IMMEDIATE ATTENTION

SM/12/13
Supplement 2

January 17, 2012

To: Members of the Executive Board

From: The Acting Secretary

Subject: **Democratic Republic of Timor-Leste—Staff Report for the 2011 Article IV Consultation—Debt Sustainability Analysis**

The attached debt sustainability analysis for the Democratic Republic of Timor-Leste, prepared jointly by the staffs of the Fund and the World Bank, is being issued as a supplement to the staff report for the 2011 Article IV consultation with the Democratic Republic of Timor-Leste (SM/12/13, 1/17/12), which is being considered on a lapse of time basis. At the time of circulation of this paper to the Board, the authorities of the Democratic Republic of Timor-Leste have indicated that they need more time to consider whether they will consent to the Fund's publication of this paper. Publication will only proceed upon the receipt by the Fund of the member's explicit consent. Any requests for modifications for publication are expected to be received two days before the Board concludes its consideration.

Questions may be referred to Mr. Jang (ext. 34169) and Mr. Ochirkhuu (ext. 37662) in APD.

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the Asian Development Bank, following its consideration by the Executive Board.

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

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INTERNATIONAL MONETARY FUND

DEMOCRATIC REPUBLIC OF TIMOR-LESTE

January 13, 2012

STAFF REPORT FOR THE 2011 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

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Timor-Leste remains at a low risk of debt distress.[2] This debt sustainability analysis (DSA) updates the joint IMF/IDA DSA from December 3, 2010, to integrate the authorities' new fiscal plans, including new borrowing plans in the proposed 2012 Budget and the Strategic Development Plan. The new fiscal plans aim to frontload capital spending to improve poor infrastructure, which is one of the key constraints to developing the non-oil sector. Under the baseline scenario, all the debt burden indicators remain below their policy-dependent indicative thresholds. However, debt vulnerability may increase as suggested by the higher level of debt service in the longer term associated with the repayment of non-concessional borrowing as evidenced by stress tests. This calls for a cautious approach to such borrowing and emphasizes the importance of prudent debt management.

[1] This DSA has been prepared jointly by IMF and World Bank staffs, using the debt sustainability framework for low-income countries approved by the Boards of both institutions.

[2] The DSA presented in this document is based on the standard low-income countries (LIC) DSA framework. See "Debt Sustainability in Low-Income Countries: Proposal for an Operational Framework and Policy implications" (http://www.imf.org/external/np/pdr/sustain/2004/020304.htm) and "Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework, Policy Implications" (http://www.imf.org/external/np/pdr/sustain/2004/091004.htm).

UNDERLYING ASSUMPTIONS

1. This DSA is consistent with the macroeconomic framework outlined in the IMF's staff report for the 2011 Article IV consultation. This DSA continues to use the following adjustments made in last year's DSA in measuring Timor-Leste's repayment capacity:[3] (i) GNI is used as a proxy for GDP to capture the size of the wider economy;[4] (ii) wider exports cover exports of non-oil goods and services plus oil-related income recorded in the balance of payments; and (iii) total public sector revenue equals non-oil revenue plus estimated sustainable income (ESI) from petroleum. Compared to last year's DSA, the major differences include the following:

a. More government spending related to scaled up infrastructure expenditure in the medium term. Part of this additional spending is expected to be financed by concessional and non-concessional loans. This DSA includes a total borrowing of US$486 million for the 2012–16 period envisaged in the proposed 2012 Budget. This amount is about twice the size anticipated at the previous DSA. About 1/3 of these loans is expected to be concessional, and the others non-concessional.[5] After 2016, the amounts of loans are projected to decrease gradually in line with the previous DSA and the Strategic Development Plan for 2011-2030 (SDP). The total borrowing amount would be 80 percent higher than in the previous DSA. The share of concessional loans is expected to decline gradually, as with rising per capita income, Timor-Leste will no longer be eligible for concessional loans over the long term.

b. A revised macroeconomic framework, including higher nominal non-oil GDP levels and real non-oil GDP growth. The Statistics Office has recently completed compiling the national accounts estimates for 2004–10 for the first time, with assistance from the IMF's Statistics Department. These estimates are much higher than the authorities' earlier estimates (text table) used in the previous DSA. Higher government spending than in the previous DSA mainly reflects the authorities' plan to frontload capital spending to improve poor infrastructure

[3] "Democratic Republic of Timor-Leste: Joint World Bank/IMF 2010 Debt Sustainability Analysis" in Democratic Republic of Timor-Leste: 2010 Article IV Consultation—Staff Report, IMF Country Report No. 11/65.

[4] GNI is non-oil GDP plus oil-related income recorded in the balance of payments. Unless otherwise indicated, GDP in the paper (including tables and figures) refers to GNI.

