

INTERNATIONAL DEVELOPMENT ASSOCIATION  
INTERNATIONAL MONETARY FUND

CAMBODIA

**Joint Bank/Fund Debt Sustainability Analysis 2009<sup>1</sup>**

Prepared by the staffs of the International Development Association and the  
International Monetary Fund

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October 26, 2009

*This document presents the joint World Bank-IMF debt sustainability analysis (DSA) for Cambodia using the Debt Sustainability Framework (DSF) for Low-Income Countries (LICs).<sup>2</sup> It shows that external debt burden indicators do not breach the relevant policy-dependent indicative thresholds under the baseline scenario. However, the debt level is sensitive to a number of standard bound tests.<sup>3</sup> There are considerable downside risks to the baseline scenario, given a continued building of external pressures in the face of weak export performance and an expansionary fiscal stance, with possible reserve losses over the medium term. An assessment of the impact of temporary but continued expansionary fiscal stance reinforces the importance of fiscal adjustment for external debt sustainability. The results show Cambodia faces a moderate risk of debt distress.*

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<sup>1</sup> This DSA was prepared jointly by the World Bank and IMF. Staffs also collaborated with the Asian Development Bank. Debt data for this exercise were provided by the Cambodian authorities and donor partners.

<sup>2</sup> See “Debt Sustainability in Low-Income Countries: Proposal for an Operational Framework and Policy Implications” (<http://siteresources.worldbank.org/INTDEBTDEPT/PublicationsAndReports/20261908/debtSust-complete%20paper.pdf>) and (<http://www.imf.org/external/np/pdr/sustain/2004/020304.htm>, 2/3/04) and “Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework, Policy Implications” (<http://siteresources.worldbank.org/INTDEBTDEPT/PolicyPapers/20279458/DSfullpapersept.pdf> and (<http://www.imf.org/external/np/pdr/sustain/2004/091004.htm>, 9/10/04), and “Applying the Debt Sustainability Framework for Low-Income Countries Post Debt Relief,” (<http://siteresources.worldbank.org/INTDEBTDEPT/PolicyPapers/21154573/DMSDR1S3149398v1DSFPaperforweb.pdf>) and ([www.imf.org/external/np/pp/eng/2006/110606.pdf](http://www.imf.org/external/np/pp/eng/2006/110606.pdf)), and “A Review of Some Aspects of the Low-Income Country Debt Sustainability Framework” (<http://siteresources.worldbank.org/INTDEBTDEPT/PolicyPapers/22315350/49870.pdf>, 8/23/09) and (<http://www.imf.org/external/np/pp/eng/2009/080509a.pdf>).

<sup>3</sup> The low income country debt sustainability framework (LIC DSF) recognizes that better policies and institutions allow countries to manage higher levels of debt, and thus the threshold levels for debt indicators are policy dependent. Cambodia’s policies and institutions, as measured by the World Bank’s Country Policy and Institutional Assessment (CPIA), averaged 3.22 over the past three years, placing it as a “weak performer.” The relevant indicative thresholds for this category are: 30 percent for the NPV of debt-to-GDP ratio, 100 percent for the NPV of debt-to-exports ratio, 200 percent for the NPV of debt-to-revenue ratio, 15 percent for the debt service-to-exports ratio, and 25 percent for the debt service-to-revenue ratio. These thresholds are applicable to public and publicly guaranteed external debt.

## I. INTRODUCTION

1. **Cambodia's DSA indicates that the risk of debt distress remains moderate.** Under the baseline scenario, external debt burden indicators do not breach the relevant indicative thresholds. However, in alternative scenarios and stress tests, the debt indicators breach several indicative thresholds.

2. **Staffs have analyzed an additional scenario of a delay in fiscal adjustment in a partial equilibrium setting.** In the face of weak export performance and uncertain growth prospects, the government could possibly maintain an accommodative fiscal stance. Given limits to domestic financing and to avoid pressure on reserves, this could result in a large external financing requirement. In the event, external debt burden indicators would breach several indicative thresholds.

## II. BACKGROUND AND ASSUMPTIONS

3. **Cambodia's external public and publicly-guaranteed (PPG) debt stock was around 25 percent of GDP in nominal terms and 19 percent in net present value (NPV) terms at end-2008.**<sup>4</sup> Until last year, strong economic growth and favorable external conditions contributed to a decline in the debt ratio. In 2009, with an expected contraction in Cambodia's economy and increased assistance from donors in the face of global recession, the stock of external PPG is projected to rise to 29 percent of GDP. Cambodia's debt stock and debt service indicators are below the policy-based indicative thresholds. The nominal debt stock in PV terms as a share of exports of goods and nonfactor services and of government revenues is projected at 49 percent and 197 percent, respectively.

<b>Cambodia: External Public Debt Indicators at End-2008</b>		
	Indicative Thresholds	end-2008
NPV of debt, as a percent of:		
GDP	30	19.8
Exports	100	36.7
Revenue	200	164.9
Debt service, as a percent of:		
Exports	15	0.9
Revenue	25	4.2
Source: IMF and World Bank staff estimates.		

4. **Around half of external debt in Cambodia is held by multilateral creditors,** mainly the Asian Development Bank (30 percent) and the World Bank's International Development Association (20 percent). China is currently the largest bilateral creditors, accounting for about 63 percent of total bilateral disbursement in 2009. As new creditors emerge and increase their presence in Cambodia, the government should ensure appropriate

<sup>4</sup> Comprises general government debt excluding state-owned enterprises.

concessionality from these lenders, given Cambodia's development needs and its capacity to service new debt. This further underscores the need for the authorities to strengthen the capacity in debt management and ensure that new debt is contracted on a sustainable basis.

