INTERNATIONAL MONETARY FUND

CAMBODIA

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

September 28, 2016

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This Debt Sustainability Analysis (DSA) shows that Cambodia is at low risk of debt distress with all debt burden indicators projected to remain below the respective indicative thresholds. The results also indicate that debt sustainability continues to be vulnerable to growth, exports, and adverse revenue shocks, and the materialization of contingent liabilities. The findings reinforce the need for continued structural reforms to increase the economy's resilience to external shocks, and to mobilize fiscal revenues.

1. **This DSA continues to assess Cambodia at a low risk of debt distress.** The indicative debt distress thresholds remain unchanged from the 2015 Article IV DSA. Under the baseline scenario, the external and the public debt burden 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 similar to the 2015 DSA. Cambodia's Country Policy and Institutional Assessment (CPIA) rating remained unchanged at "medium performer."

CAMBODIA'S PUBLIC DEBT

2. **Cambodia's stock of external public debt, including arrears, stood at around US$5.6 billion or 32 percent of GDP (22 percent of GDP in present value terms) as of end-2015.** The debt-to-GDP ratio has been steadily increasing since 2008, when it was 27 percent of GDP. The increase in external debt since then has been driven largely by disbursement of bilateral loans. The corresponding present value (PV) of the external debt was 22.1 percent of GDP at end 2015.

Cambodia: External Public Debt 2015

	U.S. Dollar (U.S. millions)	Share of Total External Debt	In Percent of GDP
Total	5,645	100	32.1
Multilateral	1,656	29.3	9.5
Bilateral	3,989	70.7	22.6

Sources: Cambodia authorities; and World Bank estimates.

3. **Bilateral debt has been increasing over time, and the share of multilateral debt has continued to decline.** China remains the largest bilateral creditor, contributing to around 80 percent of the total bilateral debt stock, including arrears. Cambodia remains in arrears to the Russian Federation and the United States (nearly 16 percent of total debt or 4 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 the 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. **Public domestic debt remains negligible.** There is a small amount of bonds (US$3.2 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. The authorities have made considerable progress in monitoring contingent liabilities from PPPs through strengthening the institutional framework, but further efforts are needed to enhance fiscal transparency and capacity. In line with past Fund recommendations, reinforced by contingent liability management technical assistance provided by the Bank, the authorities adopted an annual ceiling on PPP guarantees at 4 percent of GDP. On the institutional side, in June 2016, the Ministry of Economy and Finance (MEF) has adopted a policy on PPPs outlining legal, regulatory and institutional frameworks. In addition, a central PPP unit for risk management is being established in the MEF. To enhance fiscal transparency, the authorities should also list all contingent liabilities in the annual budget law. Even with debt remaining sustainable with a low risk of distress, continued close monitoring and analysis of fiscal risks through further strengthening of capacity is needed to safeguard 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 2016 and is projected to slow to around 6.3–7.0 percent until 2021, assuming some product diversification and supportive policies. Inflation (CPI average) remained low in 2015 at 1.2 percent due to low energy and commodity prices, and is expected to rise slightly to 3.2 percent at end-2016. In the medium-term, inflation is expected to average 3 percent.

- **External sector stability:** Higher-than-expected garment exports and tourism arrivals helped narrow the current account deficit, including official transfers, in 2015 to 10.6 percent of GDP. Continued strong export growth and low commodity prices are expected to narrow the non-interest current account deficit to around 10.2 percent of GDP in 2016. The completion of large power projects should help lower import growth, while improved competitiveness and diversification spurred by the participation in the ASEAN Economic Community (AEC) should help lower the current account deficit over the medium-term to around 8½ percent of GDP, which is expected to remain fully financed by FDI and official loans. Gross official reserves are projected to rise to around 5.7 months of prospective imports through to 2021. External bilateral debt disbursement is projected to average about US$700 million annually during 2015–21 (about 4 percent of GDP on average), resulting in a debt to GDP ratio of just over 35 percent by 2021, after which the debt ratio is projected to decline.