[5] According to the Asian Development Bank, there are two types of loans available for Timor-Leste: the Asia Development Fund (ADF) loans, which are highly concessional, and the Ordinary Capital Resources (OCR) loans, which are non-concessional. The ADF loans are similar to the IDA loans, and the OCR loans are similar to the IBRD loans. Loans with grant elements less than 35 percent are considered non-concessional.

as envisaged in the 2012 Budget. Over the long term, the improved infrastructure is expected to eliminate a serious binding constraint to growth in Timor-Leste, leading to higher non-oil GDP growth. The fiscal and current account surplus in percent of non-oil GDP is expected to be much lower than in the previous DSA, reflecting the new nominal GDP estimates and higher government spending. Like the previous DSA, the current DSA only considers oil projects with an approved development plan and firm investment commitment (i.e., the Bayu Undan and Kitan fields) to project oil-related incomes.[6]

Evolution of selected macroeconomic indicators

	2008	2009	2010	2011	2012	2013	2014	2015
Nominal non-oil GDP (in millions of U.S. dollars)								
Previous DSA	444.0	556.0	627.0	708.0	806.0	930.0	1068.0	1215.0
Current DSA	634.6	789.8	875.8	1053.9	1252.0	1487.4	1767.0	2099.2
Real non-oil GDP growth								
Previous DSA	11.0	12.9	6.1	7.3	8.6	9.7	9.4	8.2
Current DSA	14.6	12.8	9.5	10.6	10.0	10.0	10.0	10.0
Overall fiscal surplus (in percent of non-oil GDP)								
Previous DSA	431.0	239.0	239.0	210.0	179.0	115.0	122.0	107.0
Current DSA	292.9	162.5	184.2	205.5	123.1	87.0	54.4	47.4
Current account surplus (in percent of non-oil GDP)								
Previous DSA	456.0	245.0	227.0	197.0	168.0	105.0	113.0	99.0
Current DSA	318.8	172.6	175.6	225.3	141.6	101.2	65.5	55.6

[6] The Greater Sunrise oil field might be put into production over the DSA projection period. In that case, both the fiscal and current account balances will be improved substantially.

EXTERNAL DSA

2. External debt burden indicators under the baseline scenario remain well below their policy-dependent indicative thresholds throughout the projection period (Figure 1 and Table 1).[7] Despite the higher government spending on infrastructure and other revisions to the macro framework, the current DSA results are broadly similar to the previous DSA's. However, the standard export shock is no longer the most extreme one in the current DSA owing to changes to exports data. The most extreme shock is generated by the shock to non-debt creating flows, in which all three debt stock ratios temporarily exceed their thresholds (Figure 1).

3. The standard DSA stress tests, however, do not take into account Timor-Leste's special situation as a young post-conflict country and new petroleum producer. These tests are based on historical volatility of the last 10 years, which is particularly high due to internal conflicts between 1999 and 2006 and therefore may not be representative. Moreover, there were sharp increases in GDP due to oil production starting in 2004, resulting in data problems. Specifically the standard shock to non-debt creating flows implies that official transfers, which mainly include donor assistance and are one of the major sources of current account inflow of Timor-Leste, will show net outflow at 2½ percent of GDP both in 2012 and 2013 compared with the projected inflow of about 9 percent and 4½ percent in these two years, respectively. This is highly unlikely given the commitments of donors.[8] A more realistic severe shock will be a customized non-debt flows shock in which official transfers will be cut to zero.[9]

4. Under the customized non-debt flows shock, Timor-Leste remains at a low risk of debt distress. All debt burden indicators remain under their indicative thresholds (Figure 1 and Table 2). None of the indicative thresholds is breached either under the customized export shock of 60 percent used in the previous DSA.

[7] The indicative external debt burden thresholds for Timor-Leste are shown in Figure 1. They are based on Timor-Leste's classification as a "weak" performer given its (three-year average) score of 2.90 on the World Bank's Country Policy and Institutional Assessment index (CPIA). The CPIA measures the quality of policies and institutions; weak performers score below 3.25, strong performers above 3.75.

[8] Donor assistance to Timor-Leste is mainly composed of grants from multinational and bilateral donors such as the United Nations, the World Bank, the Asian Development Bank, Australia, and Japan. Historical experience indicates that their commitments are not subject to unexpected, big changes. Moreover, if donor assistance decreases, imports of goods and services for the related projects will decline accordingly. It is also highly unlikely that official transfers will turn negative suddenly, which means Timor-Leste as a poor country begins to provide large grants abroad.

[9] With declines in official transfers, imports are assumed to decline by 70 percent, which are lower than about 80 percent import components of donor assistance in Timor-Leste.