<b>Cambodia: Stock of Public and Publicly-Guaranteed External Debt at end 2008</b>		
	As a Share of Total External Debt	In percent of GDP
Total	100	25
Multilateral	49	13
Bilateral	51	12
<i>Of which: nonrescheduled debt with the United States and Russian Federation</i>	28	7
Sources: Cambodian authorities; and IMF and World Bank staffs' estimates.		

5. **The size of domestic public debt is currently small and negative on a net basis due to government deposits.** At end-2008, the stock of recorded domestic public debt was equivalent to slightly less than 1 percent of GDP, while government deposits amounted to about 6 percent of GDP. The relatively large fiscal deficit projected in 2009 is expected to be financed, in part, by a significant drawdown in government deposits in 2009. Over the medium term, assuming a return to a path of fiscal consolidation, government's net domestic financing requirement would be eliminated. The baseline scenario assumes that the authorities take adjustment measures to reduce the deficit from 2010, which would lead to a stabilization of the debt stock in the medium and long term.

6. **Cambodia remains in arrears to the Russian Federation and the United States.** Following a Paris Club agreement in 1995, Cambodia concluded agreements with France, Germany, Italy, and Japan. Negotiations of outstanding debt obligations with the Russian Federation and the United States are ongoing, with their status unchanged since the last DSA. Currently, Cambodia is not servicing its debt with either of these creditors, and efforts to conclude agreements with each under the framework of the Paris Club are required. Since prospects for resolution are unclear, the current DSA assumes no restructuring in its baseline, with arrears continuing to build up throughout the projection period. In measuring debt levels, the DSA incorporates the negotiated debt stock for the Russian Federation (US\$457 million) and the agreed amount of total principal due for the United States (US\$162 million).<sup>5</sup>

7. **The main underlying macroeconomic assumptions are presented in Box 1.** They reflect the impact of the global recession and weakened economy, marked in Cambodia by

<sup>5</sup> For this DSA, staffs continue to apply the standard 70 percent discount to the nominal value of debt owed to the Russian Federation.

**Box 1: Main Assumptions for the Baseline Scenario (2009–29)**

- **Real GDP growth** is projected at minus 2.7 percent in 2009, reflecting the impact of global recession, with a sharp contraction in garment exports, construction activities and tourism. Given uncertain prospects for a global recovery and heavy export concentration in garments (nearly two-thirds of which go to the United States), growth is expected to rebound modestly to 4.3 percent in 2010—far below the 9 percent annual average during 2006–2009. Growth is expected to rise to around 7 percent in 2011 as global and domestic conditions improve, before stabilizing at 6–6½ percent over the medium and longer term. Important drivers of future growth will be new export opportunities in light manufactures and agribusiness, as well as more expansive tourism activity. This in turn will depend on an improved investment climate as well as a recovery in foreign direct investment (FDI) starting in 2010, following a sharp projected reduction in 2009 by nearly 30 percent from the previous year’s level owing to global financial conditions. Over the longer term, FDI is projected to be sustained at around 5–6 percent of GDP a year, leading to stronger export growth and supported by stable macroeconomic conditions.
- **The external current account deficit** (including official transfers) is projected to improve in 2009 to 5½ percent of GDP, compared to 10½ percent in 2008, as sharp declines in garment exports and tourism receipts are more than offset by falling import demand and lower oil prices. The trade deficit is expected to widen in 2010 and 2011 as garment export demand remains sluggish initially, but with construction- and consumer- related imports rising sharply and higher oil prices also affecting import levels. The macroeconomic framework incorporates recent projects in the power sector (some of which are already underway), which increases imports and FDI in the near-term. Over the longer term, the current account deficit is expected to settle in the range of 5–6 percent of GDP a year. Official assistance (grants and loans) would decline gradually as a share of GDP, while FDI and other private inflows would rise gradually. The baseline scenario also assumes an increasing but moderate level of external borrowing would be on less concessional terms, including from some bilateral creditors (the average grant element is assumed to be some 20 percentage points lower starting in the medium term than in the previous DSA, mostly reflecting a lower discount rate). The gross official reserves, which are expected to be around US\$2.2 billion (3.5 months of next year’s imports) at end-2009, would decline slowly through 2012 to US\$1.9 billion (2.4 months of imports) before gradually increasing with more stable import demand to the equivalent of around 3 months over the longer term.
- **Macroeconomic stability** is underpinned by resumption of a more prudent fiscal stance from 2010 onwards. While an easing of the fiscal stance in 2009 was an appropriate policy response to the slowdown, very large increases in wage and allowances are expected to contribute to a widening of the overall fiscal deficit (excluding grants) expected to rise to around 6.7 percent of GDP in 2009, compared to a projected 2.8 percent in 2008. Thereafter, the deficit would be expected to decline gradually to around 3.9 percent by 2012. Revenue would rise to around 14½ percent of GDP by 2014 from broadening of the tax base, further administrative improvements, and buoyancy from the projected recovery, with more moderate increases thereafter. Grants are projected to decline as a share of GDP from around 3 percent in recent years to 2 percent by 2020. Expenditure would decline to slightly below 18 percent by 2014, from nearly 19 percent in 2009, with some slowing in the growth of recurrent spending and a return of capital spending to the range of 6–6½ percent of GDP following a return to more normal growth conditions.

a significant reduction in garment export, construction, and tourism activities in 2009. Prospects for a rapid recovery are uncertain, with only a modest growth rebound expected over the near term. Inflation is expected to remain moderately low, predicated on relatively stable commodity prices. The development of extractive industries is not factored into the baseline, given uncertainties about the timing and impact of new oil, gas, and mineral production. Additional resources from the IMF’s new SDR allocations made in 2009 are presumed to remain locked in, reflecting the need for Cambodia to build its reserve position and protect against vulnerabilities arising from the global financial crisis.