- **Fiscal sustainability:** Revenue performance, supported by the implementation of the Revenue Mobilization Strategy (RMS), saw tax revenues rise by 0.5 percent of GDP to 14.6 percent of GDP in 2015 from 13.7 in 2014. However, the expenditure mix worsened in 2015 as pressure to raise public wages led to a 0.9 percent of GDP increase in the wage bill, while capital spending was compressed by 0.7 percent of GDP. As a result, the 2015 fiscal deficit widened slightly from 1.3 percent of GDP in 2014 to 1.6 percent of GDP in 2015 (but remained well below the budget target). The level of government deposits (as a share of GDP) rose to 9.1 percent of GDP by end-2015. The fiscal deficit is projected to widen to 2.6 percent of GDP (but remain below the budget target) in 2016 as rising current expenditure (the wage bill by 0.2 percent of GDP and non-wage current expenditures by 1 percent of GDP) more than offsets gains from revenue mobilization. Government deposits are projected to stay at around 9.3 percent of GDP in 2016, which are assessed to be adequate. Over the medium-term, fiscal pressures are expected to emerge due to wage pressures even though strong revenue performance is projected to continue as the tax administration measures contained in the RMS generate revenue gains. Medium-term fiscal policy should be anchored to safeguarding government deposits and long-term fiscal debt sustainability, while striking a balance between providing resources for Cambodia's vast development needs and rising wage and social spending pressures.

- **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., saving, not borrowing).

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. **Standard stress tests do not indicate any major vulnerability, but highlight that large exchange rate or export shocks could potentially have a major impact on external debt dynamics.** A decline in export growth remains an important risk to debt sustainability. As shown in Figure 1, this shock would bring the PV of debt-to-GDP to 39 percent in 2018 (just below the indicative threshold of 40 percent), declining to 18 percent in the long-term. Similarly, a large one-off depreciation would bring the PV of debt-to-GDP to about 35 percent in 2018, and subsequently declining to 21 percent in the long-term. 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. Public debt is vulnerable to a large exchange rate depreciation shock and to weak revenue growth. Under a one-off real depreciation shock, the PV of public debt-to-GDP would reach 33 percent in 2018, and then decline over time. If the primary balance remains unchanged at the 2015 level, the PV of public debt-to-GDP would increase to about 27 percent by 2020, with debt projected to continue modestly rising over the long-term. This implies that efforts to mobilize revenues to guarantee long-term debt sustainability should continue. Public debt is projected to decline over the medium-term in the baseline and extreme shock scenario, and do not present any major vulnerability at present.

10. Public debt sustainability is at risk from a rise in contingent liabilities related to PPPs and potential financial stress.[1] PPP investments in power generation and distribution projects are large, and in case of adverse scenarios, associated fiscal risks could arise and potentially add substantial liabilities to the debt stock. Other potential contingent liabilities include the fiscal costs to support the financial sector during a banking crisis.