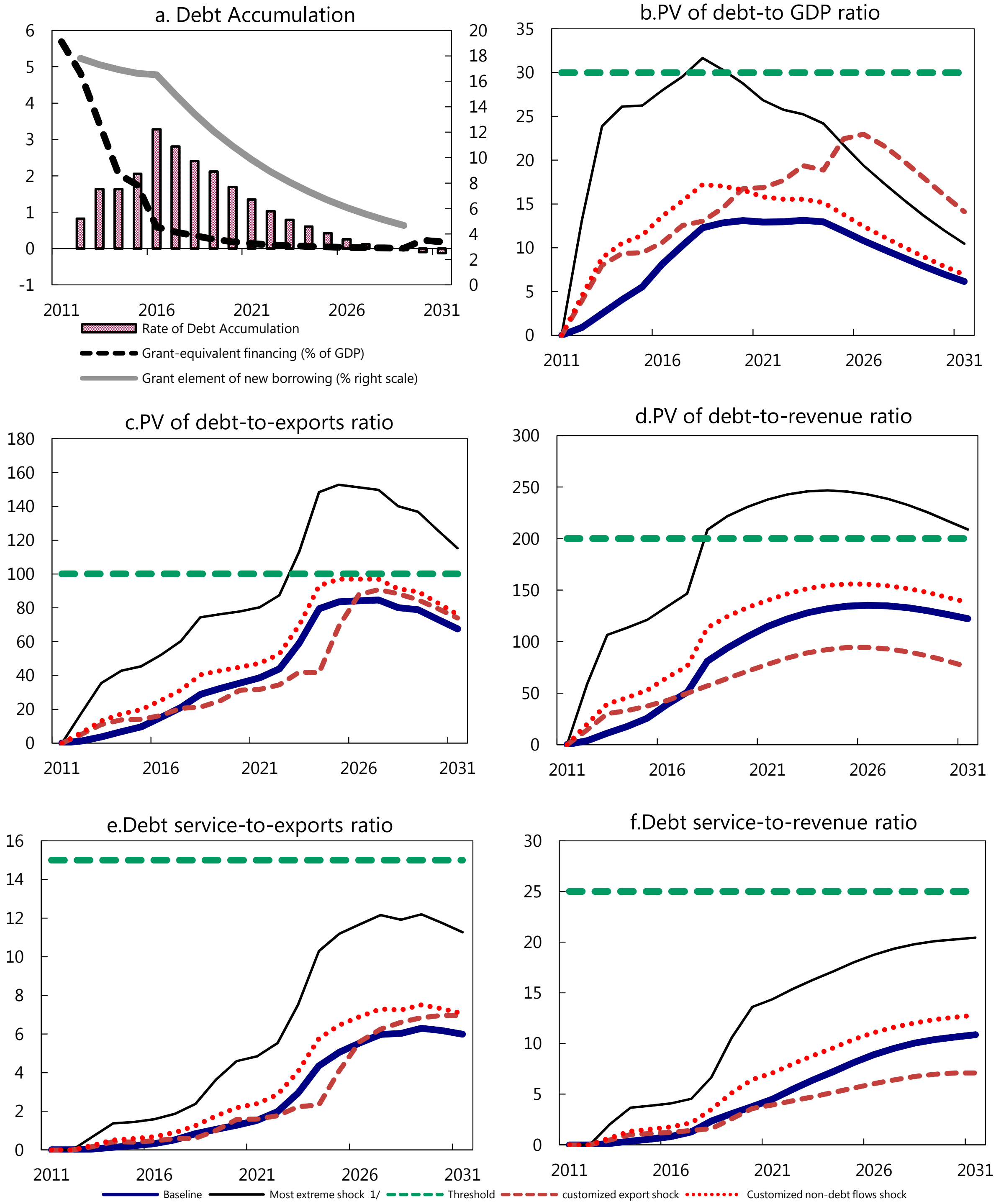
PUBLIC DSA

5. Indicators of overall public debt (external plus domestic debt) and debt service follow a similar pattern as those for external public debt alone (Table 2 (continued) and Figure 2). With only external borrowing by the government, the results of public debt DSA mirror the external debt DSA. In order to catch the substantial asset accumulation in the Petroleum Fund, Timor-Leste's public debt DSA is conducted on a net debt basis (i.e., gross public debt minus the PF assets), which is the same as the previous DSA. Under the baseline scenario and the stress-test scenario of permanently lower GDP growth (Table 3 and Figure 2), all three debt stock and debt-service ratios are projected to rise eventually but net public debt to remain negative (Table 4). However, under the most extreme shock (i.e., primary balance is at historical average minus one standard deviation in 2012–2013), debt-service burden will increase substantially in the long term (Figure 2), and this did not occur in the previous DSA. This reveals the potential vulnerability of Timor-Leste's oil-dependent revenue structure in light of the higher borrowing planned than in the previous DSA.

