INTERNATIONAL MONETARY FUND

CAMBODIA

STAFF REPORT FOR THE 2015 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

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This Debt Sustainability Analysis (DSA) shows that Cambodia's debt distress rating remains low with all debt burden indicators projected to remain below the respective thresholds. In line with last year's DSA, the results also indicate that debt sustainability continues to be vulnerable to growth, exports, fiscal shocks, and the materialization of contingent liabilities, calling for continued structural reforms to increase the economy's resilience against external shocks, and to mobilize fiscal revenues.

1. This DSA continues to assess the risk of debt distress as low. The indicative debt distress thresholds remain unchanged from the 2013 Article IV DSA. Under the baseline scenario, the external and the public debt distress indicators never breach the policy-dependent indicative thresholds, and the PV of external debt follows a downward trend in the medium term. Downside risks to the baseline scenario include external arrears, and the materialization of contingent liabilities. The macroeconomic assumptions underlying the baseline scenario remain broadly similar to last year's DSA, with Cambodia assumed to issue domestic debt (e.g., government bonds) over the long term. The debt-to-GDP ratio at end-2014 was slightly higher than the previous estimate due to larger disbursement of bilateral debts, especially from China.[1] Cambodia's Country Policy and Institutional Assessment (CPIA) rating remained unchanged at "medium performer."

[1] Eighty percent of outstanding debt is owed to China.

Cambodia's Public Debt

Cambodia: External Public Debt

	U.S. dollar (millions)	Share of total External Debt	In percent of GDP
Total	5,483.5	100.0	33.1
Multilateral	1,696.8	30.9	10.3
Bilateral	3,786.6	69.1	22.9

Sources: Cambodia authorities; and World Bank estimates.

2. At end-2014, the stock of Cambodia's external public debt, including arrears, stood at around US$5.5 billion or 33 percent of GDP (23.3 percent in NPV terms). The debt-to-GDP ratio has been steadily increasing since 2008, when it was 27 percent of GDP. Since 2010, the increase in external debt has been driven largely by disbursement of bilateral loans. The corresponding net present value (PV) of the external debt is 23.3 percent of GDP at end 2014, a significant increase from 19.0 percent of GDP at end-2012, primarily because the amortization schedule of existing debt assumes larger principal repayments in more recent years compared to the last DSA.

3. With greater disbursement of bilateral debt over the past five years, the share of multilateral creditor debt has continued to decline. The share of bilateral debt, including arrears, in total external public debt has increased from 50 percent in 2009 to 69 percent in 2014. China remains the largest bilateral creditor, contributing to 62 percent of the total bilateral debt stock and about 90 percent of bilateral debt disbursement during the past three years. Cambodia remains in arrears to the Russian Federation and the U.S. (nearly 15 percent of total debt or 5 percent of GDP), and the status of negotiations of these arrears has remained unchanged since the last DSA. Cambodia is not servicing its debt with these two creditors. The Cambodian authorities have been in contact with the Russian and U.S. authorities at least on an annual basis, but further efforts are needed to conclude agreements under the Paris Club framework. Since prospects for resolution remain unclear, this DSA continues to assume no debt restructuring, with arrears continuing to build up over the projection period.

4. The negligible level of domestic debt remains unchanged. Cambodia has virtually no domestic public debt at present. There is a small amount of bonds (US$4 million) issued in the early 2000s and some old claims on the government (the total equal to half percent of GDP, with no interest) that were carried over from the 1990s and remain to be recorded in the monetary survey.

5. While the authorities have made progress on the monitoring of contingent liabilities and debt management, the fiscal risks from contingent liabilities need continuous monitoring. The development of the debt management strategy and its submission to the parliament in conjunction with the budget and the establishment of the public private partnership (PPP) unit in the MEF to monitor future PPP approvals are welcome. Progress in measuring already assumed contingent liabilities is underway and receives technical assistance from the World Bank. Further strengthening the capacity of the MEF to deal with PPPs contracts, particularly on legal issues, would be recommended. Other recommendations include the adoption of an annual ceiling on PPP guarantees and the listing of all contingent liabilities in the annual budget law to enhance fiscal transparency. Although debt remains sustainable with a low risk of distress, closer monitoring of fiscal risks from contingent liabilities and further strengthening of capacity to analyze these risks is needed to safeguard the fiscal space.

Macroeconomic Framework

6. The macroeconomic framework underlying the baseline scenario remains broadly in line with the previous DSA.

- **Growth and inflation:** Economic activity remains strong driven by robust exports, real estate, and construction. GDP growth is expected at 7.0 percent in 2015 and is projected to gradually increase to 7.3 percent by 2018 assuming continued improvements in business climate, physical infrastructure, and human capital. Over the long term, growth is projected to moderate to 7 percent. Inflation dropped to 1.1 percent in 2014 led by lower energy and commodity prices. In the medium term, it is expected to average 3 percent, in line with the authorities' informal target and partner countries' medium-term inflation.