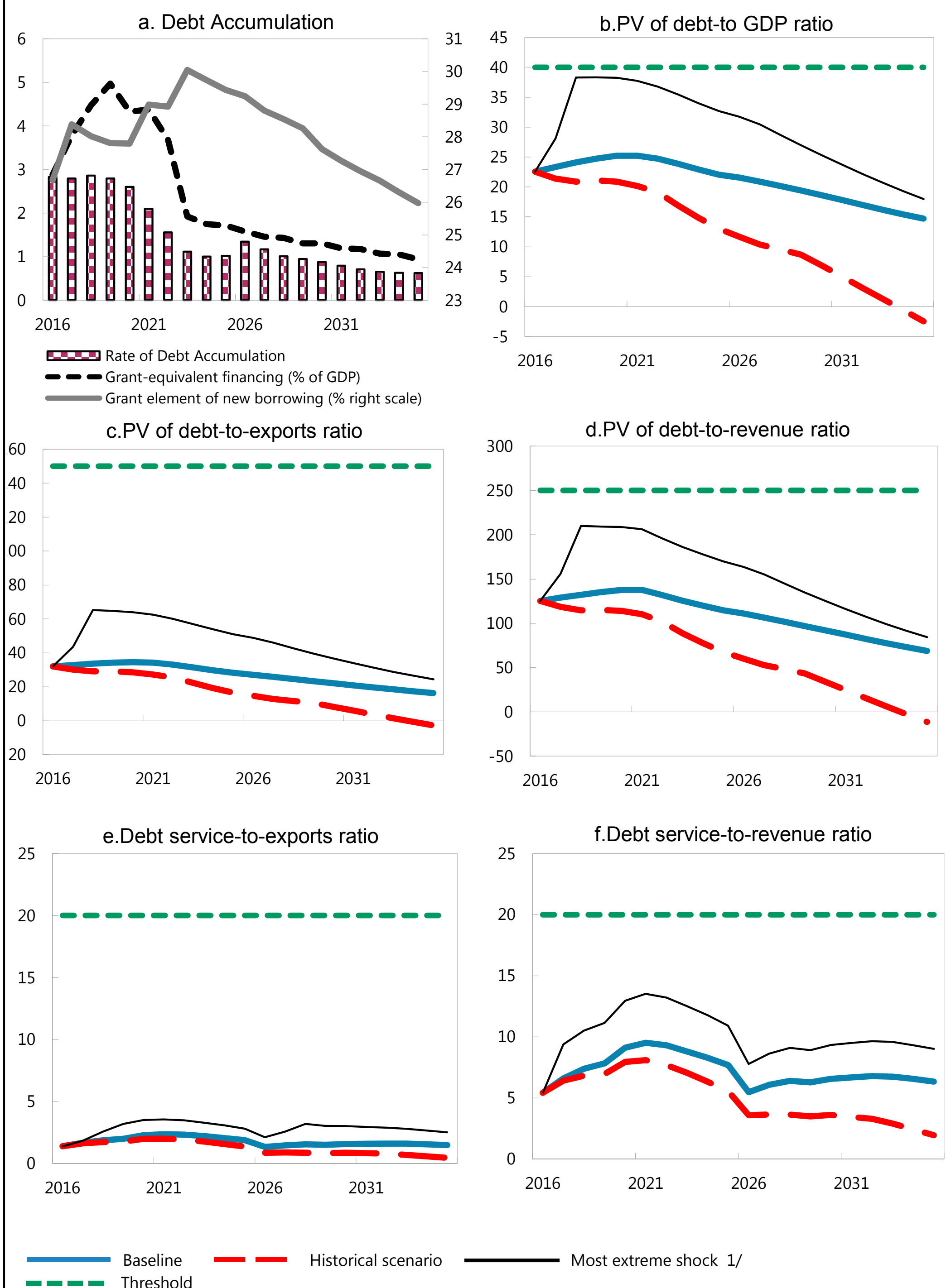
11. The authorities broadly agree with the findings from the DSA exercise. The debt management unit at the Ministry of Economy and Finance (MEF) conducts its own internal DSA analysis, and has reached the same conclusion of low risk of debt distress. They use the results of these analyses to propose annual ceilings of new net debt disbursements. The authorities assume a similar loan disbursement profile and current account deficits, but are slightly more optimistic than staff on the medium-term real GDP growth assumption. The MEF expressed concern about the accumulation of contingent liabilities from PPPs and have imposed annual ceilings on PPP guarantees.

CONCLUSION

12. Cambodia remains at low risk of debt distress. 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 external arrears. The most extreme stress tests indicate that Cambodia's debt sustainability remains vulnerable to shocks in the exchange rate, economic growth, exports, and the fiscal position. This reinforces the importance of preserving macroeconomic stability and diversifying the economy and exports to increase resilience to external shocks, and the successful implementation of the revenue mobilization strategy.

[1] The authorities have requested IMF technical assistance on PPPs using the Fiscal Risk Assessment Model (P-FRAM), which will (i) evaluate the PPP management framework; (ii) provide capacity building in assessing fiscal risks and contingent liabilities arising from PPPs; and (iii) identify mitigating measures among other priorities currently under discussion. There is also an on-going technical assistance by development partners, with the ADB supporting Cambodia in establishing a legal and institutional framework for development of PPPs and the World Bank providing technical assistance to determine the size of contingent liabilities related to PPPs.

