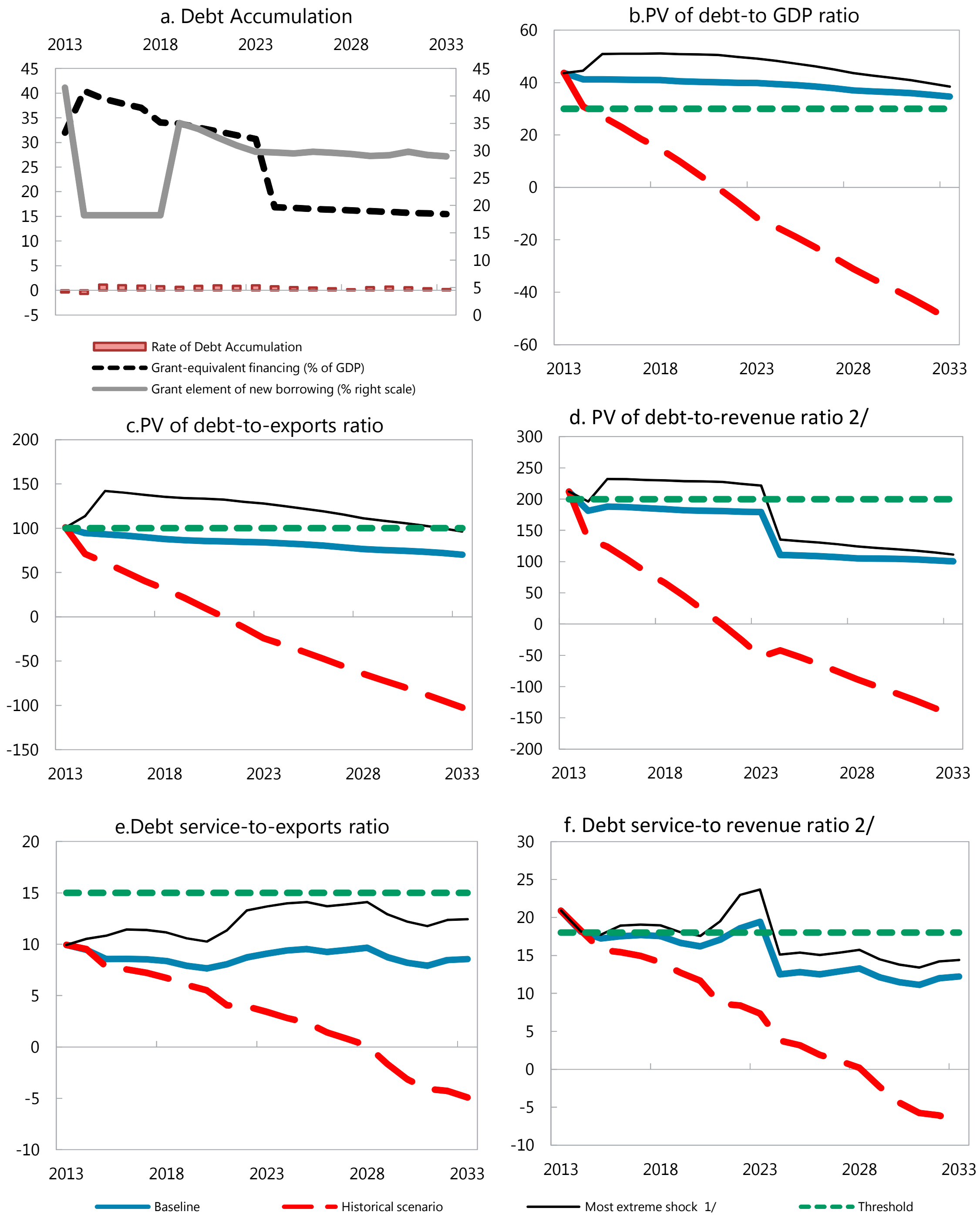
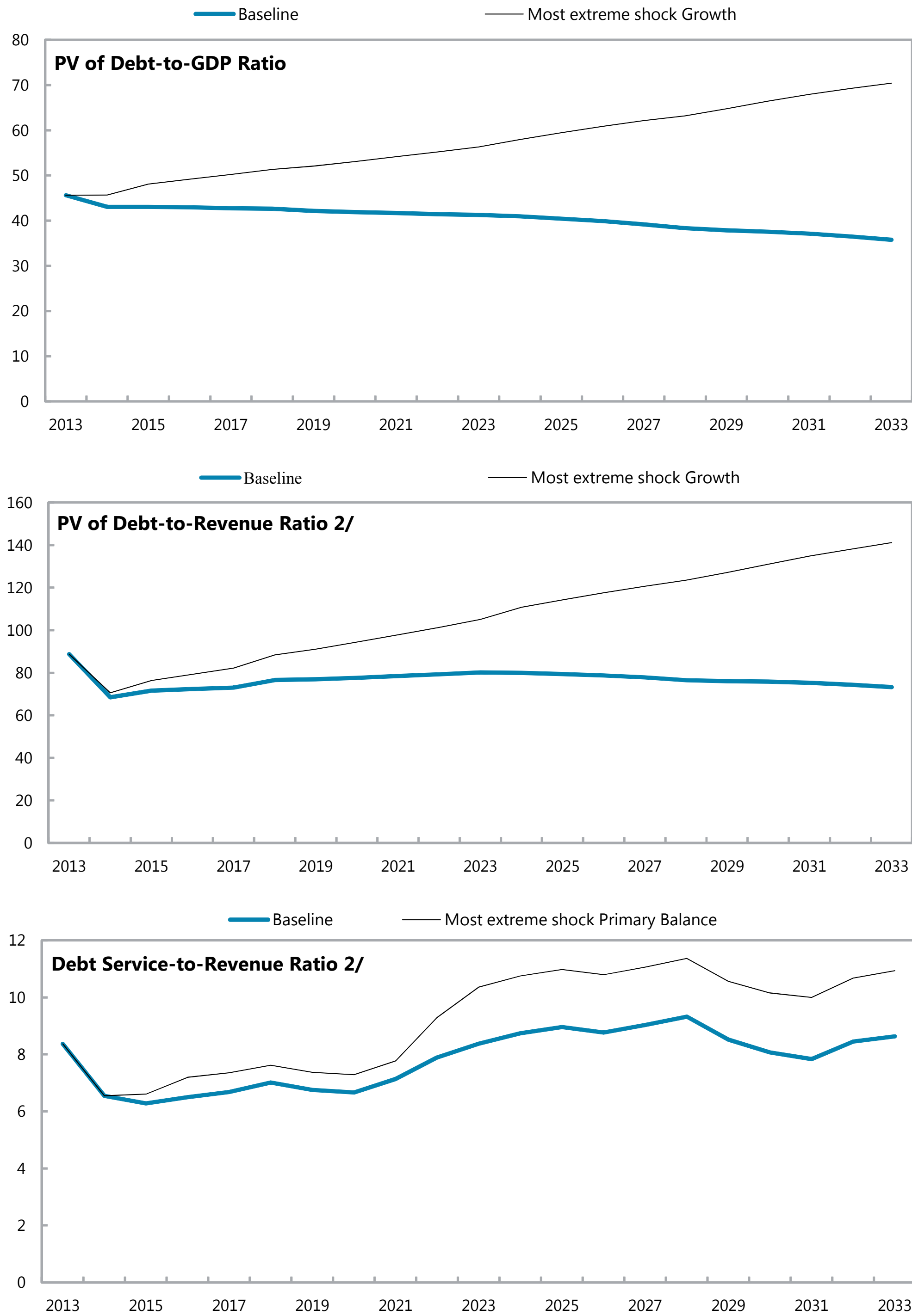
[3] The scenario in which variables are at their historical levels is regarded as too benign and has been omitted since it generates negative debt due to historical primary surpluses.