- **External stability:** Despite lower garment export and tourism receipts, the current account deficit, including official transfers, is expected to stay flat at around 12 percent of GDP in 2014, partially due to the moderation in imports related to near completion of large power projects and lower garment materials imports, and to remain fully financed by FDI and official loans. For the medium-term, the current account deficit is projected to decline to 7 percent of GDP, as a result of further moderation in imports after the completion of large power generation projects and improved competitiveness and diversification spurred by the participation in the ASEAN Economic Community (AEC), which should support robust export growth. Gross official reserves are projected to remain at around 4 months of prospective imports through 2020. External debt disbursement is projected to average about US$550 million annually during 2015–20 (about 2½ percent of GDP on average), and with this, the debt to GDP ratio is projected to gradually decline to 30 percent by 2020.

- **Fiscal sustainability:** Buoyant revenue collection efforts have improved revenue performance significantly in 2014 and stringent procurement measures have slowed the execution of non-wage current expenditure and locally financed capital expenditure, more than offsetting the continuous increase in the wage expenditure. As a result, the 2014 fiscal deficit narrowed to 1.3 percent of GDP (GFS 2001), compared to 3.1 percent implied by the budget, and government deposits are expected to increase temporarily to 7.1 percent of GDP, before declining to around 4 percent of GDP in the medium term. Effective implementation of the list of tax administration measures contained in the Revenue Mobilization Strategy (RMS) should continue to generate revenue gains, raising domestic revenue by ½ percent of GDP on average over the medium term, in line with the authorities' goal under the Public Financial Management Reform Program. Budget pressure in recent years eased due to strong revenue collection, but large wage increases have limited space to enhance growth critical social and infrastructure spending. In this context, it is important to ensure that the domestic revenue expansion is used most efficiently and effectively. Medium-term fiscal consolidation is therefore anchored to safeguarding government deposits and ensuring long-term fiscal debt sustainability, while striking a careful balance to provide resources for Cambodia's vast development needs against rising wage pressures and an expected gradual decline of concessional external funds. In view of this, domestically funded capital spending is projected to increase from 1.8 percent GDP in 2014 to 3.4 percent in 2020 to cushion the decline in externally funded capital spending, thereby ensuring that the overall capital spending is maintained at around 8 percent of GDP. With continued efforts to increase efficiency of public investment program and by containing the nonwage current spending in terms of GDP, the fiscal deficit, excluding grants, is projected to decline from about 6 percent of GDP in 2013 to 4.6 percent in 2020. Compared to the 2013 DSA, loans from the non-Paris Club official bilateral donors are assumed to be on less concessional terms. This difference in the loan terms increases external debt by 3 percent of GDP by 2033.

- **Domestic debt:** As Cambodia's financial sector continues to develop, it is expected that the government will start issuing domestic government bonds to provide additional fiscal financing. By issuing debt starting from ¼ ppt of GDP annually in 2021 and gradually increasing to about ½ ppt of GDP in 2035, the total stock of domestic debt would reach about 3.7 percent of GDP by 2035. This remains low compared to the average domestic debt in low-income countries (LICs) of about 15 percent of GDP. However, this conservative estimate is in line with the authorities' intention of not issuing domestic debt over the medium term and to focus more on mobilizing domestic revenue and raising government deposits (i.e., savings, not borrowings).

EXTERNAL AND PUBLIC DEBT SUSTAINABILITY

7. Under the baseline scenario, the external DSA shows that Cambodia's risk of debt distress is low (Figure 1, Tables 1a and 1b). The PV of debt-to-GDP, debt-to-exports, and debt-to-revenue ratios never breach their respective policy-dependent indicative thresholds and are projected to decline over the projection period. Moreover, the debt service-to-exports and debt service-to-revenue ratios remain well below the thresholds throughout the projection period, partly due to the concessional nature of the debt.

8. Even though standard debt stress tests do not indicate any major vulnerability, they highlight that large exchange rate or export shocks could potentially have a major impact on the debt dynamics. Change in export value growth remains the most important risk to sustainability. As shown in Figure 1, this shock would bring the PV of debt-to-GDP to 36 percent, just 4 percent under the indicative threshold. Similarly, a large one-off depreciation would bring the PV of debt-to-GDP to about 35 percent. While this highlights the importance of continuous monitoring of debt dynamics, the PV of external debt declines over the projection period and does not currently indicate any major vulnerability.

9. Given the minor role played by domestic debt, the public sector DSA closely tracks the external debt sustainability (Figure 2 and Tables 2a and 2b). In particular, the PV of public debt-to-GDP and the public debt service-to-revenue ratios would decline gradually over time, and the debt service-to-revenue ratio would remain low in most scenarios for the entire projection period. It is assumed that, with the development of the domestic bond market, the domestic financing sources will increase after 2020 and the domestic debt will reach about 3.7 percent of GDP over the long run.

10. Public debt is vulnerable to a large exchange rate depreciation shock and to a loose fiscal policy. Under a one-off real depreciation shock, the PV of public debt-to-GDP would reach 35 percent in the short-run, and then would decline over time. If the primary balance remains unchanged at the 2014 level, the PV of public debt-to-GDP would increase to about 27 percent in the medium term. However, public debt is projected to decline over the projection period under all scenarios and do not present any major vulnerability.

