INTERNATIONAL MONETARY FUND

CAMBODIA

STAFF REPORT FOR THE 2013 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS[1]

January 9, 2014

Approved By
John Nelmes and Masato Miyazaki (IMF)
Jeffrey D. Lewis and Sudhir Shetty (IDA)

Prepared By
International Monetary Fund
International Development Association

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, and fiscal shocks, calling for continued structural reforms to diversify growth, and to mobilize fiscal revenues.

1. **This DSA incorporates some updates compared to the 2012 DSA.** The discount rate is revised upward to 5 percent from 3 percent, reflecting the recent IMF Board decision to link the discount rate to the 10-year average level of the U.S. dollar Commercial Interest Reference Rate. The macroeconomic assumptions underlying the baseline scenario remain broadly similar to last year's DSA except that Cambodia is now assumed to issue domestic debt (e.g., government bonds) over the long term. The debt-to-GDP ratio at end-2012 was slightly higher than the previous estimate due to larger disbursement of bilateral debts. Cambodia's Country Policy and Institutional Assessment (CPIA) rating remained unchanged at "medium performer."[2]

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

[2] Cambodia's policies and institutions, as measured by the World Bank's Country Policy and Institutional Assessment, continue to be classified as "medium performer." The relevant indicative thresholds, applicable to public and publicly guaranteed external debt, for this category are 40 percent for the net present value (NPV) of debt-to-GDP ratio, 150 percent for the NPV of debt-to-exports ratio, 250 percent for the NPV of debt-to-revenue ratio, 20 percent for the debt service-to-exports ratio, and 20 percent for the debt service-to-revenue ratio.

CAMBODIA'S PUBLIC DEBT

2. **At end-2012, the stock of Cambodia's external public debt, including arrears, stood at around US$4.5 billion or 32 percent of GDP** (19 percent in NPV terms). The debt-to-GDP ratio has increased from 27 percent in 2008, partly reflecting greater external fiscal financing during the economic slowdown in 2009 and larger disbursement of bilateral loans during 2011–12.

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 63 percent in 2012. China remains the largest bilateral creditor, contributing to more than 50 percent of the total bilateral debt stock and about 80 percent of bilateral debt disbursement during the past three years. Cambodia remains in arrears to the Russian Federation and the U.S. (nearly 20 percent of total debt or 6 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 (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 progress in monitoring their potential contingent liabilities and strengthening debt management.** Consistent with the Debt Management Strategy adopted in 2012, progress has been made in monitoring potential contingent liabilities, including those related to power generation and distribution projects under public private partnerships (PPP) that receive government guarantees. With the support of World Bank technical assistance, the authorities have collected the contractual agreements of most projects. The latest estimates show that the total investment of all projects amounted to around $3.2 billion (about 25 percent of GDP in 2012), lower than the previous estimate of about 50 percent of GDP in 2011. The work on estimating the amount of the payment obligations and the size of contingent liability has commenced recently. The authorities have also established two departments within the Ministry of Economy and Finance: (1) an investment department to review and select any new PPP projects as well as monitor their implementation, and (2) a debt management department to manage the risks, including those related to contingent liabilities associated with these projects. These two departments would serve as a central monitoring unit to evaluate and approve new PPP projects, enhance fiscal transparency, and strengthen information sharing between agencies. The authorities have also been drafting new laws and regulations on lending and nonlending as well as government guarantees with a view of adopting a ceiling on government guarantees and listing all contingent liabilities and government guarantees in annual budget laws.

MACROECONOMIC FRAMEWORK

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

- **Growth and inflation:** Growth has been robust driven by robust garment exports, tourism, and construction despite policy uncertainty in an election year and recent floods. GDP growth is expected at 7 percent in 2013 and is projected to gradually increase to 7½ percent by 2018 assuming continued improvement in infrastructure, competitiveness and investment climate[3]. Over the long term, growth is projected to moderate to 7 percent. Inflation would stay at 3–4 percent during 2013–14 due to stable global food 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.

Cambodia: Macroeconomic Framework, 2011–33

	2011	2012	2013	2014	2015	2016	2017	2018	2014-18	2019-23	2024-33
		Est.	Proj.								
Output and prices (percent change)											
GDP growth	7.1	7.3	7.0	7.2	7.3	7.3	7.5	7.5	7.4	7.3	7.0
Consumer prices (end-year)	4.9	2.5	4.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Public finance (GFSM 2001 presentation, in percent of GDP)											
Revenue	15.6	16.9	17.1	17.4	18.0	18.2	18.6	18.9	18.2	18.9	19.7
Domestic revenue	12.3	14.1	13.9	14.5	15.0	15.5	16.0	16.5	15.5	17.5	19.1
Grants	3.2	2.8	3.2	2.9	2.9	2.7	2.6	2.4	2.7	1.4	0.7
Total expenditure	19.6	20.7	20.1	20.2	19.7	19.3	19.4	19.3	19.6	20.2	21.8
Net lending (+)/borrowing(-)	-4.1	-3.8	-3.0	-2.8	-1.7	-1.1	-0.8	-0.4	-1.4	-1.2	-2.1
Net lending (+)/borrowing(-) excluding grants	-7.3	-6.6	-6.1	-5.7	-4.7	-3.9	-3.4	-2.8	-4.1	-2.6	-2.8
Government deposits	4.6	4.9	4.7	4.7	4.8	4.9	5.2	5.5	5.0	5.5	6.1
Balance of payments (in percent of GDP, unless otherwise indicated)											
Current account balance (including transfers)	-8.1	-8.7	-8.6	-8.4	-7.4	-6.6	-6.1	-5.5	-6.8	-6.0	-5.7
Foreign direct investment	11.5	11.3	10.4	8.6	8.1	7.9	7.9	7.4	8.0	7.1	7.2
External loans	4.2	4.9	3.9	3.3	2.5	2.2	2.0	1.8	2.4	2.0	1.7
Gross official reserves (in months of next year's imports)	3.6	3.6	3.6	3.7	3.7	3.8	3.9	3.9	3.8	3.9	3.4