CONCLUSION

6. Timor-Leste remains at a low risk of debt distress. This DSA updates the joint IMF/IDA DSA from December 3, 2010. Compared to the previous DSA, total borrowing for the assessed period increased by 80 percent, as in the proposed 2012 Budget and the Strategic Development Plan. The macroeconomic framework was also updated with new information including the revised national accounts numbers and stepped up government spending. Under the baseline scenario, all the external debt burden indicators remain below their policy-dependent indicative thresholds. However, debt vulnerability may increase as suggested by the high level of debt service in the longer term associated with the repayment of non-concessional borrowing as evidenced by stress tests. This calls for a cautious approach to such borrowing and emphasizes the importance of prudent debt management.

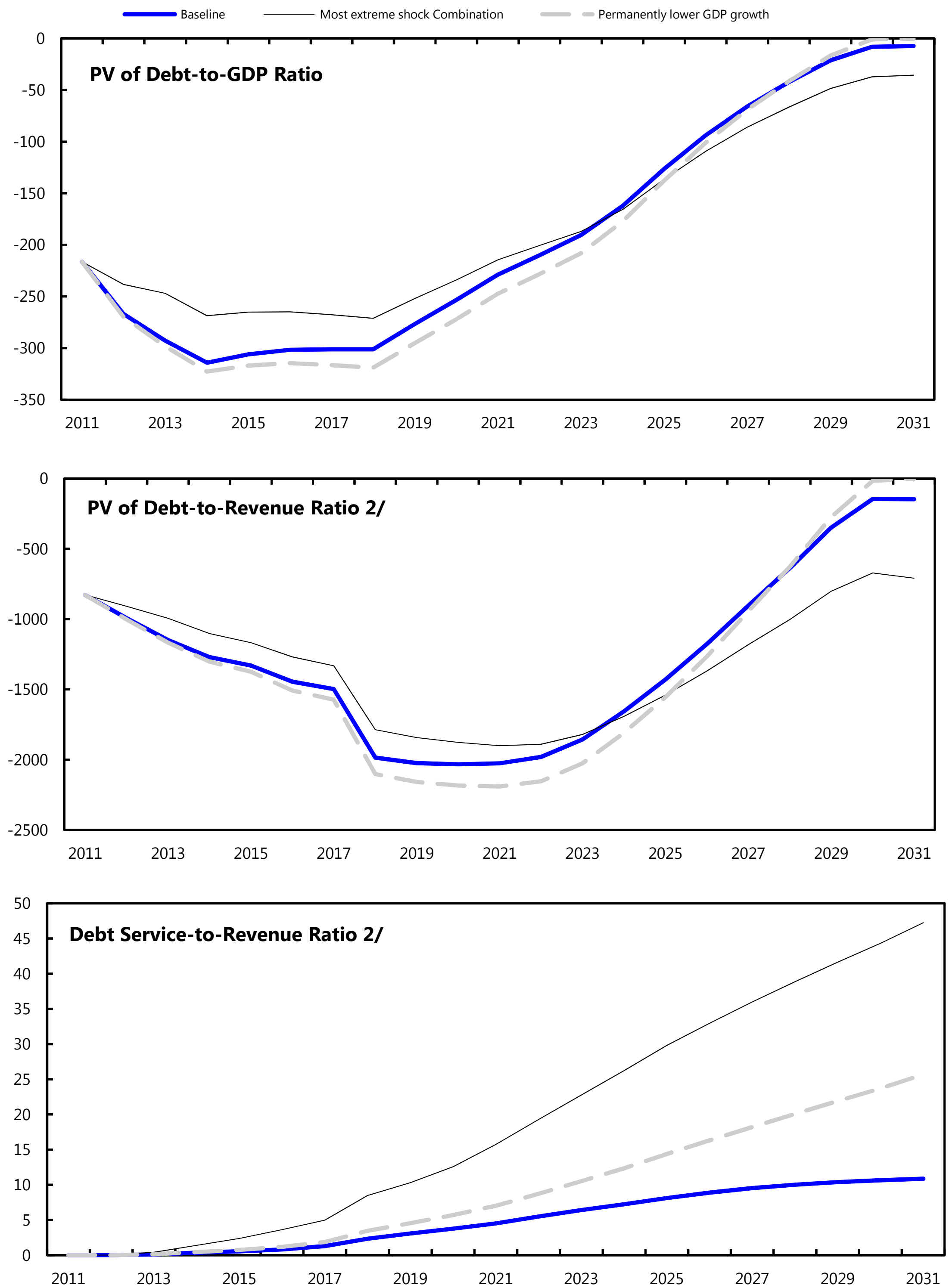
Figure 1. Timor-Leste: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2011-2031 1/



Sources: Timor-Leste authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021. Figures b-f correspond to a nondebt flows shock.

Figure 2. Timor-Leste: Indicators of Public Debt Under Alternative Scenarios, 2011-2031 1/



Sources: Timor-Leste authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021.

2/ Revenues are defined inclusive of grants.