11. Potential contingent liabilities might threaten debt sustainability if they materialize. The investment in power generation and distribution projects under PPPs is large, and if for any reason problems arose potentially leading to a total loss of investment costs, substantial liabilities could be added to the debt stock. The World Bank has provided technical assistance to determine the size of contingent liabilities. Other potential contingent liabilities include the fiscal cost to support the financial sector during a banking crisis. Staff calculations suggest that support in the form of bank recapitalization and backstopping demand deposits would amount to around 15 percent of GDP.[2]

12. The authorities broadly agreed with the overall results of the DSA. The debt management unit at the Ministry of Economy and Finance conducts annual DSA analysis as part of their budget process. They use results of these analyses to propose annual ceilings of new net disbursements, which so far have been only external disbursements. The authorities use for their exercise the same terms for new loans, current account deficits, projected loans disbursement, but are more conservative than staff on the medium-term real GDP growth assumption. More generally, they reach the same conclusion of low risk of debt distress. The MEF showed concerned about the accumulation of contingent liabilities from PPPs and have imposed annual ceilings on PPP guarantees.

CONCLUSION

13. Cambodia remains at low risk of debt distress under the baseline scenario. The baseline projections and the standard stress tests show limited risk to external debt given that none of the indicators breach their thresholds. Downside risks to the baseline scenario include the materialization of contingent liabilities and issues arising from the external arrears. The most extreme stress tests indicate that Cambodia's debt sustainability remains vulnerable to shocks to the exchange rate, growth, exports, and fiscal position. This suggests the importance of preserving macroeconomic stability and diversifying the economy and exports to increase the economy's resilience to external shocks, and the necessity of the successful implementation of the revenue mobilization strategy.

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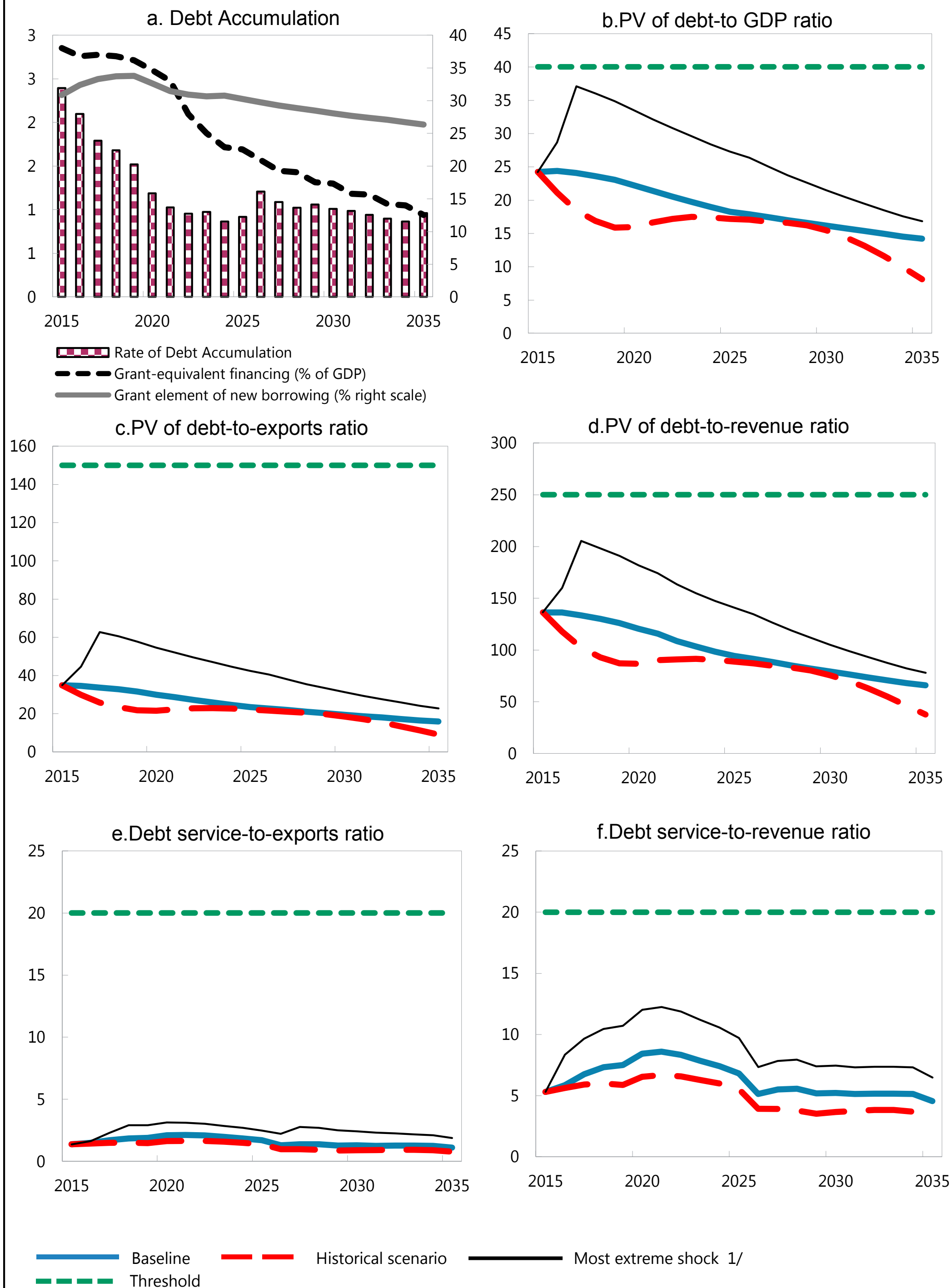
[2] The median direct fiscal cost of banking crisis in emerging market countries is estimated at 11.5 percent of GDP (Laeven and Valencia (2010), IMF Working Paper 10/146).