8. **Large contingent liabilities exist in several areas that bear close watch, given the potential burden on external and public debt.** Cambodia has signed several build-operate-transfer (BOT) projects—mainly related to new projects in the power sector. Possible contingent liabilities arising from these types of contracts are not incorporated in this DSA due to lack of detailed information on the scope and terms of these agreements. While assurances have been given that no explicit government guarantees have been provided, greater transparency is needed in this area to facilitate the monitoring of these potential quasi-fiscal liabilities and mitigation of any associated fiscal risks. In view of Cambodia’s need for major infrastructure investment and given limited debt service capacity, the authorities should monitor these types of commitments closely and transparently, including developing and maintaining an inventory of all concessions granted and building and improving capacity to analyze the impact of contingent liabilities on debt sustainability, should they arise. Other contingent liabilities could arise if the mitigation of risks in the banking sector necessitated government guarantees.

### III. EXTERNAL DEBT SUSTAINABILITY

9. **All external debt indicators remain below the policy-dependent debt burden thresholds under the baseline scenario, but thresholds are breached under some of the standard bound tests.**<sup>6</sup> The main results of the external DSA are as follows:

- Under the baseline scenario, which assumes a return to a path of fiscal consolidation in 2010, the *NPV of external debt-to-GDP* ratio is expected to remain below the 30 percent indicative threshold through 2029 (Table 1a) under the baseline scenario. However, in two bound tests, the indicative thresholds are breached for five years or more before declining for the rest of the projection period, specifically for (i) net non-debt creating flows at the historical average minus one standard deviation in 2010–2011, and (ii) a one-time 30 percent nominal depreciation of the Cambodian riel vis-à-vis the U.S. dollar relative to the baseline in 2010 (Table 1b and Figure 1).
- The *NPV of external debt-to-revenue* ratio remains below the threshold for all years in the baseline scenario, declining from 197 percent in 2009 to 158 percent by 2015, and further decreasing over the long term. However, thresholds are breached in five out of six standard bound tests. Under the above two bound tests, the NPV of debt-to-revenue ratio exceeds the 200 percent threshold for more than five years. The thresholds are also breached for five years or longer under the combination of bound tests using one-half standard deviation shocks.

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<sup>6</sup> Historical averages are generally inadequate as a basis for generating stress tests and alternative scenarios for Cambodia because the post-conflict period between 1995 and 2005 was characterized by rapid catch-up growth from a very low base. Therefore, staffs adjusted the historical averages to exclude pre-2000 and include 2009 which yields more severe—and realistic—stress tests.

- The *debt service-to-exports* and *debt service-to-revenue ratios* stay well below the indicative threshold throughout the entire projection period, as existing debts are highly concessional.

10. **However, the assumed fiscal consolidation is far from assured, with failure to undertake adjustment posing significant risks to macroeconomic stability.** In recent years, Cambodia has maintained a prudent fiscal stance, characterized by relatively low fiscal deficits financed largely through external resources. Under these conditions, the exchange rate has remained stable vis-à-vis the U.S. dollar. Starting in 2009 and in response to effects of the global recession, the government adopted a more accommodative fiscal stance, which is in part expected to be financed domestically, mainly through a drawdown in government deposits. Such a sizeable injection of riel liquidity could put pressure on both domestic prices and the exchange rate, which could lead to possible reserve losses, increasing Cambodia's vulnerability. The baseline assumes a return to a more prudent fiscal stance by 2010, characterized by a moderate reduction in the overall fiscal deficit and no net domestic financing requirement.

11. **As an additional alternative scenario, this DSA considers the impact on debt sustainability of a delay in fiscal adjustment in a partial equilibrium setting.** Under this scenario, the level of primary balance is assumed to remain at the projected level in 2010 (i.e. without any policy adjustment minus 4 percent of GDP) for the period 2010–2012, and then gradually return to the baseline level by 2017. Owing to a limited amount of government deposits and lack of capacity to issue domestic debt, the government would be expected to largely rely on additional external financing. In the event, the NPV of debt-to-GDP ratio would exceed the indicative threshold for five years, and the debt-to-revenue ratio would also breach the threshold for seven years (see Table 1b).

12. **In staffs' view, Cambodia faces a moderate risk of debt distress.** This assessment is based not only on the bound tests and additional scenario of delayed fiscal consolidation, but also on the uncertainty related to implicit contingent liabilities. Moreover, the impact of delaying policy adjustment could be much more severe if possible exchange rate and inflationary pressures resulting from higher government spending and larger fiscal deficits are fully taken into account. Under these circumstances, the potential loss in competitiveness would point to the need for greater exchange rate flexibility.

#### IV. PUBLIC DEBT SUSTAINABILITY

13. **Given that most public debt is external, the dynamics of public debt behave similarly to those of external debt in the DSF.** The nominal stock of public debt, equivalent to 26 percent of GDP at end-2008, is expected to rise to 30 percent by end-2009 (Table 2a and Figure 2), reflecting the accommodative fiscal stance. Under the baseline, it would begin to decline as a share of GDP in 2011, as the DSA is based on current policies, which at present do not anticipate issuance of domestic debt.