Figure 1. Marshall Islands: Indicators of Public Guaranteed External Debt Under Alternative Scenarios FY2013–33 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in FY2023. In figure b. it corresponds to a Exports shock; in c. to a Exports shock; in d. to a Exports shock; in e. to a Exports shock and in figure f. to a Exports shock
2 / Revenues are defined exclusive of grants.



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in FY2023.
2/ Revenues are defined inclusive of grants.

Table 1. Marshall Islands: External Debt Sustainability Framework, Baseline Scenario, FY2010–33 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/	Standard 6/	Projections									
				Average	Deviation							FY2013-FY2018			FY2019-FY2033
	FY2010	FY2011	FY2012			FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	Average	FY2023	FY2033	Average
External debt (nominal) 1/	**65.0**	**60.6**	**57.8**			**56.8**	**53.3**	**52.8**	**52.3**	**51.7**	**51.3**		**51.8**	**48.6**	
of which: public and publicly guaranteed (PPG)	63.3	58.9	55.9			55.0	51.5	51.1	50.7	50.1	49.7		50.4	47.6	
Change in external debt	-6.3	-4.3	-2.9			-1.0	-3.5	-0.4	-0.5	-0.6	-0.5		0.3	-0.6	
Identified net debt-creating flows	0.5	3.1	5.5			6.5	16.6	7.8	8.3	8.6	7.8		11.8	12.0	
Non-interest current account deficit	**26.6**	**7.4**	**6.5**	**7.6**	**8.1**	**7.9**	**19.4**	**9.6**	**10.0**	**10.2**	**9.1**		**13.1**	**13.0**	11.5
Deficit in balance of goods and services	87.2	65.9	66.4			64.2	80.0	66.8	66.0	65.1	63.1		61.8	58.6	
Exports	27.2	36.9	41.9			43.3	43.6	44.2	44.9	45.7	46.6		47.5	49.3	
Imports	114.3	102.8	108.3			107.5	123.5	111.0	110.9	110.8	109.7		109.3	107.9	
Net current transfers (negative = inflow)	-36.9	-34.3	-34.4	-37.3	3.5	-30.8	-33.2	-29.8	-29.0	-28.2	-27.4		-23.3	-9.7	-15.5
of which: official	-34.0	-31.5	-31.4			-28.0	-30.7	-27.5	-26.8	-26.2	-25.6		-22.5	-10.7	
Other current account flows (negative = net inflow)	-23.7	-24.2	-25.5			-25.5	-27.4	-27.4	-27.1	-26.8	-26.6		-25.3	-35.9	
Net FDI (negative = inflow)	**-23.3**	**-2.8**	**-2.0**	**-4.8**	**7.2**	**-2.4**	**-2.3**	**-2.2**	**-2.1**	**-2.1**	**-2.0**		**-1.8**	**-1.3**	-1.6
Endogenous debt dynamics 2/	**-2.7**	**-1.4**	**1.0**			**1.0**	**-0.5**	**0.4**	**0.5**	**0.5**	**0.8**		**0.5**	**0.3**	
Contribution from nominal interest rate	2.2	1.6	1.5			1.5	1.3	1.2	1.2	1.2	1.3		1.2	1.1	
Contribution from real GDP growth	-3.9	-0.4	-1.9			-0.5	-1.7	-0.9	-0.8	-0.7	-0.5		-0.8	-0.7	
Contribution from price and exchange rate changes	-1.0	-2.6	1.4			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-6.9**	**-7.5**	**-8.4**			**-7.5**	**-20.2**	**-8.2**	**-8.8**	**-9.2**	**-8.3**		**-11.5**	**-12.6**	
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/	...	...	46.7			45.5	43.0	42.9	42.8	42.7	42.5		41.2	35.7	
In percent of exports	...	...	111.5			105.1	98.6	97.1	95.4	93.3	91.2		86.8	72.4	
PV of PPG external debt	**...**	**...**	**44.9**			**43.7**	**41.2**	**41.2**	**41.2**	**41.0**	**41.0**		**39.8**	**34.6**	