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

- **External stability:** Despite robust exports and tourism, the current account deficit including official transfers is expected to stay broadly flat at around 8½ percent of GDP in 2013 due to strong but moderating imports, and it remains fully financed by FDI and official loans. Over the medium term, the deficit is projected to decline to 5½ percent of GDP due to robust export growth, improved competitiveness and diversification, and lower imports after the completion of large power generation projects. Gross official reserves are projected to remain at around 3½ months of prospective imports. External debt disbursement is projected to average about US$500 million annually during 2013–18 (about 2½ percent of GDP on average), and with this, the debt to GDP ratio is projected to gradually decline to 29 percent by 2018.

- **Fiscal sustainability:** Revenue performance has continued to improve and fiscal consolidation remains broadly on track, although government deposits, the only fiscal buffers in the absence of a domestic government debt market, remain limited. Domestic revenue is projected to increase by ½ percent of GDP annually over the medium term in line with the authorities' goal under the Public Financial Management Reform Program. The authorities' strong commitment to implement the Revenue Mobilization Strategy suggests that this goal is achievable. Medium-term fiscal consolidation is anchored by a rebuilding of government deposits and maintenance of long-term

[3] See Rungcharoenkitkul (2011), IMF Working Paper 12/96.

fiscal debt sustainability, while striking a careful balance to provide resources for Cambodia's vast development needs against an expected gradual decline of concessional external funds. In view of this, domestically-funded capital spending is projected to increase from 1¾ percent GDP in 2013 to 3 percent in 2018 to cushion the decline in externally-funded capital spending from 6½ to 4 percent of GDP, thereby ensuring that the overall capital spending is maintained at least at 7 percent of GDP. With continued efforts to increase efficiency of public investment program and by keeping the current spending broadly constant in terms of GDP, the fiscal deficit, excluding grants, is projected to decline gradually from about 6 percent of GDP in 2013 to 2¾ percent in 2018.

- **Domestic debt:** Different from the last year's DSA, Cambodia's domestic debt is no longer assumed to remain zero over the long term. As Cambodia continues to develop, it would start issuing domestic government bonds to develop its bond market and provide additional fiscal financing if needed. By issuing net-debt (issuance minus repayment) starting from ¼ ppt of GDP annually in 2021 and gradually increasing to about ¾ ppt of GDP in 2033, the total stock of debt would reach 3½ percent of GDP by 2033. 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 in order to focus more on mobilizing domestic revenue and raising government deposits (i.e., savings, 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 are below their respective thresholds and are projected to decline over the 20-year projection period. Moreover, the debt service-to-exports and debt service-to-revenue ratios are also expected to decline over time and remain well below the thresholds throughout the projection period, partly due to the concessionality of debts. Even though the standard stress tests do not indicate any major vulnerability, the external debt, especially debt-to-revenue ratio, appears to be vulnerable to exchange rate and export shocks.

8. The public sector DSA closely tracks the external debt sustainability partly because public domestic debt is small. (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. Different from last year's DSA with a virtually zero domestic debt, the current DSA assumes that domestic debt will start to increase after 2020 and reach about 3½ percent of GDP over the long run.

9. Public debt sustainability continues to be vulnerable to a lack of fiscal consolidation and a permanent growth shock. If the primary balance remains unchanged at the 2013 level, the PV of public debt-to-GDP would continue to increase, reaching about 24 percent in the long run. Under a permanent growth shock, if real GDP growth is one standard deviation lower than the baseline, the ratios of public debt-to-GDP and revenue would also continue to increase.