- The *NPV of public sector debt-to-GDP* ratio—21 percent at end 2008—would rise to around 25 percent by 2009 and further in 2010, before gradually declining to 14 percent by 2029 (Table 2b).
- The *NPV of public debt-to-revenue* ratio (inclusive of grants), which is estimated to be 138 percent in 2008, would decline to 74 percent by 2029.
- The *debt service-to-revenue* ratio remains low in most scenarios for the entire projection period under the baseline.

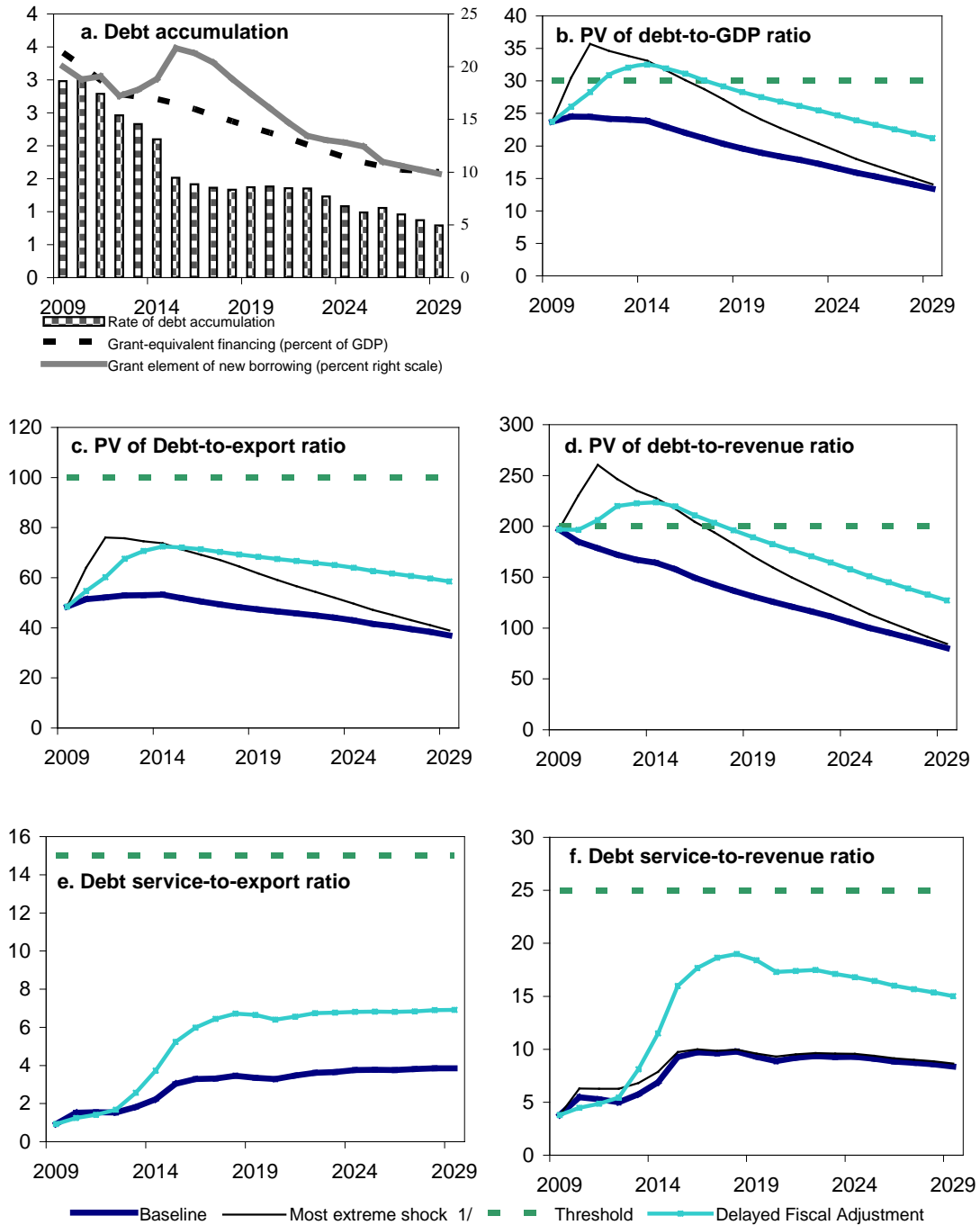
14. **Under the standard stress tests and alternative scenarios, public debt ratios are sensitive to permanently lower growth, continued accommodative fiscal stance, a one-time real depreciation of 30 percent in 2010, and a 10 percent increase in other debt creating flows.** With bound tests, the debt-to-GDP and debt-to-revenue ratio increases temporarily but decline over the projection period. Under two of the alternative scenarios—the primary balance is unchanged from 2009 and GDP growth is permanently lower by one percentage point, the level of public debt continues to increase, reaching over 50 percent and 40 percent of GDP, respectively, toward the end of the projection period. The bound test related to higher other debt-creating flows is also relevant given the risks posed by implicit contingent liabilities.

## V. CONCLUSION

15. **Staffs conclude that Cambodia faces a moderate risk of debt distress.** While no thresholds are breached under the baseline scenario, some are breached under the standard stress tests and alternative scenarios. Moreover, an additional scenario reflecting delayed fiscal adjustment indicates that external debt indicators could exceed indicative thresholds. This outlook could be further weakened in the event actual liabilities arise from contingent obligations, mainly those arising from infrastructure development, which further underscores the rationale for the current classification of risk.