In percent of exports	**...**	**...**	**107.1**			**100.9**	**94.6**	**93.2**	**91.7**	**89.8**	**87.8**		**83.9**	**70.3**	
In percent of government revenues (excluding grants)	**...**	**...**	**217.4**			**212.1**	**181.5**	**188.1**	**187.2**	**185.7**	**184.2**		**179.5**	**100.5**	
Debt service-to-exports ratio (excluding grants, in percent)	**16.5**	**8.5**	**10.2**			**9.9**	**9.5**	**8.5**	**8.6**	**8.5**	**8.4**		**9.1**	**8.6**	
PPG debt service-to-exports ratio (excluding grants, in percent)	**16.5**	**8.5**	**10.2**			**9.9**	**9.5**	**8.5**	**8.6**	**8.5**	**8.4**		**9.1**	**8.6**	
PPG debt service-to-revenue ratio (excluding grants, in percent)	**22.3**	**15.5**	**20.7**			**20.9**	**18.1**	**17.2**	**17.5**	**17.7**	**17.6**		**19.4**	**12.2**	
Total gross financing need (Millions of U.S. dollars)	12.6	13.1	15.2			17.3	38.8	21.1	22.6	23.8	22.1		36.4	48.7	
Non-interest current account deficit that stabilizes debt ratio	32.9	11.7	9.4			8.9	22.9	10.1	10.5	10.8	9.5		12.8	13.6	
Key macroeconomic assumptions															
Real GDP growth (in percent)	5.9	0.6	3.2	1.4	2.5	0.8	3.2	1.7	1.5	1.4	1.0	1.6	1.5	1.5	1.5
GDP deflator in US dollar terms (change in percent)	1.5	4.2	-2.2	1.9	1.9	0.9	1.0	1.0	1.1	1.2	1.3	1.1	1.3	1.3	1.3
Effective interest rate (percent) 5/	3.3	2.5	2.5	2.9	0.5	2.6	2.4	2.4	2.4	2.4	2.5	2.4	2.5	2.2	2.4
Growth of exports of G&S (US dollar terms, in percent)	41.1	42.5	14.4	12.2	18.1	5.2	4.8	4.3	4.2	4.5	4.3	4.5	3.2	3.2	3.2
Growth of imports of G&S (US dollar terms, in percent)	17.7	-5.8	6.3	6.0	8.5	1.0	19.7	-7.7	2.5	2.5	1.2	3.2	2.7	2.8	2.7
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	41.5	18.2	18.2	18.2	18.2	18.2	22.1	29.8	29.0	30.4
Government revenues (excluding grants, in percent of GDP)	20.1	20.2	20.6			20.6	22.7	21.9	22.0	22.1	22.2		22.2	34.5	30.8
Aid flows (in Millions of US dollars) 7/	68.2	75.5	59.2			59.1	76.4	78.4	78.6	78.8	74.4		79.2	56.0	
of which: Grants	68.2	65.5	59.2			54.1	73.5	71.8	71.9	72.0	67.7		68.1	44.0	
of which: Concessional loans	0.0	10.0	0.0			5.0	2.9	6.6	6.7	6.8	6.7		11.1	11.9	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			32.0	40.5	38.9	37.9	37.0	34.1		30.7	15.5	21.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			95.0	96.9	93.1	93.0	92.9	92.6		90.2	84.8	86.9
Memorandum items:															
Nominal GDP (Millions of US dollars)	163.0	170.9	172.5			175.4	182.8	187.8	192.7	197.8	202.3		232.4	306.7	
Nominal dollar GDP growth	7.4	4.8	0.9			1.7	4.2	2.7	2.6	2.6	2.3	2.7	2.8	2.8	2.8
PV of PPG external debt (in Millions of US dollars)			77.4			76.6	75.3	77.4	79.3	81.2	82.9		92.6	106.3	
(PVt-PVt-1)/GDPt-1 (in percent)						-0.4	-0.7	1.1	1.0	0.9	0.8	0.5	1.0	0.3	0.7
Gross workers' remittances (Millions of US dollars)	5.0	5.7	6.0			6.4	6.7	7.0	7.4	7.7	8.1		10.4	17.1	
PV of PPG external debt (in percent of GDP + remittances)	...	...	43.3			42.2	39.8	39.7	39.7	39.5	39.4		38.1	32.8	
PV of PPG external debt (in percent of exports + remittances)	...	...	98.8			93.1	87.3	86.0	84.5	82.7	80.9		76.7	63.1	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	9.4			9.2	8.7	7.9	7.9	7.9	7.7		8.3	7.7	