Table 1.Timor-Leste: External Debt Sustainability Framework, Baseline Scenario, 2008-2031 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical 0	Standard	Projections									
	2008	2009	2010	Average 0	Deviation	2011	2012	2013	2014	2015	2016	2011-2016 Average	2021	2031	2017-2031 Average
External debt (nominal) 1/	**0.0**	**0.0**	**0.0**			**0.0**	**1.1**	**3.0**	**4.9**	**6.6**	**9.7**		**14.8**	**6.7**	
o/w public and publicly guaranteed (PPG)	0.0	0.0	0.0			0.0	1.1	3.0	4.9	6.6	9.7		14.8	6.7	
Change in external debt	0.0	0.0	0.0			0.0	1.1	1.9	1.9	1.7	3.1		-0.3	-0.9	
Identified net debt-creating flows	...	...	...			…	-45.0	-37.7	-29.4	-27.5	-24.0		-13.0	7.7	
Non-interest current account deficit	**-66.7**	**-51.7**	**-48.1**	**-32.7**	**31.9**	**-55.0**	**-43.6**	**-36.2**	**-27.7**	**-25.4**	**-21.8**		**-10.3**	**10.2**	0.3
Deficit in balance of goods and services	-54.7	-36.6	-42.0			-44.2	-34.1	-30.4	-25.4	-23.4	-20.0		-8.9	12.2	
Exports	81.0	72.1	75.3			78.2	72.6	67.3	61.0	57.8	53.8		33.5	9.1	
Imports	26.3	35.6	33.4			34.1	38.5	36.9	35.6	34.3	33.9		24.6	21.3	
Net current transfers (negative = inflow)	-11.7	-15.1	-10.9	-37.2	39.8	-10.3	-8.9	-5.2	-1.7	-1.4	-1.3		-0.8	-0.3	-0.7
o/w official	-13.1	-15.8	-13.9			-10.3	-8.9	-5.2	-1.7	-1.4	-1.3		-0.8	-0.3	
Other current account flows (negative = net inflow)	-0.2	0.0	4.8			-0.5	-0.6	-0.6	-0.6	-0.5	-0.5		-0.6	-1.7	
Net FDI (negative = inflow)	**-1.3**	**-1.2**	**-0.2**	**-2.1**	**2.7**	**-1.1**	**-1.3**	**-1.5**	**-1.8**	**-1.9**	**-2.1**		**-2.3**	**-2.3**	-2.3
Endogenous debt dynamics 2/	**...**	**...**	**...**			**…**	**0.0**	**0.0**	**0.1**	**-0.2**	**-0.1**		**-0.4**	**-0.2**	
Contribution from nominal interest rate	...	...	...			...	0.0	0.0	0.1	0.1	0.2		0.4	0.2	
Contribution from real GDP growth	0.0	0.0	0.0			0.0	0.0	0.0	0.0	-0.3	-0.3		-0.8	-0.4	
Contribution from price and exchange rate changes	0.0	0.0	0.0			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**...**	**...**	**...**			**…**	**46.0**	**39.6**	**31.3**	**29.2**	**27.1**		**12.7**	**-8.6**	
o/w exceptional financing	...	...	...			...	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	0.0			0.0	0.9	2.4	4.1	5.5	8.1		12.9	6.1	
In percent of exports	...	...	0.0			0.0	1.2	3.6	6.6	9.6	15.1		38.6	67.5	
PV of PPG external debt	**...**	**...**	**0.0**			**0.0**	**0.9**	**2.4**	**4.1**	**5.5**	**8.1**		**12.9**	**6.1**	
In percent of exports	**...**	**...**	**0.0**			**0.0**	**1.2**	**3.6**	**6.6**	**9.6**	**15.1**		**38.6**	**67.5**	
In percent of government revenues	**...**	**...**	**0.0**			**0.0**	**3.9**	**10.9**	**17.6**	**25.6**	**39.0**		**114.5**	**122.3**	
Debt service-to-exports ratio (in percent)	**0.0**	**0.0**	**0.0**			**0.0**	**0.0**	**0.0**	**0.1**	**0.2**	**0.3**		**1.5**	**6.0**	
PPG debt service-to-exports ratio (in percent)	**0.0**	**0.0**	**0.0**			**0.0**	**0.0**	**0.0**	**0.1**	**0.2**	**0.3**		**1.5**	**6.0**	
PPG debt service-to-revenue ratio (in percent)	**0.0**	**0.0**	**0.0**			**0.0**	**0.0**	**0.1**	**0.4**	**0.6**	**0.8**		**4.5**	**10.9**	
Total gross financing need (Billions of U.S. dollars)	-2.1	-1.4	-1.5			-2.4	-1.8	-1.6	-1.2	-1.3	-1.2		-0.9	1.7	
Non-interest current account deficit that stabilizes debt ratio	-66.7	-51.7	-48.1			-55.0	-44.7	-38.1	-29.6	-27.1	-24.9		-10.0	11.1	
Key macroeconomic assumptions															
Real GDP growth (in percent)	25.6	16.1	0.3	30.5	43.8	6.9	-5.9	-0.4	-1.5	7.2	4.6	1.8	5.9	6.5	4.4
GDP deflator in US dollar terms (change in percent)	33.6	-25.2	21.1	10.1	22.2	26.2	0.3	2.5	2.2	3.1	3.5	6.3	5.5	4.8	5.1
Effective interest rate (percent) 5/	...	...	...	…	…	...	2.8	2.8	2.8	2.8	2.8	2.8	3.0	3.1	3.0
Growth of exports of G&S (US dollar terms, in percent)	78.0	-22.7	26.8	55.1	60.0	40.1	-12.4	-5.4	-8.6	4.6	0.9	3.2	1.3	6.4	-2.2
Growth of imports of G&S (US dollar terms, in percent)	59.5	17.3	14.0	14.4	29.4	37.7	6.7	-2.2	-2.7	6.4	6.7	8.8	14.8	9.4	6.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	0.0	17.8	17.3	16.9	16.6	16.5	14.2	9.8	0.0	7.6
Government revenues (excluding grants, in percent of GDP)	14.8	18.0	18.3			20.5	22.2	22.4	23.0	21.6	20.9		11.3	5.0	10.1
Aid flows (in Billions of US dollars) 7/	0.2	0.2	0.3			0.2	0.2	0.2	0.1	0.1	0.1		0.0	0.0	
o/w Grants	0.2	0.2	0.3			0.2	0.2	0.1	0.1	0.1	0.0		0.0	0.0	
o/w Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.1		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			5.7	4.8	3.4	2.0	1.7	0.6		0.1	0.2	0.1
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			100.0	84.7	68.3	56.0	48.7	16.5		9.8	100.0	20.9
Memorandum items:															
Nominal GDP (Billions of US dollars)	3.0	2.6	3.2			4.3	4.1	4.2	4.2	4.6	5.0		7.7	20.0	
Nominal dollar GDP growth	67.9	-13.2	21.4			34.9	-5.6	2.2	0.7	10.5	8.2	8.5	11.7	11.6	9.7
PV of PPG external debt (in Billions of US dollars)			0.0			0.0	0.0	0.1	0.2	0.3	0.4		1.0	1.2	
(PVt-PVt-1)/GDPt-1 (in percent)						0.0	0.8	1.6	1.6	2.1	3.3	1.6	1.4	-0.1	0.9
Gross workers' remittances (Billions of US dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	0.0			0.0	0.9	2.4	4.1	5.5	8.1		12.9	6.1	
PV of PPG external debt (in percent of exports + remittances)	...	...	0.0			0.0	1.2	3.6	6.6	9.6	15.1		38.6	67.5	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	0.0			0.0	0.0	0.0	0.1	0.2	0.3		1.5	6.0	