16. **Given the uncertainty about near-to medium-term prospects, staffs urge the Royal Government of Cambodia to continue pursuing a sound strategy for public debt management.** Careful consideration is needed in advance of possibly contracting less concessional loans and providing direct and indirect government guarantees, as they could impair sustainability, in particular if the revenue base remains low and institutions weak. Stronger capacity in debt management is an essential pre-requisite for less concessional borrowing. To this end, a full accounting of all commitments, including from newly emerging creditors, and better monitoring of contingent liabilities will be necessary to ensure debt sustainability. Moreover, given the high dollarization and lack of domestic debt instruments, the DSA points to the need for an exchange rate policy that is consistent with the fiscal stance. Staffs also encourage the authorities to continue seeking agreements to resolve outstanding arrears.

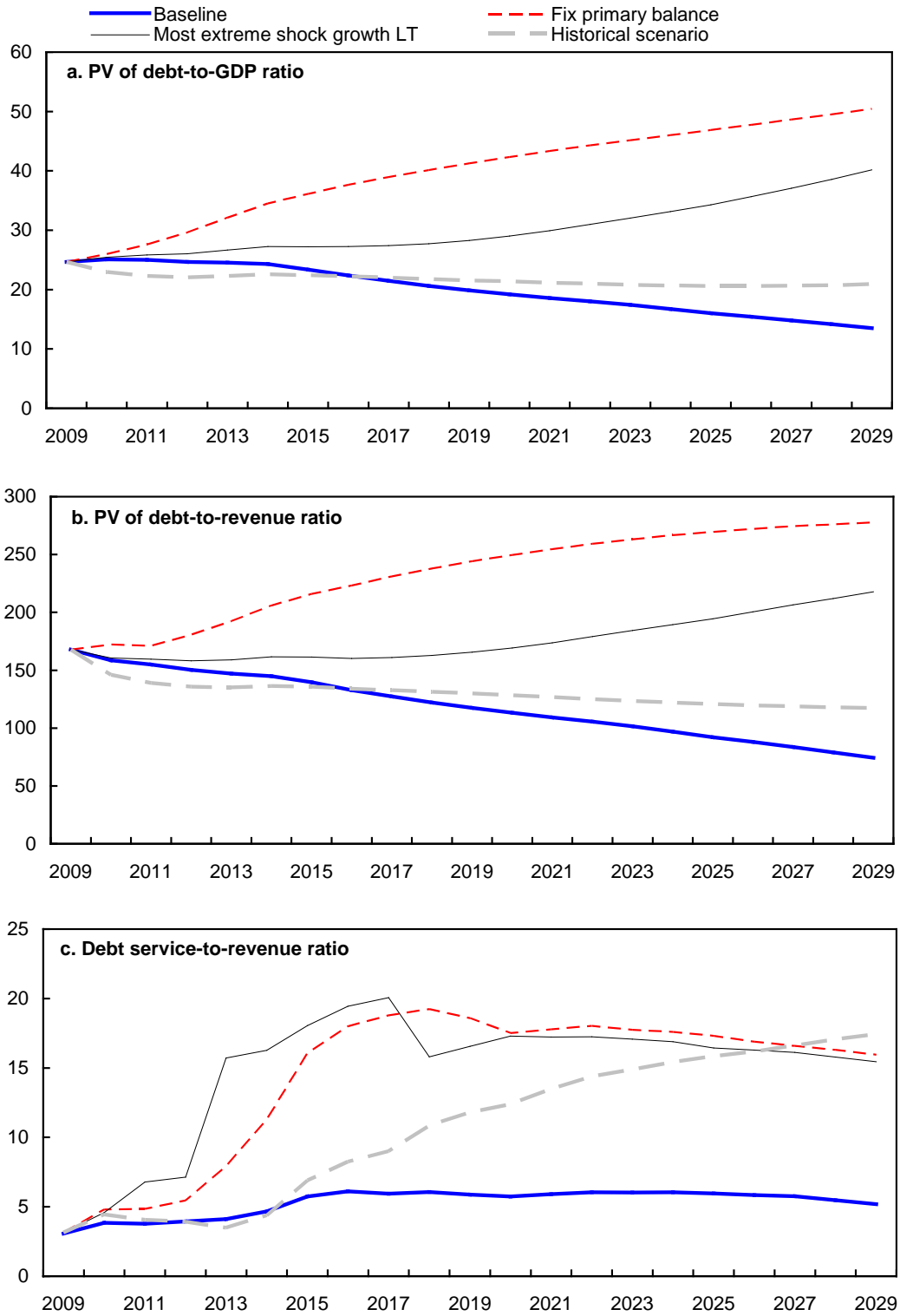
**Figure 1. Cambodia: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2009–29 1/**



Sources: Cambodian authorities; and staffs' estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2011. In figures b to e, it corresponds to net non-debt creating flows at historical average minus one standard deviation in 2010-2011; in figure f, a one time 30 percent nominal depreciation relative to baseline in 2010.

**Figure 2. Cambodia: Indicators of Public Debt Under Alternative Scenarios, 2009–29**



Sources: Cambodian authorities; and staffs' estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2019.

2/ Revenues are defined inclusive of grants.