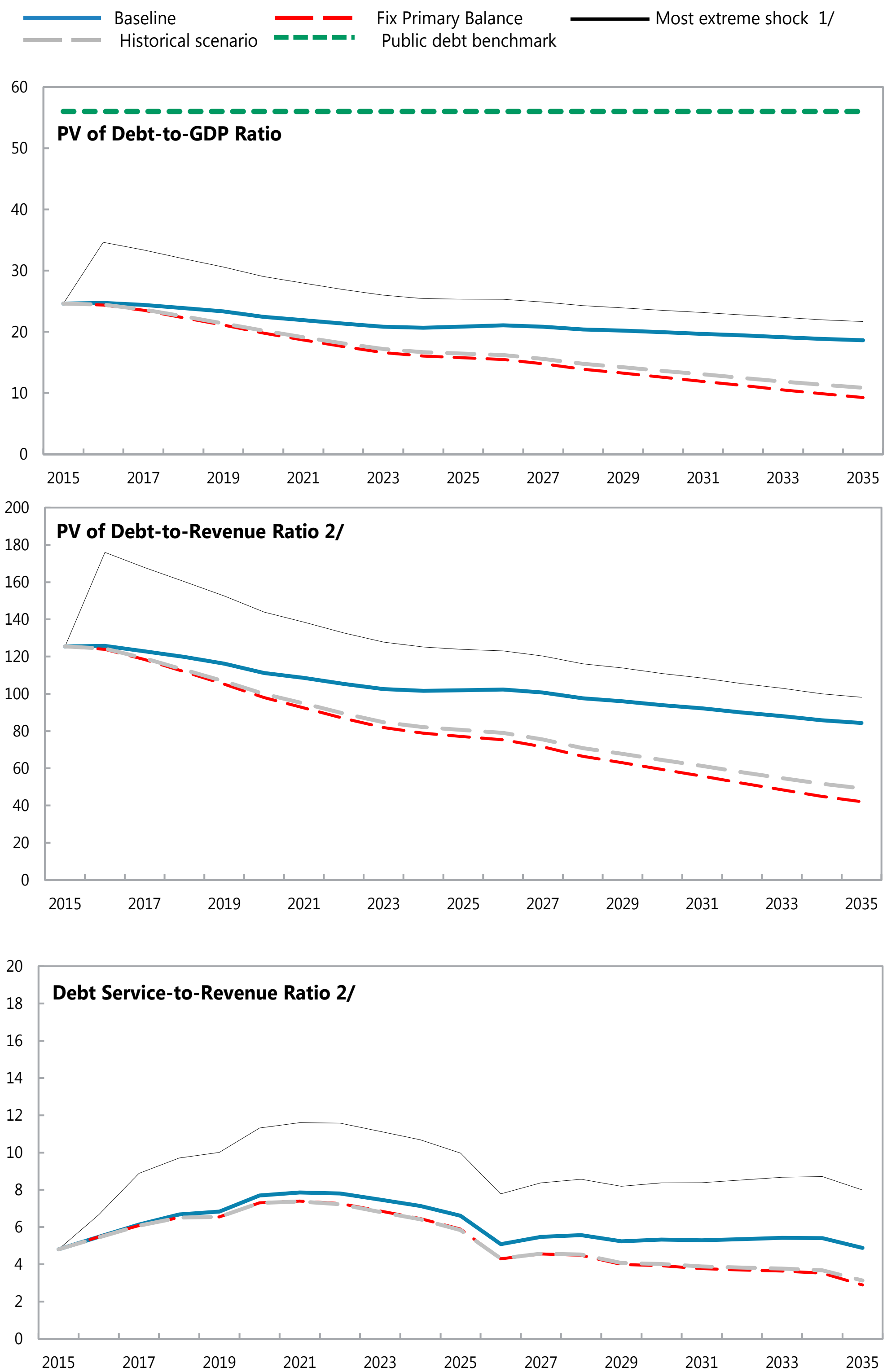
Figure 1. Cambodia: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2015-2035 1/



Sources: Cambodia authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. 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 One-time depreciation shock.

Figure 2.Cambodia: Indicators of Public Debt Under Alternative Scenarios, 2015-2035 1/



Sources: Cambodia authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025.

2/ Revenues are defined inclusive of grants.