10. Despite the low risk of debt distress, the stock of debt could increase substantially if the potential contingent liabilities materialize. The total 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 would be added to the debt stock. For example, if only one in ten projects fails, an average of 2½ percent of GDP (i.e., one tenth of the latest estimate of total investment cost) could be added to the debt stock. Given network externalities, one failure could trigger additional failures, further eroding debt sustainability. A more detailed analysis to estimate the size of contingent liabilities with the support of World Bank technical assistance is still ongoing. One option that is being considered is the value-at-risk approach, which estimates the maximum probable loss due to the nonpayment of power purchase or power transmission charges plus the termination sale price of a firm in case of default. Other potential contingent liabilities include the fiscal cost to support the financial sector during a banking crisis. For example, the median direct fiscal cost of banking crisis in emerging market economies is estimated at 11.5 percent of GDP.[4]

11. The authorities broadly agreed with the overall results of the DSA. The authorities indicated that the macroeconomic assumptions are broadly consistent with theirs, with medium-and long-term growth projected at around 7 percent on average. On external debt, the authorities indicated that the actual debt disbursement over the medium term could be more than US$500 million a year considering prospective new loans. However, they reiterated their commitment to maintain debt-to-GDP ratio below 30 percent over the medium term, which is also assumed by this DSA, to ensure debt sustainability over the long run. On domestic debt, the authorities confirmed that there is no plan for domestic bond issuance until 2018 but agreed that some domestic debt could be considered over the long term in order to develop the domestic bond market.

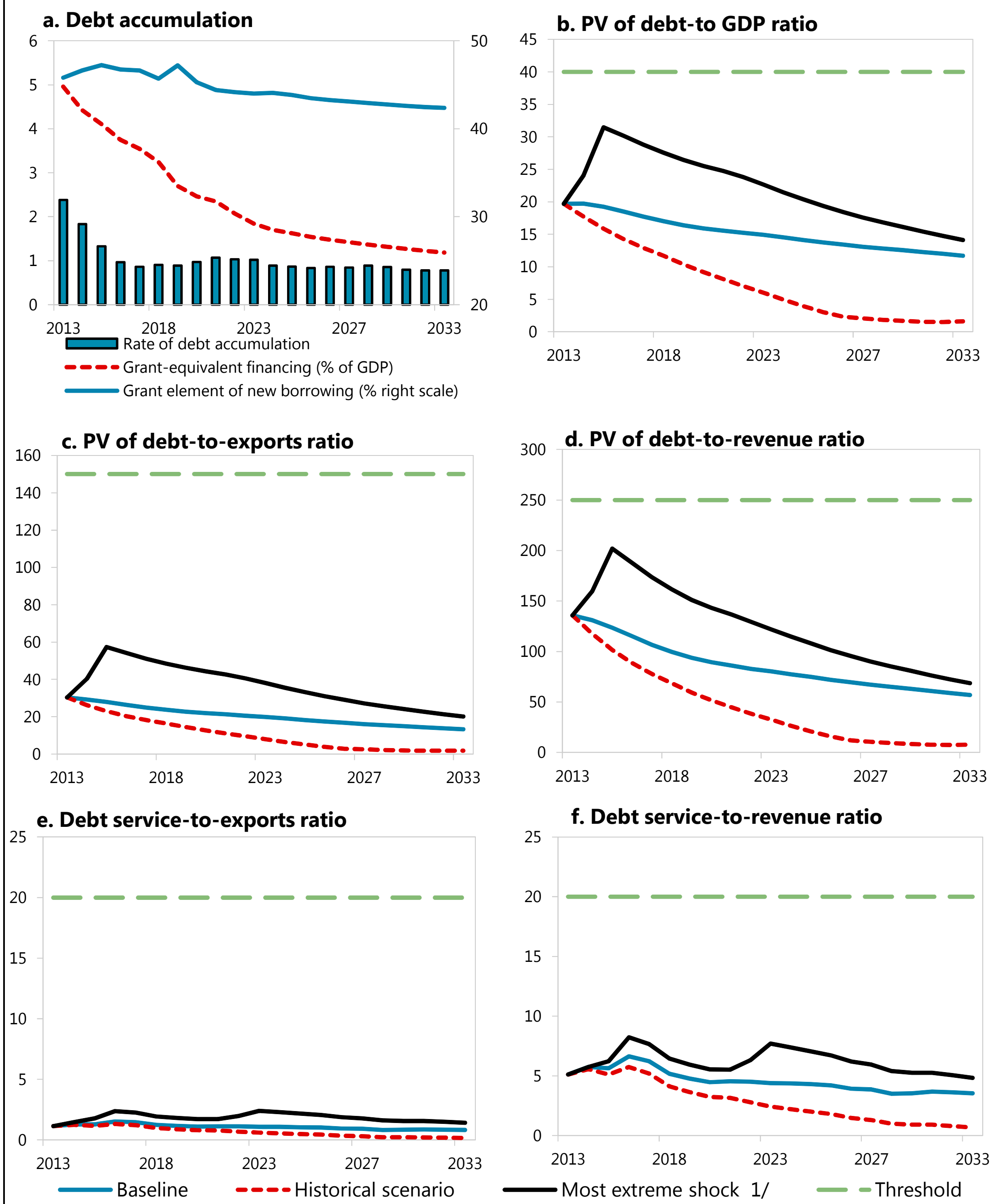
CONCLUSION

12. 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. 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, diversifying the economy and exports, and implementing revenue mobilization strategy.