**Table 1a. Cambodia: External Debt Sustainability Framework, Baseline Scenario, 2006–29 1/**  
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 0	Standard Deviation 0	Projections							2009-2014		2015-2029	
	2006	2007	2008			2009	2010	2011	2012	2013	2014	Average	2019	2029	Average	
<b>External debt (nominal) 1/</b>	<b>31.4</b>	<b>29.8</b>	<b>24.6</b>			<b>29.2</b>	<b>30.1</b>	<b>29.7</b>	<b>28.9</b>	<b>28.4</b>	<b>27.9</b>			<b>22.3</b>	<b>14.5</b>	
o/w public and publicly guaranteed (PPG)	31.4	29.8	24.6			29.2	30.1	29.7	28.9	28.4	27.9			22.3	14.5	
Change in external debt	-3.4	-1.7	-5.2			4.6	0.9	-0.4	-0.8	-0.5	-0.5			-1.0	-0.8	
Identified net debt-creating flows	-10.7	-13.4	-3.6			0.7	3.9	4.1	2.8	1.3	0.3			-1.3	-0.8	
<b>Non-interest current account deficit</b>	<b>0.3</b>	<b>1.5</b>	<b>10.2</b>	<b>2.6</b>	<b>3.1</b>	<b>5.3</b>	<b>10.9</b>	<b>11.8</b>	<b>10.3</b>	<b>8.6</b>	<b>7.7</b>			<b>5.2</b>	<b>4.6</b>	5.0
Deficit in balance of goods and services	7.1	8.1	14.5			10.4	16.1	16.7	15.6	13.9	12.9			10.1	8.8	
Exports	68.7	64.9	53.8			48.9	47.6	47.0	45.7	45.4	44.9			41.4	36.2	
Imports	75.8	72.9	68.3			59.3	63.7	63.7	61.2	59.3	57.8			51.5	45.0	
Net current transfers (negative = inflow)	-10.9	-10.7	-8.2	-8.9	3.5	-7.8	-7.9	-7.4	-7.8	-7.6	-7.4			-6.3	-4.9	-5.9
o/w official	-6.5	-6.4	-4.9			-5.1	-4.8	-4.4	-4.0	-3.7	-3.4			-2.3	-1.0	
Other current account flows (negative = net inflow)	4.0	4.1	4.0			2.6	2.6	2.5	2.5	2.4	2.2			1.3	0.7	
<b>Net FDI (negative = inflow)</b>	<b>-6.7</b>	<b>-10.0</b>	<b>-7.2</b>	<b>-4.5</b>	<b>3.2</b>	<b>-5.5</b>	<b>-6.2</b>	<b>-6.1</b>	<b>-6.1</b>	<b>-6.2</b>	<b>-6.3</b>			<b>-5.7</b>	<b>-5.2</b>	-5.5
<b>Endogenous debt dynamics 2/</b>	<b>-4.3</b>	<b>-4.9</b>	<b>-6.6</b>			<b>0.9</b>	<b>-0.8</b>	<b>-1.5</b>	<b>-1.3</b>	<b>-1.2</b>	<b>-1.1</b>			<b>-0.7</b>	<b>-0.2</b>	
Contribution from nominal interest rate	0.4	0.3	0.2			0.2	0.4	0.4	0.4	0.4	0.5			0.7	0.7	
Contribution from real GDP growth	-3.2	-2.7	-1.5			0.7	-1.2	-1.8	-1.7	-1.6	-1.6			-1.4	-0.9	
Contribution from price and exchange rate changes	-1.4	-2.5	-5.3			...	...	...	...	...	...			...	...	
<b>Residual (3-4) 3/</b>	<b>7.3</b>	<b>11.7</b>	<b>-1.5</b>			<b>3.9</b>	<b>-3.1</b>	<b>-4.6</b>	<b>-3.6</b>	<b>-1.8</b>	<b>-0.8</b>			<b>0.4</b>	<b>0.0</b>	
o/w exceptional financing	1.1	-0.2	0.0			-0.2	-0.2	-0.1	-0.1	-0.1	-0.1			0.0	0.0	
PV of external debt 4/	...	...	19.8			23.7	24.5	24.5	24.2	24.1	23.9			19.6	13.4	
In percent of exports	...	...	36.7			48.5	51.4	52.1	52.9	53.0	53.2			47.3	36.9	
<b>PV of PPG external debt</b>	<b>...</b>	<b>...</b>	<b>19.8</b>			<b>23.7</b>	<b>24.5</b>	<b>24.5</b>	<b>24.2</b>	<b>24.1</b>	<b>23.9</b>			<b>19.6</b>	<b>13.4</b>	
In percent of exports	...	...	36.7			48.5	51.4	52.1	52.9	53.0	53.2			47.3	37.0	
<b>In percent of government revenues</b>	<b>...</b>	<b>...</b>	<b>164.9</b>			<b>196.9</b>	<b>184.9</b>	<b>178.4</b>	<b>172.0</b>	<b>167.2</b>	<b>164.3</b>			<b>131.1</b>	<b>80.4</b>	
<b>Debt service-to-exports ratio (in percent)</b>	<b>1.1</b>	<b>1.1</b>	<b>0.9</b>			<b>0.9</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.8</b>	<b>2.2</b>			<b>3.4</b>	<b>3.9</b>	
<b>PPG debt service-to-exports ratio (in percent)</b>	<b>1.1</b>	<b>1.1</b>	<b>0.9</b>			<b>0.9</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.8</b>	<b>2.2</b>			<b>3.4</b>	<b>3.9</b>	
<b>PPG debt service-to-revenue ratio (in percent)</b>	<b>6.7</b>	<b>5.9</b>	<b>4.2</b>			<b>3.8</b>	<b>5.5</b>	<b>5.3</b>	<b>5.0</b>	<b>5.7</b>	<b>6.9</b>			<b>9.3</b>	<b>8.4</b>	
Total gross financing need (Billions of U.S. dollars)	-0.4	-0.7	0.4			0.0	0.6	0.8	0.7	0.5	0.4			0.2	0.7	
Non-interest current account deficit that stabilizes debt ratio	3.7	3.1	15.4			0.6	10.0	12.2	11.0	9.2	8.2			6.1	5.3	
<b>Key macroeconomic assumptions</b>																
Real GDP growth (in percent)	10.8	10.2	6.7	9.5	2.2	-2.7	4.3	6.8	6.2	6.0	6.2			4.5	6.8	6.7
GDP deflator in US dollar terms (change in percent)	4.3	8.6	21.6	5.5	7.0	-1.2	3.8	4.4	4.9	4.0	3.2			3.2	3.6	3.7
Effective interest rate (percent) 5/	1.2	1.1	0.8	1.1	0.1	0.9	1.3	1.3	1.3	1.6	1.9			1.4	3.3	5.1
Growth of exports of G&S (US dollar terms, in percent)	23.9	13.0	7.7	16.6	7.5	-12.7	5.4	9.9	8.4	9.6	8.3			4.8	8.8	9.4
Growth of imports of G&S (US dollar terms, in percent)	21.3	15.1	21.5	17.9	4.3	-16.5	16.2	11.4	7.2	6.8	6.9			5.3	8.6	9.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	20.0	18.8	19.1	17.2	17.8	18.8			18.6	17.4	9.9
Government revenues (excluding grants, in percent of GDP)	11.5	11.9	12.0			12.0	13.2	13.7	14.0	14.4	14.5			15.0	16.7	15.5
Aid flows (in Billions of US dollars) 7/	0.3	0.4	0.6			0.3	0.3	0.3	0.3	0.4	0.4			0.6	1.2	
o/w Grants	0.2	0.2	0.3			0.3	0.3	0.3	0.3	0.4	0.4			0.6	1.2	
o/w Concessional loans	0.1	0.2	0.2			0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			3.4	3.2	3.0	2.8	2.7	2.7			2.3	1.6	
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			52.8	54.0	55.4	56.8	56.9	57.7			58.6	55.8	57.0
<i>Memorandum items:</i>																
Nominal GDP (Billions of US dollars)	7.3	8.7	11.3			10.8	11.7	13.1	14.6	16.1	17.6			29.2	80.3	
Nominal dollar GDP growth	15.6	19.6	29.8			-3.9	8.2	11.5	11.5	10.3	9.6			7.9	10.7	10.6
PV of PPG external debt (in Billions of US dollars)	...	...	2.2			2.5	2.9	3.2	3.5	3.9	4.2			5.7	10.8	
(PVt-PVt-1)/GDPT-1 (in percent)	...	...	...			3.0	3.0	2.8	2.5	2.3	2.1			2.6	1.4	0.8