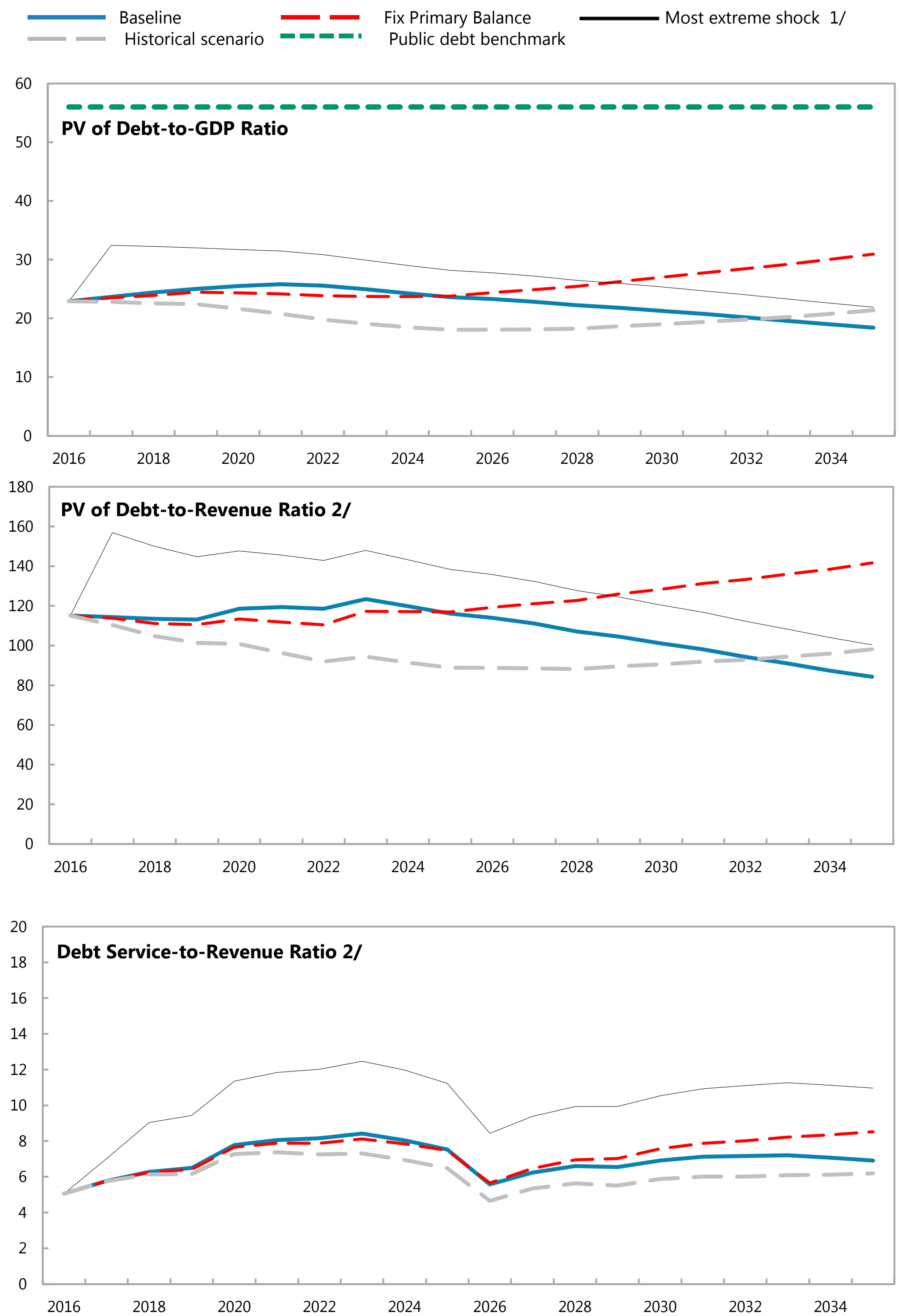
Figure 1. Cambodia: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2016-2035 1/



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 2026. 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. EY36Cambodia: Indicators of Public Debt Under Alternative Scenarios, 2016-2035 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 2026.
2/ Revenues are defined inclusive of grants.