Table 1a .Cambodia: External Debt Sustainability Framework, Baseline Scenario, 2012-2035 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical [6/] Average	Standard [6/] Deviation	Projections									
	2012	2013	2014			2015	2016	2017	2018	2019	2020	2015-2020 Average	2025	2035	2021-2035 Average
External debt (nominal) 1/	**31.5**	**32.5**	**33.4**			**34.2**	**34.0**	**33.4**	**32.6**	**31.7**	**30.5**		**24.8**	**18.8**	
Of which: public and publicly guaranteed (PPG)	31.5	32.5	33.4			34.2	34.0	33.4	32.6	31.7	30.5		24.8	18.8	
Change in external debt	1.8	1.0	0.9			0.7	-0.2	-0.6	-0.8	-0.9	-1.2		-1.0	-0.4	
Identified net debt-creating flows	-3.7	-2.3	-0.2			-0.4	-0.4	-1.1	-2.3	-3.1	-4.7		-4.1	-0.7	
Non-interest current account deficit	**10.7**	**11.9**	**11.9**	**7.0**	**4.1**	**11.3**	**11.2**	**10.5**	**9.1**	**8.4**	**6.7**		**6.8**	**9.9**	7.6
Deficit in balance of goods and services	9.3	9.6	10.7			9.9	9.3	8.6	7.9	7.3	5.8		5.3	8.1	
Exports	62.8	65.3	67.9			69.4	70.5	71.4	72.0	73.0	74.1		77.7	89.2	
Imports	72.1	74.9	78.6			79.2	79.8	80.0	79.8	80.3	80.0		83.0	97.2	
Net current transfers (negative = inflow)	-2.9	-2.5	-3.6	-6.9	3.1	-3.8	-2.9	-2.6	-2.9	-3.0	-3.0		-2.6	-2.3	-2.5
Of which: official	-2.0	-1.9	-2.0			-1.8	-1.7	-1.6	-1.6	-1.5	-1.5		-0.6	-0.3	
Other current account flows (negative = net inflow)	4.3	4.8	4.8			5.3	4.8	4.6	4.1	4.0	3.9		4.1	4.1	
Net FDI (negative = inflow)	**-12.1**	**-11.9**	**-10.1**	**-8.8**	**2.7**	**-9.8**	**-9.7**	**-9.7**	**-9.6**	**-9.7**	**-9.8**		**-9.7**	**-9.8**	-9.7
Endogenous debt dynamics 2/	**-2.3**	**-2.4**	**-2.0**			**-1.8**	**-1.9**	**-1.8**	**-1.8**	**-1.8**	**-1.7**		**-1.2**	**-0.8**	
Contribution from nominal interest rate	0.3	0.3	0.4			0.3	0.4	0.4	0.4	0.4	0.5		0.4	0.4	
Contribution from real GDP growth	-2.0	-2.1	-2.1			-2.2	-2.3	-2.3	-2.2	-2.2	-2.1		-1.6	-1.2	
Contribution from price and exchange rate changes	-0.6	-0.5	-0.2			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**5.5**	**3.3**	**1.1**			**1.1**	**0.3**	**0.4**	**1.5**	**2.2**	**3.5**		**3.1**	**0.3**	
Of which: Exceptional financing	-0.1	-0.1	-0.1			-0.1	-0.1	-0.1	-0.1	-0.1	0.0		0.0	0.0	
PV of external debt 4/	...	...	23.3			24.2	24.4	24.1	23.6	23.0	22.2		18.3	14.2	
In percent of exports	...	...	34.3			34.9	34.6	33.7	32.8	31.6	30.0		23.5	16.0	
PV of PPG external debt	**...**	**...**	**23.3**			**24.2**	**24.4**	**24.1**	**23.6**	**23.0**	**22.2**		**18.3**	**14.2**	
In percent of exports	**...**	**...**	**34.3**			**34.9**	**34.6**	**33.7**	**32.8**	**31.6**	**30.0**		**23.5**	**16.0**	
In percent of government revenues	**...**	**...**	**133.9**			**136.4**	**136.3**	**133.5**	**130.0**	**126.2**	**120.6**		**94.3**	**65.8**	
Debt service-to-exports ratio (in percent)	**1.0**	**1.1**	**1.3**			**1.4**	**1.5**	**1.7**	**1.8**	**1.9**	**2.1**		**1.7**	**1.1**	
PPG debt service-to-exports ratio (in percent)	**1.0**	**1.1**	**1.3**			**1.4**	**1.5**	**1.7**	**1.8**	**1.9**	**2.1**		**1.7**	**1.1**	
PPG debt service-to-revenue ratio (in percent)	**4.0**	**4.9**	**4.9**			**5.3**	**5.9**	**6.8**	**7.3**	**7.5**	**8.4**		**6.8**	**4.5**	
Total gross financing need (Billions of U.S. dollars)	-0.1	0.1	0.4			0.4	0.5	0.4	0.2	0.0	-0.4		-0.6	1.0	
Non-interest current account deficit that stabilizes debt ratio	8.9	10.9	11.0			10.6	11.4	11.1	9.9	9.3	7.9		7.7	10.3	
Key macroeconomic assumptions															
Real GDP growth (in percent)	7.3	7.4	7.0	7.6	3.5	7.0	7.2	7.2	7.3	7.3	7.3	7.2	7.0	6.9	6.9
GDP deflator in U.S. dollar terms (change in percent)	2.2	1.7	0.7	4.2	3.7	-0.4	0.5	1.2	1.7	1.7	1.7	1.0	1.7	1.9	1.8
Effective interest rate (percent) 5/	1.0	1.1	1.2	0.9	0.2	1.1	1.2	1.3	1.4	1.4	1.6	1.3	1.8	2.4	2.0
Growth of exports of G&S (U.S. dollar terms, in percent)	13.7	13.6	12.1	13.5	13.7	8.8	9.5	9.8	9.9	10.6	10.8	9.9	10.1	10.6	10.2
Growth of imports of G&S (U.S. dollar terms, in percent)	12.0	13.5	13.1	13.6	11.2	7.4	8.5	8.7	8.9	9.8	8.6	8.6	10.0	10.7	10.3
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	30.9	32.4	33.3	33.7	33.8	32.6	32.8	30.3	26.4	28.9
Government revenues (excluding grants, in percent of GDP)	15.2	15.0	17.4			17.8	17.9	18.0	18.2	18.3	18.4		19.4	21.6	20.0
Aid flows (in Billions of US dollars) 7/	1.1	1.2	1.0			0.5	0.6	0.6	0.7	0.7	0.7		0.7	0.7	
Of which: Grants	0.4	0.6	0.5			0.3	0.3	0.4	0.4	0.4	0.5		0.4	0.5	
Of which: Concessional loans	0.7	0.6	0.5			0.2	0.2	0.3	0.3	0.3	0.3		0.2	0.2	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			2.9	2.8	2.8	2.8	2.7	2.6		1.7	0.9	1.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			56.4	57.9	59.7	59.4	60.3	60.7		55.4	43.3	51.7
Memorandum items:															
Nominal GDP (Billions of US dollars)	14.1	15.4	16.6			17.6	19.0	20.6	22.5	24.5	26.7		40.8	95.1	
Nominal dollar GDP growth	9.7	9.3	7.7			6.5	7.7	8.4	9.1	9.1	9.1	8.3	8.8	8.9	8.8
PV of PPG external debt (in Billions of US dollars)			3.8			4.2	4.6	4.9	5.3	5.6	5.9		7.4	13.5	
(PVt-PVt-1)/GDPt-1 (in percent)						2.4	2.1	1.8	1.7	1.5	1.2	1.8	0.9	1.0	1.0
Gross workers' remittances (Billions of US dollars)	0.1	0.1	0.3			0.4	0.2	0.2	0.3	0.4	0.4		0.8	1.9	
PV of PPG external debt (in percent of GDP + remittances)	...	...	22.9			23.7	24.1	23.9	23.3	22.7	21.9		17.9	13.9	
PV of PPG external debt (in percent of exports + remittances)	...	...	33.5			33.9	34.0	33.3	32.2	30.9	29.4		22.9	15.6	
Debt service of PPG external debt (in percent of exports + remittanc	...	...	1.2			1.3	1.5	1.7	1.8	1.8	2.1		1.7	1.1	