Sources: Cambodian authorities; and staffs' estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as  $[r - g - p(1+g)] / (1+g+p+gp)$  times previous period debt ratio, with  $r$  = nominal interest rate;  $g$  = real GDP growth rate, and  $p$  = 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, 2009–29**  
(In percent)

	Projections								
	2009	2010	2011	2012	2013	2014	2015	2019	2029
<b>PV of Debt-to GDP Ratio</b>									
<b>Baseline</b>	24	24	24	24	24	24	23	<b>20</b>	13
<b>A. Alternative Scenarios</b>									
A1. Key variables at their historical averages in 2009-2029 1/	24	18	12	7	4	2	0	<b>-2</b>	0
A2. New public sector loans on less favorable terms in 2009-2029 2	24	25	26	26	26	27	26	<b>24</b>	19
A3. Alternative Scenario: Delayed Fiscal Adjustment	24	26	28	31	32	32	32	<b>28</b>	21
<b>B. Bound Tests</b>									
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	24	25	25	25	25	25	24	<b>20</b>	14
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	24	26	31	31	30	30	28	<b>23</b>	14
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	24	26	28	27	27	27	26	<b>22</b>	15
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	24	31	36	35	34	33	32	<b>26</b>	14
B5. Combination of B1-B4 using one-half standard deviation shocks	24	28	33	32	31	31	29	<b>24</b>	14
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	24	34	34	34	34	34	32	<b>28</b>	19
<b>PV of Debt-to-Exports Ratio</b>									
<b>Baseline</b>	48	51	52	53	53	53	52	<b>47</b>	37
<b>A. Alternative Scenarios</b>									
A1. Key variables at their historical averages in 2009-2029 1/	48	38	25	15	9	5	1	<b>-6</b>	1
A2. New public sector loans on less favorable terms in 2009-2029 2	48	53	55	57	58	59	59	<b>57</b>	51
A3. Alternative Scenario: Delayed Fiscal Adjustment	48	55	60	68	71	72	72	<b>68</b>	59
<b>B. Bound Tests</b>									
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	48	51	52	53	53	53	52	<b>47</b>	37
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	48	58	77	77	76	76	73	<b>65</b>	44
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	48	51	52	53	53	53	52	<b>47</b>	37
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	48	64	76	76	75	74	71	<b>62</b>	39
B5. Combination of B1-B4 using one-half standard deviation shocks	48	57	67	68	67	66	64	<b>57</b>	39
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	48	51	52	53	53	53	52	<b>47</b>	37
<b>PV of Debt-to-Revenue Ratio</b>									
<b>Baseline</b>	197	185	178	172	167	164	158	<b>131</b>	80
<b>A. Alternative Scenarios</b>									
A1. Key variables at their historical averages in 2009-2029 1/	197	135	85	50	29	15	2	<b>-16</b>	2
A2. New public sector loans on less favorable terms in 2009-2029 2	197	190	188	185	183	184	180	<b>159</b>	111
A3. Alternative Scenario: Delayed Fiscal Adjustment	197	197	206	220	223	224	220	<b>189</b>	127
<b>B. Bound Tests</b>									
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	197	186	184	178	173	170	163	<b>135</b>	83
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	197	199	230	219	210	204	195	<b>156</b>	83
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	197	196	202	195	189	186	178	<b>148</b>	91
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	197	230	260	246	235	228	217	<b>171</b>	85
B5. Combination of B1-B4 using one-half standard deviation shocks	197	208	238	226	217	211	202	<b>162</b>	87
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	197	260	251	242	235	231	222	<b>184</b>	113