Table 1a .Cambodia: External Debt Sustainability Framework, Baseline Scenario, 2013-2035 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/ Average	Standard 6/ Deviation	Projections									
	2013	2014	2015			2016	2017	2018	2019	2020	2021	2016-2021 Average	2026	2035	2022-2035 Average
External debt (nominal) 1/	**31.6**	**31.8**	**32.1**			**32.1**	**32.3**	**32.7**	**33.4**	**33.9**	**34.0**		**26.8**	**17.6**	
Of which: public and publicly guaranteed (PPG)	31.6	31.8	32.1			32.1	32.3	32.7	33.4	33.9	34.0		26.8	17.6	
Change in external debt	0.0	0.3	0.3			-0.1	0.2	0.4	0.7	0.6	0.0		-1.1	-0.8	
Identified net debt-creating flows	-2.1	-0.8	-0.4			-1.0	-1.8	-2.2	-2.8	-2.4	-2.2		-1.5	0.0	
Non-interest current account deficit	**12.0**	**11.8**	**10.3**	**7.6**	**4.1**	**10.4**	**9.5**	**8.9**	**7.7**	**7.9**	**8.0**		**9.0**	**10.5**	9.4
Deficit in balance of goods and services	9.7	10.6	9.8			9.0	9.7	10.4	10.9	10.9	10.7		8.6	8.4	
Exports	65.8	67.0	70.0			70.3	71.1	71.8	72.3	73.1	73.9		79.5	90.2	
Imports	75.5	77.6	79.7			79.3	80.8	82.2	83.3	84.0	84.6		88.1	98.7	
Net current transfers (negative = inflow)	-2.5	-3.5	-4.8	-6.4	3.1	-4.6	-5.4	-6.1	-6.7	-6.2	-5.7		-3.7	-2.3	-3.2
Of which: official	-1.9	-1.8	-1.7			-1.8	-2.6	-3.2	-3.7	-3.1	-2.6		-0.6	-0.3	
Other current account flows (negative = net inflow)	4.8	4.7	5.3			5.9	5.2	4.6	3.5	3.2	3.0		4.1	4.3	
Net FDI (negative = inflow)	**-12.0**	**-10.0**	**-9.2**	**-9.1**	**2.5**	**-9.1**	**-9.1**	**-9.1**	**-8.9**	**-8.9**	**-8.9**		**-9.1**	**-9.1**	-9.1
Endogenous debt dynamics 2/	**-2.1**	**-2.5**	**-1.4**			**-2.3**	**-2.1**	**-2.0**	**-1.6**	**-1.4**	**-1.4**		**-1.4**	**-1.3**	
Contribution from nominal interest rate	0.3	0.4	0.4			-0.2	-0.1	0.0	0.5	0.6	0.6		0.2	0.4	
Contribution from real GDP growth	-2.2	-2.0	-2.1			-2.1	-2.1	-2.0	-2.0	-2.0	-2.0		-1.7	-1.1	
Contribution from price and exchange rate changes	-0.3	-0.9	0.3			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**2.1**	**1.0**	**0.7**			**1.0**	**2.0**	**2.6**	**3.4**	**2.9**	**2.2**		**0.4**	**-1.4**	
Of which: Exceptional financing	-0.1	-0.1	-0.1			-0.1	-0.1	-0.1	-0.1	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	21.7			22.5	23.3	24.1	24.8	25.2	25.2	24.2	21.6	14.7	
In percent of exports	...	...	31.0			32.1	32.8	33.6	34.2	34.5	34.2	33.6	27.1	16.3	
PV of PPG external debt	**...**	**...**	**21.7**			**22.5**	**23.3**	**24.1**	**24.8**	**25.2**	**25.2**	24.2	**21.6**	**14.7**	
In percent of exports	**...**	**...**	**31.0**			**32.1**	**32.8**	**33.6**	**34.2**	**34.5**	**34.2**	33.6	**27.1**	**16.3**	
In percent of government revenues	**...**	**...**	**126.9**			**125.3**	**129.3**	**132.3**	**135.2**	**137.7**	**137.8**	132.9	**111.0**	**68.9**	
Debt service-to-exports ratio (in percent)	**1.1**	**1.3**	**1.4**			**1.4**	**1.7**	**1.9**	**2.0**	**2.3**	**2.4**	1.9	**1.3**	**1.5**	
PPG debt service-to-exports ratio (in percent)	**1.1**	**1.3**	**1.4**			**1.4**	**1.7**	**1.9**	**2.0**	**2.3**	**2.4**	1.9	**1.3**	**1.5**	
PPG debt service-to-revenue ratio (in percent)	**4.9**	**5.0**	**5.7**			**5.4**	**6.6**	**7.4**	**7.8**	**9.1**	**9.5**	7.6	**5.5**	**6.3**	
Total gross financing need (Billions of U.S. dollars)	0.1	0.4	0.4			0.4	0.3	0.3	0.1	0.2	0.3		0.4	2.6	
Non-interest current account deficit that stabilizes debt ratio	12.0	11.5	10.0			10.4	9.3	8.5	7.1	7.3	8.0		10.1	11.3	
Key macroeconomic assumptions															
Real GDP growth (in percent)	7.4	7.1	7.0	7.0	2.9	7.0	6.9	6.8	6.8	6.5	6.3	6.7	6.4	6.8	6.6
GDP deflator in U.S. dollar terms (change in percent)	0.9	2.8	-0.9	3.8	4.0	1.8	1.1	1.7	1.9	1.9	1.9	1.7	2.1	2.2	2.1
Effective interest rate (percent) 5/	1.1	1.2	1.2	1.0	0.2	-0.6	-0.3	0.1	1.6	1.9	1.9	0.8	0.8	2.2	1.4
Growth of exports of G&S (U.S. dollar terms, in percent)	13.6	12.2	10.7	12.7	13.6	9.3	9.4	9.6	9.6	9.7	9.4	9.5	10.3	10.7	10.4
Growth of imports of G&S (U.S. dollar terms, in percent)	13.5	13.2	9.0	12.6	11.1	8.2	10.2	10.5	10.2	9.5	9.0	9.6	10.1	10.6	10.0
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	26.7	28.4	28.0	27.8	27.8	29.0	27.9	29.2	26.0	28.0
Government revenues (excluding grants, in percent of GDP)	15.1	17.1	17.1			18.0	18.0	18.2	18.3	18.3	18.3		19.4	21.3	20.1
Aid flows (in Billions of US dollars) 7/	1.0	1.0	0.8			0.5	0.8	1.0	1.2	1.1	1.2		0.7	0.7	
Of which: Grants	0.6	0.5	0.3			0.4	0.6	0.7	0.9	0.8	1.0		0.4	0.5	
Of which: Concessional loans	0.4	0.5	0.5			0.2	0.2	0.2	0.2	0.3	0.3		0.2	0.2	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			2.9	3.8	4.5	5.0	4.3	4.4		1.6	0.9	1.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			51.4	56.6	59.3	62.1	58.6	62.3		53.5	42.8	50.3
Memorandum items:															
Nominal GDP (Billions of US dollars)	15.2	16.8	17.8			19.4	20.9	22.7	24.7	26.8	29.1		43.7	94.4	
Nominal dollar GDP growth	8.4	10.1	6.0			8.9	8.1	8.6	8.7	8.5	8.3	8.5	8.6	9.2	8.8
PV of PPG external debt (in Billions of US dollars)			3.8			4.3	4.9	5.5	6.1	6.7	7.3		9.4	13.8	
(PVt-PVt-1)/GDPt-1 (in percent)						2.8	2.8	2.9	2.8	2.6	2.1	2.7	1.3	0.6	0.9
Gross workers' remittances (Billions of US dollars)	0.1	0.3	0.5			0.5	0.6	0.7	0.7	0.8	0.9		1.4	1.9	
PV of PPG external debt (in percent of GDP + remittances)	...	...	21.0			21.9	22.7	23.4	24.0	24.5	24.5		20.9	14.4	
PV of PPG external debt (in percent of exports + remittances)	...	...	29.7			30.8	31.6	32.3	32.9	33.1	32.8		26.1	15.9	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.3			1.3	1.6	1.8	1.9	2.2	2.3		1.3	1.5	