Sources: Cambodian authorities; and IMF 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 ch

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

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

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

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

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

Table 1b. Cambodia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015-2035

(In percent)

	Projections							
	2015	2016	2017	2018	2019	2020	**2025**	2035
PV of debt-to GDP ratio								
Baseline	24	24	24	24	23	22	**18**	14
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	24	22	20	19	18	19	**22**	15
A2. New public sector loans on less favorable terms in 2015-2035 2/	24	25	25	26	26	25	**23**	21
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	24	25	25	25	24	23	**19**	15
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	24	29	37	36	35	33	**27**	17
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	24	24	24	24	23	22	**18**	14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	24	26	28	27	26	25	**21**	15
B5. Combination of B1-B4 using one-half standard deviation shocks	24	25	28	27	26	25	**21**	15
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	24	35	34	33	33	31	**26**	20
PV of debt-to-exports ratio								
Baseline	35	35	34	33	32	30	**24**	16
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	35	32	28	26	25	25	**28**	16
A2. New public sector loans on less favorable terms in 2015-2035 2/	35	36	36	36	36	35	**30**	24
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	35	35	34	33	32	30	**24**	16
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	35	45	63	61	58	55	**43**	23
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	35	35	34	33	32	30	**24**	16
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	35	38	39	38	36	34	**27**	17
B5. Combination of B1-B4 using one-half standard deviation shocks	35	37	41	40	38	36	**29**	18
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	35	35	34	33	32	30	**24**	16
PV of debt-to-revenue ratio								
Baseline	138	138	135	131	127	122	**95**	66
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	138	124	111	104	100	102	**112**	68
A2. New public sector loans on less favorable terms in 2015-2035 2/	138	141	142	142	141	138	**120**	97
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	138	141	142	138	134	128	**100**	69
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	138	162	206	199	192	182	**142**	78
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	138	137	136	132	129	123	**96**	66
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	138	147	154	149	144	138	**107**	69
B5. Combination of B1-B4 using one-half standard deviation shocks	138	143	154	150	145	138	**108**	69
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	138	194	190	185	180	172	**135**	93

Table 1c. Cambodia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015-2035 (continued)

(In percent)