Sources: Timor-Leste authorities; and IMF staff estimates and projections.

1/ Includes only public 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 changes in the PF balances; and valuation adjustments.

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.Timor-Leste: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-2031
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
PV of debt-to GDP ratio								
Baseline	0	1	2	4	6	8	**13**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	0	10	12	5	-1	-8	**-46**	-138
A2. New public sector loans on less favorable terms in 2011-2031 2	0	0	2	4	6	9	**15**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	0	1	3	5	7	10	**16**	8
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	0	-5	-9	-8	-6	-3	**3**	1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	0	1	3	5	7	11	**17**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	0	13	24	26	26	28	**27**	10
B5. Combination of B1-B4 using one-half standard deviation shocks	0	-32	-87	-88	-81	-76	**-48**	-13
B6. Customized export shock	0	4	8	9	9	11	**17**	14
B7. Customized non-debt flows shock	0	4	9	11	11	14	**16**	7
PV of debt-to-exports ratio								
Baseline	0	1	4	7	10	15	**39**	67
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	0	14	17	8	-2	-15	**-138**	-1515
A2. New public sector loans on less favorable terms in 2011-2031 2	0	0	3	7	10	17	**44**	82
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	0	1	4	7	10	15	**39**	67
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	0	-6	-12	-12	-9	-5	**7**	10
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	0	1	4	7	10	15	**39**	67
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	0	18	35	43	45	52	**80**	115
B5. Combination of B1-B4 using one-half standard deviation shocks	0	-36	-82	-92	-90	-89	**-90**	-92
B6. Customized export shock	0	5	11	14	14	16	**32**	74
B7. Customized non-debt flows shock	0	6	13	17	20	25	**47**	76
PV of debt-to-revenue ratio								
Baseline	0	4	11	18	26	39	**114**	122
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	0	46	52	22	-6	-38	**-408**	-2746
A2. New public sector loans on less favorable terms in 2011-2031 2	0	1	9	17	27	43	**131**	149
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	0	4	14	22	32	49	**143**	152
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	0	-22	-40	-34	-27	-14	**23**	20
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	0	4	15	23	34	52	**152**	163
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	0	59	107	113	121	134	**238**	209
B5. Combination of B1-B4 using one-half standard deviation shocks	0	-146	-388	-383	-376	-362	**-422**	-263
B6. Customized export shock	0	14	30	33	37	43	**78**	76
B7. Customized nondebt flows shock	0	20	39	46	53	65	**140**	138