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 changes.

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

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

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

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

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

Table 1b. Cambodia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016-2035

(In percent)

	Projections							
	2016	2017	2018	2019	2020	2021	**2026**	2035
PV of debt-to GDP ratio								
Baseline	23	23	24	25	25	25	**22**	15
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	23	21	21	21	21	20	**12**	-2.4
A2. New public sector loans on less favorable terms in 2016-2036 2/	23	24	26	28	29	30	**28**	22
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	23	24	25	26	26	26	**23**	15
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	23	28	38	38	38	38	**32**	18
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	23	23	25	25	26	26	**22**	15
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	23	26	31	31	32	31	**26**	16
B5. Combination of B1-B4 using one-half standard deviation shocks	23	26	33	33	33	33	**28**	17
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	23	33	34	35	36	36	**30**	21
PV of debt-to-exports ratio								
Baseline	32	33	34	34	34	34	**27**	16
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	32	30	29	29	29	27	**15**	-3
A2. New public sector loans on less favorable terms in 2016-2036 2/	32	34	36	38	40	40	**35**	25
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	32	33	33	34	34	34	**27**	16
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	32	44	65	65	64	62	**49**	24
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	32	33	33	34	34	34	**27**	16
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	32	37	43	43	43	42	**33**	18
B5. Combination of B1-B4 using one-half standard deviation shocks	32	38	48	48	48	47	**37**	20
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	32	33	33	34	34	34	**27**	16
PV of debt-to-revenue ratio								
Baseline	125	129	132	135	138	138	**111**	69
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	125	119	115	115	114	110	**60**	-11
A2. New public sector loans on less favorable terms in 2016-2036 2/	125	134	142	150	158	162	**144**	105
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	125	132	139	142	144	144	**116**	72
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	125	156	210	209	209	206	**163**	84
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	125	130	136	139	141	141	**114**	71
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	125	147	170	171	172	171	**136**	76
B5. Combination of B1-B4 using one-half standard deviation shocks	125	146	180	181	181	180	**143**	79
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	125	183	187	191	195	195	**157**	97

Table 1c. Cambodia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016-2035 (continued)

(In percent)

Debt service-to-exports ratio

Baseline	1	2	2	2	2	2	**1**	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	1	2	2	2	2	2	**1**	0
A2. New public sector loans on less favorable terms in 2016-2036 2/	1	2	2	2	2	3	**2**	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	1	2	2	2	2	2	**1**	1
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	1	2	3	3	4	4	**2**	3
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	1	2	2	2	2	2	**1**	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	1	2	2	2	3	3	**2**	2
B5. Combination of B1-B4 using one-half standard deviation shocks	1	2	2	3	3	3	**2**	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	1	2	2	2	2	2	**1**	1