13. Staff welcomes progress made in strengthening debt management. Prudent debt management, including monitoring and managing the potential contingent liabilities, is critical to safeguard the fiscal space. Staff welcomes the authorities' progress in collecting more information of infrastructure projects developed under PPPs and related government guarantees, and looks forward to the results of the exercise that was recently initiated to estimate the size of contingent liabilities. Moving forward, staff encourages the authorities to enhance fiscal transparency by adopting a ceiling on PPP guarantees, and listing all contingent liabilities and government guarantees in annual budget laws.

[4] See for example Laeven and Valencia (2010), IMF Working Paper 10/146.

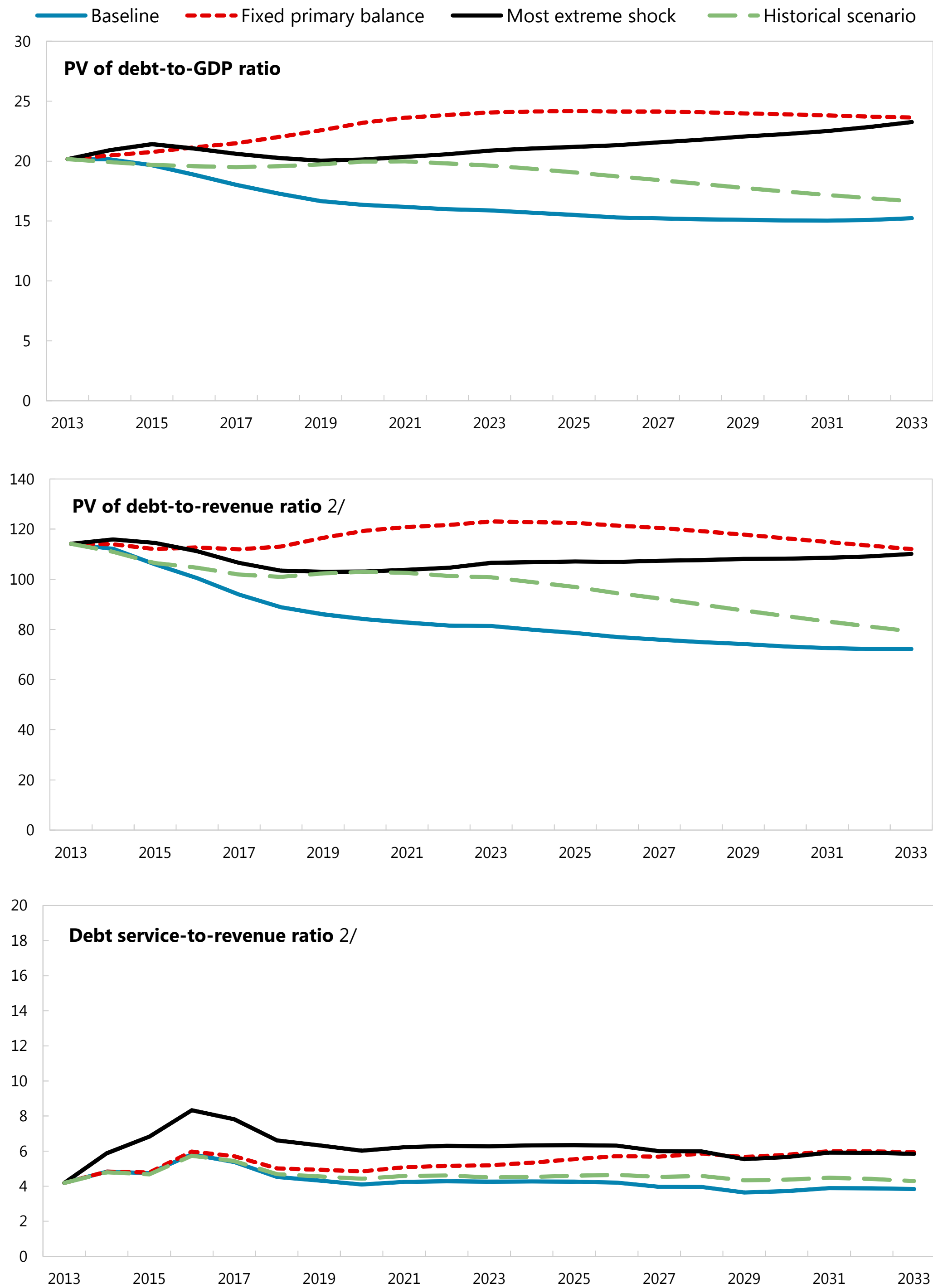
Figure 1. Cambodia: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2013–33 1/



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

1/ The most extreme stress test is the test that yields the highest ratio in 2023. In figure b. it corresponds to a one-time depreciation shock; in c. to an exports shock; in d. to a one-time depreciation shock; in e. to an exports shock and in figure f. to an exports shock.

Figure 2. Cambodia: Indicators of Public Debt Under Alternative Scenarios, 2013–33 1/



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

1/ The most extreme stress test is the test that yields the highest ratio in all figures, this corresponds to a permanent growth shock in 2023.

2/ Revenues are defined inclusive of grants.