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 PPG External Debt, FY2013–33 (In percent)

	Projections							
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	**FY2023**	FY2033
PV of debt-to GDP ratio								
Baseline	44	41	41	41	41	41	**40**	35
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	44	31	27	23	18	15	**-12**	-51
A2. New public sector loans on less favorable terms in 2013-2033 2	44	41	42	43	43	44	**48**	56
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	44	43	44	44	44	44	**43**	37
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	44	45	51	51	51	51	**49**	38
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	44	42	42	42	42	42	**41**	35
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	44	44	45	45	45	45	**43**	36
B5. Combination of B1-B4 using one-half standard deviation shocks	44	43	42	42	42	42	**41**	36
PV of debt-to-exports ratio								
Baseline	101	95	93	92	90	88	**84**	70
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	101	71	61	51	40	31	**-24**	-102
A2. New public sector loans on less favorable terms in 2013-2033 2	101	95	95	95	94	94	**102**	113
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	101	95	93	92	90	88	**84**	70
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	101	114	142	140	138	135	**128**	96
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	101	95	93	92	90	88	**84**	70
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	101	102	102	100	98	96	**91**	73
B5. Combination of B1-B4 using one-half standard deviation shocks	101	97	94	92	90	88	**84**	71
PV of debt-to-revenue ratio 5/								
Baseline	212	181	188	187	186	184	**179**	100
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	212	136	124	104	84	66	**-52**	-146
A2. New public sector loans on less favorable terms in 2013-2033 2	212	182	191	193	195	196	**217**	161
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	212	189	202	201	199	197	**192**	108
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	212	196	232	232	231	230	**221**	111
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	212	183	192	191	189	188	**183**	102
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	212	195	205	204	203	202	**195**	104
B5. Combination of B1-B4 using one-half standard deviation shocks	212	189	192	191	190	188	**183**	104

Table 2. Marshall Islands: Sensitivity Analysis for Key Indicators (continued) of PPG External Debt, FY2013–33 (In percent)

				Debt service-to-exports ratio				
Baseline	10	9	9	9	9	8	**9**	9
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	10	10	8	8	7	7	**3**	-5
A2. New public sector loans on less favorable terms in 2013-2033 2	10	9	8	9	9	9	**10**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	10	9	9	9	9	8	**9**	9
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	10	11	11	11	11	11	**14**	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	10	9	9	9	9	8	**9**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	10	9	9	9	9	9	**10**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	10	10	9	9	9	9	**9**	9
				Debt service-to-revenue ratio 5/				
Baseline	21	18	17	18	18	18	**19**	12
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	21	18	16	15	15	14	**7**	-7
A2. New public sector loans on less favorable terms in 2013-2033 2	21	18	17	18	18	18	**22**	16
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	21	19	18	19	19	19	**21**	13
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	21	18	18	19	19	19	**24**	14
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	21	18	18	18	18	18	**20**	12
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	21	18	18	18	18	18	**21**	13
B5. Combination of B1-B4 using one-half standard deviation shocks	21	19	18	18	18	18	**20**	13
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	25	25	25	25	25	25	**25**	25