Debt service-to-revenue ratio

Baseline	5	7	7	8	9	10	**5**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	5	6	7	7	8	8	**4**	2
A2. New public sector loans on less favorable terms in 2016-2036 2/	5	7	7	8	10	10	**8**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	5	7	8	8	10	10	**6**	7
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	5	7	8	10	11	12	**7**	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	5	7	8	8	9	10	**6**	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	5	7	8	9	10	11	**6**	7
B5. Combination of B1-B4 using one-half standard deviation shocks	5	7	8	9	11	11	**6**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	5	9	11	11	13	14	**8**	9
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	26	26	26	26	26	26	**26**	26

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, 2013-2035

(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections						
	2013	2014	2015			2016	2017	2018	2019	2020	2021	2016-21 Average	2035
Public sector debt 1/	32.1	32.3	32.5			32.4	32.7	33.0	33.6	34.2	34.5		21.9
of which: foreign-currency denominated	31.6	31.8	32.1			32.1	32.3	32.7	33.4	33.9	34.0		18.4
Change in public sector debt	0.0	0.2	0.3			-0.1	0.2	0.3	0.6	0.5	0.3		-0.7
Identified debt-creating flows	0.0	-1.3	-0.8			-0.2	0.1	0.5	0.6	1.4	1.4		-1.4
Primary deficit	2.2	0.8	0.6	1.7	1.7	2.6	2.8	3.1	2.8	3.4	3.4	3.0	0.1
Revenue and grants	19.0	20.1	19.0			19.9	20.7	21.5	22.1	21.5	21.6		21.7
of which: grants	3.9	3.0	1.9			1.9	2.6	3.3	3.8	3.1	3.3		0.6
Primary (noninterest) expenditure	21.2	20.9	19.6			22.5	23.5	24.6	24.9	24.9	25.0		21.8
Automatic debt dynamics	-2.1	-2.1	-1.4			-2.9	-2.7	-2.6	-2.2	-2.1	-2.0		-1.4
Contribution from interest rate/growth differential	-2.8	-2.7	-2.5			-2.8	-2.8	-2.6	-2.2	-2.1	-2.0		-1.4
of which: contribution from average real interest rate	-0.6	-0.6	-0.4			-0.7	-0.7	-0.5	-0.1	0.0	0.0		0.1
of which: contribution from real GDP growth	-2.2	-2.1	-2.1			-2.1	-2.1	-2.1	-2.1	-2.1	-2.0		-1.4
Contribution from real exchange rate depreciation	0.7	0.6	1.1			-0.1	0.1	0.0	0.0	0.0	0.0		...
Other identified debt-creating flows	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
Privatization receipts (negative)	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
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
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
Residual, including asset changes	0.0	1.5	1.1			0.1	0.1	-0.2	0.0	-0.8	-1.0		0.6
Other Sustainability Indicators													
PV of public sector debt	...	...	22.1			22.9	23.6	24.4	25.0	25.5	25.8		18.4
of which: foreign-currency denominated	...	...	21.7			22.5	23.3	24.1	24.8	25.2	25.2		14.7
of which: external	...	...	21.7			22.5	23.3	24.1	24.8	25.2	25.2		14.7
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...
Gross financing need 2/	3.3	2.1	1.9			4.0	4.3	4.8	4.5	5.3	5.3		1.5
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	116.1			115.2	114.4	113.5	113.1	118.6	119.4		84.8
PV of public sector debt-to-revenue ratio (in percent)	...	...	129.2			127.3	131.1	133.9	136.6	139.0	140.9		87.2
of which: external 3/	...	...	126.9			125.3	129.3	132.3	135.2	137.7	137.8		69.7
Debt service-to-revenue and grants ratio (in percent) 4/	3.9	4.2	5.1			5.1	5.8	6.3	6.5	7.8	8.1		6.9
Debt service-to-revenue ratio (in percent) 4/	4.9	5.0	5.7			5.6	6.6	7.4	7.8	9.1	9.5		7.1
Primary deficit that stabilizes the debt-to-GDP ratio	2.2	0.6	0.3			2.7	2.6	2.8	2.1	2.9	3.0		0.8
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	7.4	7.1	7.0	7.0	2.9	7.0	6.9	6.8	6.8	6.5	6.3	6.7	6.8
Average nominal interest rate on forex debt (in percent)	1.1	1.2	1.2	1.0	0.2	-0.6	-0.3	0.1	1.6	1.9	1.9	0.8	2.2
Average real interest rate on domestic debt (in percent)	-0.6	-2.7	-1.0	-3.4	3.0	-3.9	-2.7	-2.7	-2.7	-2.7	-2.8	-2.9	1.5
Real exchange rate depreciation (in percent, + indicates depreciation)	2.4	2.1	3.9	-1.3	4.0	-0.2	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	0.8	3.1	1.3	3.9	3.4	4.4	3.1	3.0	3.1	3.1	3.1	3.3	3.4
Growth of real primary spending (deflated by GDP deflator, in percent)	7.4	5.7	0.2	1.4	2.7	22.9	11.6	12.0	7.9	6.6	6.7	11.3	6.9
Grant element of new external borrowing (in percent)	...	...	...	...	...	26.7	28.4	28.0	27.8	27.8	29.0	27.9	26.0