Table 1a. Cambodia: External Debt Sustainability Framework, Baseline Scenario, 2010–33 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical	Standard	Projections									
	2010	2011	2012	Average 2/	Deviation 2/	2013	2014	2015	2016	2017	2018	2013–18 Average	2023	2033	2019–33 Average
External debt (nominal) 1/	**28.7**	**29.7**	**31.6**			**32.8**	**33.1**	**32.3**	**31.4**	**30.1**	**28.8**		**25.0**	**19.0**	
Of which: Public and publicly guaranteed (PPG)	28.7	29.7	31.6			32.8	33.1	32.3	31.4	30.1	28.8		25.0	19.0	
Change in external debt	0.3	1.0	1.9			1.2	0.2	-0.7	-0.9	-1.3	-1.3		-0.6	-0.5	
Identified net debt-creating flows	-5.0	-7.1	-5.2			-3.8	-2.3	-2.9	-3.4	-4.0	-3.9		-2.6	-3.3	
Noninterest current account deficit	**3.6**	**7.8**	**8.4**	**4.0**	**2.6**	**8.3**	**8.0**	**7.0**	**6.1**	**5.7**	**5.3**	**6.7**	**5.9**	**4.9**	5.6
Deficit in balance of goods and services	7.9	8.9	8.9			9.0	8.6	7.4	6.7	6.4	6.3		6.0	4.4	
Exports	49.3	57.7	61.8			64.8	67.5	69.0	70.1	71.0	71.6		75.0	88.5	
Imports	57.2	66.6	70.6			73.8	76.1	76.4	76.8	77.4	77.8		81.0	92.8	
Net current transfers (negative = inflow)	-8.6	-6.3	-5.4	-8.6	1.7	-5.1	-4.8	-4.6	-4.4	-4.1	-4.0	-4.5	-2.7	-2.3	-2.7
Of which: Official	-6.8	-3.8	-3.4			-3.1	-2.8	-2.6	-2.4	-2.1	-2.0		-0.7	-0.3	
Other current account flows (negative = net inflow)	4.4	5.1	4.9			4.3	4.2	4.2	3.7	3.4	3.0		2.6	2.8	
Net FDI (negative = inflow)	**-6.8**	**-11.5**	**-11.3**	**-6.9**	**3.4**	**-10.4**	**-8.6**	**-8.1**	**-7.9**	**-7.9**	**-7.4**	**-8.4**	**-7.1**	**-7.2**	-7.1
Endogenous debt dynamics 3/	**-1.8**	**-3.4**	**-2.3**			**-1.6**	**-1.7**	**-1.8**	**-1.6**	**-1.8**	**-1.8**		**-1.4**	**-1.0**	
Contribution from nominal interest rate	0.3	0.3	0.3			0.4	0.5	0.4	0.6	0.4	0.2		0.3	0.2	
Contribution from real GDP growth	-1.6	-1.8	-2.0			-2.0	-2.2	-2.2	-2.2	-2.2	-2.1		-1.7	-1.2	
Contribution from price and exchange rate changes	-0.5	-1.9	-0.6			...	...	...	...	...	...		...	...	
Residual (3-4) 4/	**5.3**	**8.1**	**7.0**			**5.0**	**2.6**	**2.2**	**2.5**	**2.7**	**2.6**		**2.0**	**2.9**	
Of which: Exceptional financing	-0.2	-0.1	-0.1			-0.1	-0.1	-0.1	-0.1	-0.1	0.0		0.0	0.0	
PV of external debt 5/	...	...	19.0			19.7	19.7	19.3	18.5	17.7	17.0		14.9	11.7	
In percent of exports	...	...	30.8			30.4	29.2	27.9	26.4	24.9	23.8		19.9	13.2	
PV of PPG external debt	**...**	**...**	**19.0**			**19.7**	**19.7**	**19.3**	**18.5**	**17.7**	**17.0**		**14.9**	**11.7**	
In percent of exports	**...**	**...**	**30.8**			**30.4**	**29.2**	**27.9**	**26.4**	**24.9**	**23.8**		**19.9**	**13.2**	
In percent of government revenues	**...**	**...**	**125.4**			**135.9**	**130.9**	**123.5**	**115.3**	**106.7**	**99.7**		**80.3**	**57.0**	
Debt service-to-exports ratio (in percent)	**1.4**	**1.2**	**1.0**			**1.1**	**1.3**	**1.3**	**1.5**	**1.5**	**1.2**		**1.1**	**0.8**	
PPG debt service-to-exports ratio (in percent)	**1.4**	**1.2**	**1.0**			**1.1**	**1.3**	**1.3**	**1.5**	**1.5**	**1.2**		**1.1**	**0.8**	
PPG debt service-to-revenue ratio (in percent)	**5.2**	**5.2**	**4.2**			**5.1**	**5.7**	**5.6**	**6.6**	**6.2**	**5.2**		**4.4**	**3.5**	
Total gross financing need (billions of U.S. dollars)	-0.3	-0.4	-0.3			-0.2	0.0	0.0	-0.2	-0.2	-0.3		-0.1	-1.4	
Noninterest current account deficit that stabilizes debt ratio	3.3	6.7	6.6			7.0	7.7	7.7	7.0	7.0	6.6		6.5	5.3	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.1	7.1	7.3	8.0	3.6	7.0	7.2	7.3	7.3	7.5	7.5	7.3	7.1	7.0	7.1
GDP deflator in U.S. dollar terms (change in percent)	1.9	7.0	2.1	4.4	3.7	2.8	1.6	1.8	1.8	1.7	1.8	1.9	1.7	1.8	1.7
Effective interest rate (percent) 6/	1.1	1.2	1.1	1.1	0.1	1.3	1.6	1.4	1.9	1.3	0.9	1.4	1.2	1.3	1.2
Growth of exports of G&S (U.S. dollar terms, in percent)	22.8	33.8	17.3	14.7	14.3	15.4	13.6	11.7	10.9	10.8	10.3	12.1	10.4	10.8	10.5
Growth of imports of G&S (U.S. dollar terms, in percent)	19.2	33.3	16.2	14.5	12.5	14.9	12.5	9.7	9.8	10.2	10.0	11.2	10.1	10.5	10.2
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	45.8	46.6	47.2	46.8	46.6	45.7	46.5	44.0	42.4	43.7
Government revenues (excluding grants, in percent of GDP)	13.1	13.1	15.2			14.5	15.1	15.6	16.1	16.6	17.1		18.6	20.6	19.1
Aid flows (in billions of U.S. dollars) 7/	0.8	0.7	0.7			0.9	0.8	0.8	0.8	0.9	0.9		0.8	1.1	
Of which: Grants	0.6	0.4	0.4			0.5	0.5	0.5	0.5	0.6	0.6		0.4	0.4	
Of which: Concessional loans	0.2	0.3	0.3			0.4	0.3	0.3	0.3	0.3	0.3		0.4	0.7	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			5.0	4.4	4.1	3.7	3.5	3.2		1.8	1.2	1.7
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			70.1	71.6	75.7	76.0	76.6	76.3		62.2	56.4	62.2
Memorandum items:															
Nominal GDP (billions of U.S. dollars)	11.3	12.9	14.1			15.5	16.9	18.5	20.2	22.1	24.2		37.3	87.5	
Nominal dollar GDP growth	8.1	14.5	9.5			10.0	9.0	9.3	9.2	9.4	9.4	9.4	8.9	8.9	9.0
PV of PPG external debt (in billions of U.S. dollars)			2.7			3.0	3.3	3.5	3.7	3.9	4.1		5.5	10.2	
(PVt-PVt-1)/GDPt-1 (in percent)						2.4	1.8	1.3	1.0	0.9	0.9	1.4	1.0	0.8	0.9
Gross workers' remittances (billions of U.S. dollars)	0.2	0.3	0.3			0.3	0.3	0.4	0.4	0.4	0.5		0.7	0.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	18.6			19.3	19.3	18.9	18.2	17.4	16.7		14.6	11.7	
PV of PPG external debt (in percent of exports + remittances)	...	...	29.8			29.5	28.4	27.1	25.7	24.3	23.1		19.4	13.2	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.0			1.1	1.2	1.2	1.5	1.4	1.2		1.1	0.8	