Table 2.Timor-Leste: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-2031 (continued)
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
Debt service-to-exports ratio								
Baseline	0	0	0	0	0	0	**2**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	0	0	0	0	0	0	**-3**	-41
A2. New public sector loans on less favorable terms in 2011-2031 2	0	0	0	0	0	0	**2**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	0	0	0	0	0	0	**2**	6
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	0	0	0	0	0	0	**0**	1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	0	0	0	0	0	0	**2**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	0	0	1	1	1	2	**5**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	0	0	-1	-3	-3	-3	**-8**	-11
B6. Customized export shock	0	0	0	0	0	0	**2**	7
B7. Customized non-debt flows shock	0	0	0	1	1	1	**2**	7
Debt service-to-revenue ratio								
Baseline	0	0	0	0	1	1	**5**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	0	0	1	1	1	0	**-8**	-75
A2. New public sector loans on less favorable terms in 2011-2031 2	0	0	0	0	1	1	**6**	14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	0	0	0	0	1	1	**6**	14
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	0	0	-1	-1	-1	-1	**-1**	2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	0	0	0	0	1	1	**6**	14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	0	0	2	4	4	4	**14**	20
B5. Combination of B1-B4 using one-half standard deviation shocks	0	0	-5	-13	-13	-13	**-37**	-31
B6. Customized export shock	0	0	0	1	1	1	**4**	7
B7. Customized nondebt flows shock	0	0	1	1	2	2	**7**	13
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 5/	9	9	9	9	9	9	**9**	9

Sources: Timor-Leste authorities; and IMF 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/ 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.Timor-Leste: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008-2031
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate	Projections								
	2008	2009	2010			2011	2012	2013	2014	2015	2016	2011-16 Average	2021	2031	2017-31 Average
Public sector debt 1/	-138.3	-204.1	-215.8			-216.4	-266.8	-292.3	-313.3	-305.0	-300.1		-227.0	-6.7	
o/w foreign-currency denominated	0.0	0.0	0.0			0.0	1.1	3.0	4.9	6.6	9.7		14.8	6.7	
Change in public sector debt	-22.9	-65.8	-11.7			-0.6	-50.5	-25.4	-21.0	8.2	4.9		24.5	0.6	
Identified debt-creating flows	...	...	...			...	-49.4	-51.8	-77.1	-61.9	-80.2		-100.6	-92.4	
Primary deficit	-0.3	-2.4	6.5	1.0	4.1	7.5	12.5	14.5	16.2	16.1	16.1	13.8	15.6	11.3	15.7
Revenue and grants	20.9	26.2	26.6			26.2	26.9	25.5	24.7	23.0	20.9		11.3	5.0	
of which: grants	6.1	8.2	8.2			5.7	4.6	3.1	1.7	1.4	0.0		0.0	0.0	
Primary (noninterest) expenditure	20.6	23.8	33.1			33.6	39.4	40.0	40.9	39.1	36.9		26.9	16.3	
Automatic debt dynamics	...	...	...			...	-12.9	5.7	2.1	30.0	23.5		27.2	1.4	
Contribution from interest rate/growth differential	...	...	...			...	-12.9	5.7	2.2	30.1	23.6		27.7	1.6	
of which: contribution from average real interest rate	...	...	...			...	0.7	6.7	6.6	9.0	10.2		13.7	1.2	
of which: contribution from real GDP growth	23.6	19.2	0.6			13.9	-13.6	-1.0	-4.4	21.1	13.4		14.0	0.4	
Contribution from real exchange rate depreciation	...	...	...			...	0.0	0.0	0.0	-0.1	-0.1		...	...	
Other identified debt-creating flows	0.0	0.0	0.0			-23.2	-49.1	-72.1	-95.5	-108.0	-119.8		-143.4	-105.1	
Privatization receipts (negative)	0.0	0.0	0.0			-23.2	-49.1	-72.1	-95.5	-108.0	-119.8		-143.4	-105.1	
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 the PF asset changes	...	...	...			...	-1.0	26.4	56.1	70.1	85.1		125.1	93.0	
Other Sustainability Indicators															
PV of public sector debt	-138.3	-204.1	-215.8			-216.4	-267.0	-292.8	-314.1	-306.1	-301.7		-228.9	-7.3	
o/w foreign-currency denominated	0.0	0.0	0.0			0.0	0.9	2.4	4.1	5.5	8.1		12.9	6.1	
o/w external	...	...	...			0.0	0.9	2.4	4.1	5.5	8.1		12.9	6.1	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	-0.3	-2.4	6.5			7.5	12.5	14.6	16.3	16.2	16.2		16.1	11.8	
PV of public sector debt-to-revenue and grants ratio (in percent)	-662.7	-779.9	-812.5			-827.1	-994.3	-1147.9	-1269.6	-1329.9	-1445.6		-2026.5	-145.8	
PV of public sector debt-to-revenue ratio (in percent)	-935.1	-1134.8	-1178.6			-1056.9	-1201.8	-1306.4	-1364.4	-1414.5	-1445.6		-2026.5	-145.8	
o/w external 3/	…	…	…			0.0	3.9	10.9	17.6	25.6	39.0		114.5	122.3	
Debt service-to-revenue and grants ratio (in percent) 4/	0.0	0.0	0.0			0.0	0.0	0.1	0.3	0.5	0.8		4.5	10.9	
Debt service-to-revenue ratio (in percent) 4/	0.0	0.0	0.0			0.0	0.0	0.1	0.4	0.6	0.8		4.5	10.9	
Primary deficit that stabilizes the debt-to-GDP ratio	22.6	63.4	18.2			8.1	63.0	40.0	37.2	7.9	11.2		-8.9	10.7	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	25.6	16.1	0.3	30.5	43.8	6.9	-5.9	-0.4	-1.5	7.2	4.6	1.8	5.9	6.5	4.4
Average nominal interest rate on forex debt (in percent)	...	...	...	…	…	...	1.2	2.8	2.8	2.8	2.8	2.5	3.0	3.1	3.0
Average real interest rate on domestic debt (in percent)	...	...	...	…	…	...	...	...	...	...	...	…	...	...	…
Real exchange rate depreciation (in percent, + indicates depreciation)	-22.7	38.0	-15.3	-3.1	22.1	-19.5	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	33.6	-25.2	21.1	3.6	30.4	26.2	0.3	2.5	2.2	3.1	3.5	6.3	5.5	4.8	5.1
Growth of real primary spending (deflated by GDP deflator, in percent)	0.9	0.3	0.4	0.5	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	…	17.8	17.3	16.9	16.6	16.5	17.0	9.8	0.0	...