Debt service-to-exports ratio

Baseline	1	1	2	2	2	2	**2**	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	1	1	2	2	2	2	**2**	1
A2. New public sector loans on less favorable terms in 2015-2035 2/	1	1	2	2	2	2	**2**	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	1	1	2	2	2	2	**2**	1
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	1	2	2	3	3	3	**2**	2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	1	1	2	2	2	2	**2**	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	1	1	2	2	2	2	**2**	1
B5. Combination of B1-B4 using one-half standard deviation shocks	1	2	2	2	2	2	**2**	1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	1	1	2	2	2	2	**2**	1

Debt service-to-revenue ratio

Baseline	5	6	7	7	7	8	**7**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	5	6	6	6	6	7	**6**	5
A2. New public sector loans on less favorable terms in 2015-2035 2/	5	6	7	7	8	9	**8**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	5	6	7	8	8	9	**7**	6
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	5	6	7	10	10	10	**8**	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	5	6	7	7	8	9	**7**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	5	6	7	8	8	9	**7**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	5	6	7	8	8	9	**7**	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	5	8	10	10	11	12	**10**	7
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	28	28	28	28	28	28	**28**	28

Sources: Cambodia 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/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 2a. Cambodia: Public Sector Debt Sustainability Framework, Baseline Scenario, 2012-2035

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate			Projections						
	2012	2013	2014	Average 5/	Standard Deviation 5/	2015	2016	2017	2018	2019	2020	2015-20 Average	2025	2035	2021-35 Average
Public sector debt 1/	32.1	33.0	33.9			34.6	34.4	33.7	32.9	31.9	30.7		27.4	23.2	
of which: foreign-currency denominated	31.5	32.5	33.4			34.2	34.0	33.4	32.6	31.7	30.5		24.8	18.8	
Change in public sector debt	1.8	1.0	0.9			0.7	-0.2	-0.7	-0.8	-0.9	-1.2		-0.1	-0.3	
Identified debt-creating flows	0.8	-0.2	-0.7			-0.2	-0.2	-0.1	0.1	0.1	0.0		0.6	1.2	
Primary deficit	3.3	2.2	0.8	1.7	1.7	1.4	2.0	2.2	2.5	2.4	2.2	2.1	2.4	2.6	2.5
Revenue and grants	17.9	18.9	20.4			19.6	19.7	19.9	20.0	20.1	20.2		20.5	22.1	
of which: grants	2.8	3.9	3.0			1.9	1.8	1.8	1.8	1.8	1.8		1.1	0.5	
Primary (noninterest) expenditure	21.2	21.0	21.2			21.1	21.6	22.1	22.5	22.5	22.4		22.9	24.7	
Automatic debt dynamics	-2.5	-2.4	-1.5			-1.6	-2.2	-2.3	-2.4	-2.3	-2.2		-1.8	-1.5	
Contribution from interest rate/growth differential	-2.7	-2.8	-2.6			-2.4	-2.5	-2.5	-2.4	-2.4	-2.3		-1.8	-1.5	
of which: contribution from average real interest rate	-0.6	-0.6	-0.4			-0.2	-0.2	-0.2	-0.1	-0.2	-0.1		0.0	0.1	
of which: contribution from real GDP growth	-2.1	-2.2	-2.2			-2.2	-2.3	-2.3	-2.3	-2.2	-2.2		-1.8	-1.5	
Contribution from real exchange rate depreciation	0.2	0.4	1.1			0.7	0.3	0.1	0.0	0.1	0.1		...	...	
Other identified debt-creating flows	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	1.0	1.1	1.5			0.9	0.0	-0.6	-0.9	-1.0	-1.2		-0.7	-1.5	
Other Sustainability Indicators															
PV of public sector debt	...	...	23.7			24.6	24.7	24.4	23.9	23.3	22.5		20.9	18.6	
of which: foreign-currency denominated	...	...	23.3			24.2	24.4	24.1	23.6	23.0	22.2		18.3	14.2	
of which: external	...	...	23.3			24.2	24.4	24.1	23.6	23.0	22.2		18.3	14.2	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	4.4	3.3	2.1			2.8	3.4	3.7	4.1	4.1	4.0		4.2	4.4	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	116.4			125.4	125.7	122.8	119.8	116.2	111.2		101.9	84.3	
PV of public sector debt-to-revenue ratio (in percent)	...	...	136.4			138.6	138.4	135.3	131.7	127.7	121.9		107.7	86.2	
of which: external 3/	...	...	133.9			136.4	136.3	133.5	130.0	126.2	120.6		94.3	65.8	
Debt service-to-revenue and grants ratio (in percent) 4/	3.6	3.9	4.2			4.8	5.5	6.1	6.7	6.8	7.7		6.6	4.9	
Debt service-to-revenue ratio (in percent) 4/	4.3	4.9	5.0			5.3	6.0	6.8	7.3	7.5	8.4		7.0	5.0	
Primary deficit that stabilizes the debt-to-GDP ratio	1.5	1.2	-0.1			0.8	2.2	2.9	3.3	3.4	3.4		2.5	3.0	
Key macroeconomic and fiscal assumptions															
Nominal GDP (local currency)	56681.6	61866.1	66825.1			72767.4	80043.5	88108.2	97273.4	107275.4	118333.3		190740.3	496328.0	
Real GDP growth (in percent)	7.3	7.4	7.0	7.6	3.5	7.0	7.2	7.2	7.3	7.3	7.3	7.2	7.0	6.9	6.9
Average nominal interest rate on forex debt (in percent)	1.0	1.1	1.2	0.9	0.2	1.1	1.2	1.3	1.4	1.4	1.6	1.3	1.8	2.4	2.0
Average real interest rate on domestic debt (in percent)	-1.2	-1.3	-0.7	-3.7	3.0	-1.6	-2.3	-2.4	-2.5	-2.5	-2.5	-2.3	-0.8	-0.5	-0.9
Real exchange rate depreciation (in percent, + indicates depreciation	0.7	1.5	3.6	-1.7	3.5	2.3	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.4	1.6	0.9	4.2	3.4	1.8	2.6	2.7	2.9	2.8	2.8	2.6	2.9	3.0	2.9
Growth of real primary spending (deflated by GDP deflator, in percer	11.7	6.6	7.9	2.7	4.3	6.3	10.0	9.5	9.1	7.4	7.0	8.2	8.0	8.0	7.6
Grant element of new external borrowing (in percent)	...	...	...	...	...	30.9	32.4	33.3	33.7	33.8	32.6	32.8	30.3	26.4	...