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

1/ Includes both public and private sector external debt.

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

3/ 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.

4/ 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.

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

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

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, 2013–33

(In percent)

		Projections						
	2013	2014	2015	2016	2017	2018	**2023**	2033
PV of debt-to GDP ratio								
Baseline	20	20	19	19	18	17	**15**	12
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013–33 1/	20	18	16	14	13	12	**6**	2
A2. New public sector loans on less favorable terms in 2013–33 /2	20	20	21	20	20	20	**19**	18
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014–15	20	20	20	19	19	18	**16**	12
B2. Export value growth at historical average minus one standard deviation in 2014–15 3/	20	24	31	30	29	28	**23**	14
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2014–15	20	20	20	19	18	17	**15**	12
B4. Net nondebt creating flows at historical average minus one standard deviation in 2014–15 4/	20	21	22	21	20	19	**17**	12
B5. Combination of B1-B4 using one-half standard deviation shocks	20	22	25	24	23	22	**18**	13
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	20	28	27	26	25	24	**21**	17
PV of debt-to-exports ratio								
Baseline	30	29	28	26	25	24	**20**	13
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013–33 1/	30	26	23	20	18	16	**8**	2
A2. New public sector loans on less favorable terms in 2013–33 /2	30	30	30	29	28	28	**26**	20
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014–15	30	29	28	26	25	24	**20**	13
B2. Export value growth at historical average minus one standard deviation in 2014–15 3/	30	40	57	54	51	48	**38**	20
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2014–15	30	29	28	26	25	24	**20**	13
B4. Net nondebt creating flows at historical average minus one standard deviation in 2014–15 4/	30	32	32	30	29	27	**22**	14
B5. Combination of B1-B4 using one-half standard deviation shocks	30	34	39	37	35	33	**27**	16
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	30	29	28	26	25	24	**20**	13
PV of debt-to-revenue ratio								
Baseline	136	131	123	115	107	100	**80**	57
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013–33 1/	136	118	102	89	78	69	**33**	8
A2. New public sector loans on less favorable terms in 2013–33 /2	136	136	132	127	121	116	**104**	87
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014–15	136	134	129	121	112	105	**84**	60
B2. Export value growth at historical average minus one standard deviation in 2014–15 3/	136	160	202	188	173	161	**122**	69
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2014–15	136	131	125	117	108	101	**82**	58
B4. Net nondebt creating flows at historical average minus one standard deviation in 2014–15 4/	136	142	142	132	122	114	**90**	59
B5. Combination of B1-B4 using one-half standard deviation shocks	136	146	159	148	137	128	**99**	62
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	136	185	174	163	151	141	**113**	80