Sources: Country authorities; and staff estimates and projections.
1/ Based on net central government debt.
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.Timor-Leste: Sensitivity Analysis for Key Indicators of Public Debt 2011-2031

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
PV of Debt-to-GDP Ratio								
Baseline	-216	-267	-293	-314	-306	-302	-229	-7
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	-216	-200	-173	-145	-120	-97	-25	2
A2. Primary balance is unchanged from 2011	-216	-272	-304	-334	-332	-335	-279	-98
A3. Permanently lower GDP growth 1/	-216	-270	-298	-323	-317	-315	-247	0
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	-216	-288	-358	-379	-365	-356	-257	15
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	-216	-274	-308	-330	-321	-316	-242	-16
B3. 10 percent of GDP increase in other debt-creating flows in 2012	-216	-258	-284	-305	-297	-294	-224	-7
PV of Debt-to-Revenue Ratio 2/								
Baseline	-827	-994	-1148	-1270	-1330	-1446	-2026	-146
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	-827	-782	-718	-611	-542	-466	-222	41
A2. Primary balance is unchanged from 2011	-827	-1011	-1192	-1348	-1444	-1604	-2468	-1962
A3. Permanently lower GDP growth 1/	-827	-1002	-1167	-1302	-1373	-1507	-2190	-1
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	-827	-1057	-1362	-1507	-1564	-1706	-2278	307
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	-827	-1019	-1209	-1334	-1396	-1516	-2141	-329
B3. 10 percent of GDP increase in other debt-creating flows in 2012	-827	-960	-1112	-1232	-1292	-1406	-1984	-140
Debt Service-to-Revenue Ratio 2/								
Baseline	0	0	0	0	1	1	5	11
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	0	0	-1	-1	-2	-2	-2	1
A2. Primary balance is unchanged from 2011	0	0	-1	-1	-2	-3	-11	-75
A3. Permanently lower GDP growth 1/	0	0	0	0	1	1	7	26
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	0	0	0	1	2	4	16	47
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	0	0	-1	-2	-2	-2	-3	2
B3. 10 percent of GDP increase in other debt-creating flows in 2012	0	0	1	2	2	2	9	16

Sources: Timor-Leste authorities; and IMF staff estimates and projections.
1/ Assumes that real GDP growth is one percentage point below the baseline.
2/ Revenues are defined inclusive of grants.