Sources: Cambodian authorities; and IMF 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 2b. Cambodia: Sensitivity Analysis for Key Indicators of Public Debt 2015-2035

		Projections															
	2015	2016	2017	2018	2019	2020	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
PV of Debt-to-GDP Ratio																	
Baseline	25	25	24	24	23	22	21	21	21	20	20	20	20	19	19	19	19
A. Alternative scenarios																	
A1. Real GDP growth and primary balance are at historical averages	25	24	24	23	21	20	16	16	16	15	14	14	13	12	12	11	11
A2. Primary balance is unchanged from 2015	25	24	24	22	21	20	16	15	15	14	13	13	12	11	11	10	9
A3. Permanently lower GDP growth 1/	25	25	25	25	25	25	27	29	29	30	31	33	34	35	36	38	40
B. Bound tests																	
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	25	26	27	27	27	27	28	29	29	29	30	30	30	30	30	31	31
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	25	26	26	26	25	24	22	22	22	21	21	21	21	20	20	20	19
B3. Combination of B1-B2 using one half standard deviation shocks	25	25	26	25	25	24	24	25	25	24	24	24	24	24	24	24	24
B4. One-time 30 percent real depreciation in 2016	25	35	33	32	31	29	25	25	25	24	24	24	23	23	22	22	22
B5. 10 percent of GDP increase in other debt-creating flows in 2016	25	32	31	30	29	28	26	26	25	24	24	23	23	23	22	22	21
PV of Debt-to-Revenue Ratio 2/																	
Baseline	125	126	123	120	116	111	102	102	101	98	96	94	92	90	88	86	84
A. Alternative scenarios																	
A1. Real GDP growth and primary balance are at historical averages	125	124	119	113	107	100	81	79	75	71	68	64	61	58	55	52	49
A2. Primary balance is unchanged from 2015	125	124	118	112	105	98	77	75	71	66	63	59	56	52	48	45	42
A3. Permanently lower GDP growth 1/	125	127	126	125	124	121	132	138	142	144	149	153	158	162	167	172	178
B. Bound tests																	
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	125	131	135	136	135	133	138	141	142	141	141	141	141	140	140	139	139
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	125	131	132	128	124	119	108	108	106	103	101	98	96	94	92	89	87
B3. Combination of B1-B2 using one half standard deviation shocks	125	129	128	127	124	121	117	119	118	116	115	114	113	111	110	108	108
B4. One-time 30 percent real depreciation in 2016	125	176	168	160	152	144	124	123	120	116	114	111	108	106	103	100	98
B5. 10 percent of GDP increase in other debt-creating flows in 2016	125	162	157	152	147	140	125	124	121	117	114	110	108	104	101	98	96
Debt Service-to-Revenue Ratio 2/																	
Baseline	5	5	6	7	7	8	7	5	5	6	5	5	5	5	5	5	5
A. Alternative scenarios																	
A1. Real GDP growth and primary balance are at historical averages	5	5	6	7	7	7	6	4	5	5	4	4	4	4	4	4	3
A2. Primary balance is unchanged from 2015	5	5	6	7	7	7	6	4	5	4	4	4	4	4	4	4	3
A3. Permanently lower GDP growth 1/	5	6	6	7	7	8	8	6	7	7	7	7	8	8	9	9	9
B. Bound tests																	
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	5	6	7	7	8	9	8	6	7	7	7	7	7	8	8	8	8
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	5	5	6	7	7	8	7	5	6	6	6	6	6	6	6	6	5
B3. Combination of B1-B2 using one half standard deviation shocks	5	6	6	7	7	8	7	6	6	6	6	6	6	6	6	7	6
B4. One-time 30 percent real depreciation in 2016	5	7	9	10	10	11	10	8	8	9	8	8	8	9	9	9	8
B5. 10 percent of GDP increase in other debt-creating flows in 2016	5	5	7	8	8	9	7	6	7	7	7	7	7	7	7	7	6

Sources: Cambodia authorities; and IMF 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.