Table 1b. Cambodia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013–33 (concluded)

(In percent)

	Projections							
	2013	2014	2015	2016	2017	2018	**2023**	2033
Debt service-to-exports ratio								
Baseline	1	1	1	2	1	1	**1**	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013–33 1/	1	1	1	1	1	1	**1**	0
A2. New public sector loans on less favorable terms in 2013–33 /2	1	1	1	2	2	1	**1**	1
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014–15	1	1	1	2	1	1	**1**	1
B2. Export value growth at historical average minus one standard deviation in 2014–15 3/	1	1	2	2	2	2	**2**	1
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2014–15	1	1	1	2	1	1	**1**	1
B4. Net nondebt creating flows at historical average minus one standard deviation in 2014–15 4/	1	1	1	2	2	1	**1**	1
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	1	2	2	2	**2**	1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	1	1	1	2	1	1	**1**	1
Debt service-to-revenue ratio								
Baseline	5	6	6	7	6	5	**4**	4
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013–33 1/	5	6	5	6	5	4	**2**	1
A2. New public sector loans on less favorable terms in 2013–33 /2	5	6	6	7	7	6	**6**	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014–15	5	6	6	7	7	5	**5**	4
B2. Export value growth at historical average minus one standard deviation in 2014–15 3/	5	6	6	8	8	6	**8**	5
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2014–15	5	6	6	7	6	5	**4**	4
B4. Net nondebt creating flows at historical average minus one standard deviation in 2014–15 4/	5	6	6	7	7	5	**5**	4
B5. Combination of B1-B4 using one-half standard deviation shocks	5	6	6	7	7	6	**6**	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	5	8	8	9	9	7	**6**	5
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	43	43	43	43	43	43	**43**	43

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

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), noninterest current account in percent of GDP, and nondebt 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, 2010–33
(In percent of GDP, unless otherwise indicated)

	Actual				Standard	Estimate	Projections								
	2010	2011	2012	Average 1/	Deviation 1/	2013	2014	2015	2016	2017	2018	2013–18 Average	2023	2033	2019–33 Average
Public sector debt 2/	29.3	30.3	32.1			33.3	33.5	32.7	31.8	30.4	29.1		25.9	22.5	
Of which: Foreign-currency denominated	28.7	29.7	31.6			32.8	33.1	32.3	31.4	30.1	28.8		25.0	19.0	
Change in public sector debt	0.2	1.0	1.8			1.2	0.2	-0.7	-1.0	-1.3	-1.4		-0.4	-0.1	
Identified debt-creating flows	-0.6	1.4	0.8			0.5	-0.2	-1.2	-1.7	-2.1	-2.3		-0.4	0.6	
Primary deficit	2.3	4.0	3.2	1.9	1.9	2.7	2.1	1.2	0.5	0.3	0.1	1.1	1.5	2.2	1.5
Revenue and grants	18.0	16.3	17.9			17.7	18.0	18.5	18.8	19.2	19.5		19.5	21.1	
Of which: Grants	4.9	3.2	2.8			3.2	2.9	2.9	2.7	2.6	2.4		1.0	0.5	
Primary (noninterest) expenditure	20.3	20.3	21.2			20.3	20.0	19.7	19.2	19.5	19.6		21.0	23.3	
Automatic debt dynamics	-2.9	-2.6	-2.4			-2.1	-2.3	-2.4	-2.2	-2.4	-2.4		-1.9	-1.6	
Contribution from interest rate/growth differential	-1.7	-2.0	-2.1			-2.2	-2.3	-2.4	-2.3	-2.4	-2.4		-1.9	-1.6	
Of which: Contribution from average real interest rate	0.0	0.0	-0.1			-0.1	-0.1	-0.1	0.0	-0.2	-0.3		-0.2	-0.1	
Of which: Contribution from real GDP growth	-1.7	-1.9	-2.1			-2.1	-2.2	-2.3	-2.2	-2.2	-2.1		-1.7	-1.5	
Contribution from real exchange rate depreciation	-1.2	-0.7	-0.3			0.1	0.0	0.0	0.1	0.1	0.0		...	...	
Other identified debt-creating flows	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g., bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	0.8	-0.4	1.0			0.6	0.5	0.5	0.8	0.7	0.9		0.0	-0.6	
Other Sustainability Indicators															
PV of public sector debt	...	...	19.5			20.2	20.1	19.6	18.9	18.0	17.3		15.9	15.2	
Of which: Foreign-currency denominated	...	...	19.0			19.7	19.7	19.3	18.5	17.7	17.0		14.9	11.7	
Of which: External	...	...	19.0			19.7	19.7	19.3	18.5	17.7	17.0		14.9	11.7	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 3/	3.5	5.2	4.4			3.8	3.3	2.4	1.9	1.6	1.2		2.5	3.0	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	108.9			114.1	112.2	106.0	100.5	93.9	88.8		81.3	72.2	
PV of public sector debt-to-revenue ratio (in percent)	...	...	128.8			139.1	133.7	126.0	117.5	108.6	101.3		85.6	74.0	
Of which: External 4/	...	...	125.4			135.9	130.9	123.5	115.3	106.7	99.7		80.3	57.0	
Debt service-to-revenue and grants ratio (in percent) 5/	3.8	4.2	3.8			4.2	4.8	4.7	5.8	5.4	4.5		4.3	3.8	
Debt service-to-revenue ratio (in percent) 5/	5.2	5.2	4.4			5.1	5.8	5.6	6.8	6.2	5.2		4.5	3.9	
Primary deficit that stabilizes the debt-to-GDP ratio	2.1	3.0	1.4			1.5	1.9	1.9	1.4	1.6	1.5		1.8	2.2	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.1	7.1	7.3	8.0	3.6	7.0	7.2	7.3	7.3	7.5	7.5	7.3	7.1	7.0	7.1
Average nominal interest rate on forex debt (in percent)	1.1	1.2	1.1	1.1	0.1	1.3	1.6	1.4	1.9	1.3	0.9	1.4	1.2	1.3	1.2
Average real interest rate on domestic debt (in percent)	-2.7	-3.1	-1.1	-4.1	2.8	-2.8	-2.8	-2.8	-2.7	-2.6	-2.5	-2.7	-0.3	0.2	-0.4
Real exchange rate depreciation (in percent, + indicates depreciation)	-4.5	-2.5	-1.0	-2.8	2.5	0.2	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	3.0	3.4	1.3	4.6	3.2	3.1	3.1	3.1	3.0	2.9	2.8	3.0	2.6	2.8	2.7
Growth of real primary spending (deflated by GDP deflator, in percent)	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	45.8	46.6	47.2	46.8	46.6	45.7	46.5	44.0	42.4	...