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/ Revenues are defined exclusing of grants.
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, FY2010–33
(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections								
	FY2010	FY2011	FY2012			FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2013-18 Average	FY2023	FY2033	FY2019-33 Average
Public sector debt 1/	65.5	62.0	57.9			56.9	53.4	52.9	52.4	51.8	51.4		51.9	48.7	
Change in public sector debt	-5.3	-3.6	-4.1			-1.0	-3.5	-0.4	-0.5	-0.6	-0.5		0.3	-0.6	
Identified debt-creating flows	-8.4	-5.2	0.2			-0.2	-2.1	0.8	0.7	0.6	0.7		2.2	2.1	
Primary deficit	-5.7	-3.7	-0.7	-1.7	8.6	-0.7	-1.1	1.0	0.9	0.8	0.6	0.2	2.4	2.4	2.2
Revenue and grants	62.0	58.5	55.0			51.4	62.9	60.2	59.3	58.5	55.7		51.5	48.8	
of which: grants	41.8	38.3	34.3			30.8	40.2	38.2	37.3	36.4	33.4		29.3	14.3	
Primary (noninterest) expenditure	56.3	54.8	54.2			50.7	61.8	61.1	60.2	59.3	56.3		53.9	51.2	
Automatic debt dynamics	-2.7	-1.4	1.0			0.5	-1.0	-0.2	-0.1	-0.1	0.1		-0.2	-0.3	
Contribution from interest rate/growth differential	-2.5	0.0	-1.5			0.2	-1.4	-0.7	-0.6	-0.6	-0.3		-0.6	-0.7	
of which: contribution from average real interest rate	1.4	0.4	0.4			0.7	0.4	0.2	0.1	0.2	0.2		0.2	0.1	
of which: contribution from real GDP growth	-3.9	-0.4	-1.9			-0.5	-1.8	-0.9	-0.8	-0.7	-0.5		-0.8	-0.7	
Contribution from real exchange rate depreciation	-0.2	-1.4	2.5			0.3	0.4	0.5	0.5	0.4	0.4		...	...	
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	3.0	1.6	-4.3			-0.8	-1.4	-1.2	-1.3	-1.2	-1.2		-2.0	-2.7	
Other Sustainability Indicators															
PV of public sector debt	...	...	46.8			45.6	43.1	43.0	42.9	42.8	42.6		41.3	35.8	
of which: external	...	...	44.9			43.7	41.2	41.2	41.2	41.0	41.0		39.8	34.6	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	-0.1	1.6	6.6			5.6	4.9	6.5	6.5	6.4	6.2		8.2	7.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	85.2			88.7	68.5	71.5	72.4	73.1	76.6		80.2	73.2	
PV of public sector debt-to-revenue ratio (in percent)	...	...	226.9			221.5	189.7	196.4	195.2	193.4	191.7		186.1	103.7	
of which: external 3/	...	...	217.4			212.1	181.5	188.1	187.2	185.7	184.2		179.5	100.5	
Debt service-to-revenue and grants ratio (in percent) 4/	7.2	5.4	7.8			8.4	6.5	6.3	6.5	6.7	7.0		8.4	8.6	
Debt service-to-revenue ratio (in percent) 4/	22.3	15.5	20.7			20.9	18.1	17.2	17.5	17.7	17.6		19.4	12.2	
Primary deficit that stabilizes the debt-to-GDP ratio	-0.4	-0.2	3.4			0.3	2.4	1.4	1.4	1.4	1.1		2.1	3.0	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	5.9	0.6	3.2	1.4	2.5	0.8	3.2	1.7	1.5	1.4	1.0	1.6	1.5	1.5	1.5
Average nominal interest rate on forex debt (in percent)	3.3	2.5	2.5	3.0	0.5	2.6	2.3	2.4	2.4	2.4	2.5	2.4	2.5	2.2	2.4
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	-0.3	-2.1	4.0	0.3	1.8	0.5	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.5	4.2	-2.2	1.9	1.9	0.9	1.0	1.0	1.1	1.2	1.3	1.1	1.3	1.3	1.3
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.0	0.0	0.0	0.2	-0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	41.5	18.2	18.2	18.2	18.2	18.2	22.1	29.8	29.0	...

Sources: Country authorities; and staff estimates and projections.

1/ Public and publicly guaranteed debt. 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 FY2013–33

	Projections							
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2023	FY2033
PV of Debt-to-GDP Ratio								
Baseline	46	43	43	43	43	43	41	36
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	46	43	41	39	37	35	20	-18
A2. Primary balance is unchanged from 2013	46	43	42	41	40	38	28	-2
A3. Permanently lower GDP growth 1/	46	43	44	44	45	45	49	70
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	46	46	48	49	50	51	56	70
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	46	49	53	53	53	53	53	47
B3. Combination of B1-B2 using one half standard deviation shocks	46	47	49	50	50	51	54	61
B5. 10 percent of GDP increase in other debt-creating flows in 2014	46	50	51	51	50	50	49	44
PV of Debt-to-Revenue Ratio 2/								
Baseline	89	68	72	72	73	77	80	73
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	89	68	68	66	63	63	39	-37
A2. Primary balance is unchanged from 2013	89	69	70	69	68	69	54	-5
A3. Permanently lower GDP growth 1/	89	69	72	74	75	80	92	138
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	89	71	76	79	82	88	105	141
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	89	78	89	90	91	96	102	96
B3. Combination of B1-B2 using one half standard deviation shocks	89	73	79	81	84	89	102	122
B5. 10 percent of GDP increase in other debt-creating flows in 2014	89	80	84	85	86	91	96	89
Debt Service-to-Revenue Ratio 2/								
Baseline	8	7	6	7	7	7	8	9
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	8	7	6	6	6	7	7	2
A2. Primary balance is unchanged from 2013	8	7	6	6	7	7	8	4
A3. Permanently lower GDP growth 1/	8	7	6	7	7	7	9	12
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	8	7	6	7	7	7	10	13
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	8	7	7	7	7	8	10	11
B3. Combination of B1-B2 using one half standard deviation shocks	8	7	7	7	7	7	10	12
B5. 10 percent of GDP increase in other debt-creating flows in 2014	8	7	7	7	7	7	10	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.