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 2016-2035

							Projections									
	2016	2017	2018	2019	2020	2021	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
PV of Debt-to-GDP Ratio																
Baseline	23	24	24	25	25	26	23	23	22	22	21	21	20	20	19	18
A. Alternative scenarios																
A1. Real GDP growth and primary balance are at historical averages	23	23	23	22	22	21	18	18	18	19	19	19	20	20	21	21
A2. Primary balance is unchanged from 2016	23	24	24	24	24	24	24	25	25	26	27	28	28	29	30	31
A3. Permanently lower GDP growth 1/	23	24	25	26	27	28	29	29	30	30	31	31	32	33	33	34
B. Bound tests																
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	23	25	27	28	29	30	30	30	30	30	30	30	30	30	29	29
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	23	24	25	26	26	26	24	23	23	22	22	21	20	20	19	19
B3. Combination of B1-B2 using one half standard deviation shocks	23	24	24	25	26	27	26	26	25	25	25	24	24	24	23	23
B4. One-time 30 percent real depreciation in 2017	23	32	32	32	32	31	28	27	26	26	25	25	24	23	23	22
B5. 10 percent of GDP increase in other debt-creating flows in 2017	23	31	31	32	32	32	28	28	27	26	25	24	24	23	22	21
PV of Debt-to-Revenue Ratio 2/																
Baseline	115	114	114	113	119	119	114	111	107	105	101	98	94	91	87	84
A. Alternative scenarios																
A1. Real GDP growth and primary balance are at historical averages	115	110	105	101	101	96	89	88	88	90	91	92	93	94	96	98
A2. Primary balance is unchanged from 2016	115	114	111	111	113	112	119	121	123	126	128	131	133	136	139	142
A3. Permanently lower GDP growth 1/	115	115	116	117	125	128	140	142	142	145	146	148	149	152	153	156
B. Bound tests																
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	115	119	123	126	135	138	148	148	146	145	143	142	139	137	135	133
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	115	116	116	116	121	122	116	113	109	106	103	100	96	92	89	85
B3. Combination of B1-B2 using one half standard deviation shocks	115	115	113	114	121	123	126	124	121	120	118	116	113	110	107	105
B4. One-time 30 percent real depreciation in 2017	115	157	150	145	148	146	136	132	128	124	120	117	112	108	104	100
B5. 10 percent of GDP increase in other debt-creating flows in 2017	115	149	146	143	148	148	138	134	129	125	120	116	111	106	102	98
Debt Service-to-Revenue Ratio 2/																
Baseline	5	6	6	6	8	8	6	6	7	7	7	7	7	7	7	7
A. Alternative scenarios																
A1. Real GDP growth and primary balance are at historical averages	5	6	6	6	7	7	5	5	6	6	6	6	6	6	6	6
A2. Primary balance is unchanged from 2016	5	6	6	6	8	8	6	6	7	7	8	8	8	8	8	9
A3. Permanently lower GDP growth 1/	5	6	6	7	8	8	6	7	8	8	9	9	9	10	10	10
B. Bound tests																
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	5	6	7	7	8	9	7	7	8	8	9	9	9	9	9	9
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	5	6	6	7	8	8	6	6	7	7	7	7	7	7	7	7
B3. Combination of B1-B2 using one half standard deviation shocks	5	6	6	7	8	8	6	7	7	7	7	8	8	8	8	8
B4. One-time 30 percent real depreciation in 2017	5	7	9	9	11	12	8	9	10	10	11	11	11	11	11	11
B5. 10 percent of GDP increase in other debt-creating flows in 2017	5	6	7	8	9	9	6	7	9	8	9	9	9	9	8	8

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.