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

1/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
2/ The public sector debt represents general government gross debt.
3/ 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.
4/ Revenues excluding grants.
5/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

Table 2b. Cambodia: Sensitivity Analysis for Key Indicators of Public Debt, 2013–33
(In percent)

	Projections							
	2013	2014	2015	2016	2017	2018	2023	2033
PV of debt-to-GDP ratio								
Baseline	20	20	20	19	18	17	16	15
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	20	20	20	20	19	20	20	17
A2. Primary balance is unchanged from 2013	20	20	21	21	21	22	24	24
A3. Permanently lower GDP growth 1/	20	20	20	20	19	19	21	31
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014–15	20	21	21	21	21	20	21	23
B2. Primary balance is at historical average minus one standard deviations in 2014–15	20	21	22	21	20	19	17	16
B3. Combination of B1-B2 using one half standard deviation shocks	20	21	21	21	20	19	18	18
B4. One-time 30 percent real depreciation in 2014	20	28	26	25	23	22	18	15
B5. 10 percent of GDP increase in other debt-creating flows in 2014	20	26	25	24	23	22	19	17
PV of debt-to-revenue ratio 2/								
Baseline	114	112	106	101	94	89	81	72
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	114	111	106	105	102	101	101	79
A2. Primary balance is unchanged from 2013	114	114	112	113	112	113	123	112
A3. Permanently lower GDP growth 1/	114	113	108	104	100	97	106	148
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014–15	114	116	115	111	107	103	107	110
B2. Primary balance is at historical average minus one standard deviations in 2014–15	114	117	119	112	105	99	89	76
B3. Combination of B1-B2 using one half standard deviation shocks	114	115	115	110	103	99	94	87
B4. One-time 30 percent real depreciation in 2014	114	154	141	131	120	111	91	73
B5. 10 percent of GDP increase in other debt-creating flows in 2014	114	143	135	127	119	112	99	81
Debt service-to-revenue ratio 2/								
Baseline	4	5	5	6	5	5	4	4
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	4	5	5	6	5	5	5	4
A2. Primary balance is unchanged from 2013	4	5	5	6	6	5	5	6
A3. Permanently lower GDP growth 1/	4	5	5	6	6	5	5	6
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014–15	4	5	5	6	6	5	5	5
B2. Primary balance is at historical average minus one standard deviations in 2014–15	4	5	5	6	6	5	5	4
B3. Combination of B1-B2 using one half standard deviation shocks	4	5	5	6	6	5	5	5
B4. One-time 30 percent real depreciation in 2014	4	6	7	8	8	7	6	6
B5. 10 percent of GDP increase in other debt-creating flows in 2014	4	5	5	7	6	5	6	4

Sources: Cambodian 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.