**Table 1b. Cambodia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009–29 (concluded)**  
(In percent)

	Projections								
	2009	2010	2011	2012	2013	2014	2015	2019	2029
<b>Debt Service-to-Exports Ratio</b>									
<b>Baseline</b>	1	2	2	2	2	2	3	3	4
<b>A. Alternative Scenarios</b>									
A1. Key variables at their historical averages in 2009-2029 1/	1	1	1	1	0	1	1	0	0
A2. New public sector loans on less favorable terms in 2009-2029 2	1	1	1	1	2	2	2	3	4
A3. Alternative Scenario: Delayed Fiscal Adjustment	1	1	1	2	3	4	5	7	7
<b>B. Bound Tests</b>									
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	1	1	1	1	2	2	2	2	3
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	1	1	2	2	2	3	3	4	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	1	1	1	1	2	2	2	2	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	1	1	2	2	2	2	3	4	4
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	1	2	2	2	3	3	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	1	1	1	1	2	2	2	2	3
<b>Debt Service-to-Revenue Ratio</b>									
<b>Baseline</b>	4	5	5	5	6	7	9	9	8
<b>A. Alternative Scenarios</b>									
A1. Key variables at their historical averages in 2009-2029 1/	4	4	3	2	1	2	2	-1	-1
A2. New public sector loans on less favorable terms in 2009-2029 2	4	4	4	5	5	6	7	8	9
A3. Alternative Scenario: Delayed Fiscal Adjustment	4	4	5	5	8	12	16	18	15
<b>B. Bound Tests</b>									
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	4	4	5	5	5	6	7	7	6
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	4	4	5	6	6	7	8	10	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	4	5	5	5	5	6	8	8	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	4	4	6	7	7	7	9	11	8
B5. Combination of B1-B4 using one-half standard deviation shocks	4	5	5	6	6	7	8	10	7
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	4	6	6	6	7	8	10	10	9
<i>Memorandum item:</i>									
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	13	13	13	13	13	13	13	13	13

Sources: Cambodian authorities; and staffs' 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, 2006–29**  
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate						Projections			
	2006	2007	2008			2009	2010	2011	2012	2013	2014	2009-14 Average	2019	2029	2015-29 Average
<b>Public sector debt 1/</b>	32.8	30.5	25.5			30.2	30.7	30.2	29.4	28.9	28.3		22.6	14.6	
o/w foreign-currency denominated	31.4	29.8	24.6			29.2	30.1	29.7	28.9	28.4	27.9		22.3	14.5	
Change in public sector debt	-4.4	-2.3	-5.0			4.7	0.5	-0.5	-0.8	-0.5	-0.5		-1.0	-0.8	
Identified debt-creating flows	-6.3	-4.5	-6.8			5.1	0.8	-0.7	-1.4	-1.3	-1.2		-0.7	-0.5	
Primary deficit	0.0	0.5	-0.4	1.6	1.6	3.9	3.0	2.1	1.3	1.0	0.9	2.0	0.9	0.3	0.7
Revenue and grants	14.0	14.1	15.1			14.7	15.8	16.1	16.4	16.7	16.8		16.9	18.2	
of which: grants	2.5	2.2	3.1			2.6	2.6	2.4	2.3	2.3	2.2		1.9	1.5	
Primary (noninterest) expenditure	14.0	14.5	14.6			18.5	18.8	18.3	17.7	17.7	17.6		17.8	18.4	
Automatic debt dynamics	-5.2	-5.0	-6.4			1.2	-2.2	-2.8	-2.8	-2.3	-2.0		-1.6	-0.8	
Contribution from interest rate/growth differential	-4.3	-3.6	-2.4			0.7	-1.0	-1.8	-1.8	-1.8	-1.7		-1.2	-0.5	
of which: contribution from average real interest rate	-0.7	-0.5	-0.5			0.0	0.2	0.2	-0.1	-0.1	0.0		0.3	0.4	
of which: contribution from real GDP growth	-3.6	-3.0	-1.9			0.7	-1.2	-2.0	-1.8	-1.7	-1.7		-1.5	-1.0	
Contribution from real exchange rate depreciation	-0.8	-1.4	-4.0			0.6	-1.2	-1.0	-0.9	-0.5	-0.3		...	...	
Other identified debt-creating flows	-1.1	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)	-1.1	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	1.9	2.2	1.9			-0.5	-0.2	0.2	0.6	0.8	0.6		-0.3	-0.2	
<b>Other Sustainability Indicators</b>															
<b>PV of public sector debt</b>	24.8	23.7	20.7			24.6	25.1	25.0	24.6	24.5	24.3		19.9	13.5	
o/w foreign-currency denominated	22.6	22.7	19.8			23.7	24.5	24.5	24.2	24.1	23.9		19.6	13.4	
o/w external	22.6	22.7	19.8			23.7	24.5	24.5	24.2	24.1	23.9		19.6	13.4	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	3.3	2.8	0.9			4.9	4.1	3.2	2.4	2.1	2.0		2.1	1.3	
PV of public sector debt-to-revenue and grants ratio (in percent)	176.6	168.5	137.5			167.9	158.6	155.0	150.4	147.1	144.9		117.5	74.4	
PV of public sector debt-to-revenue ratio (in percent)	215.7	199.4	172.8			204.8	189.5	182.4	175.5	170.5	167.3		132.8	81.0	
o/w external 3/	196.6	191.0	164.9			196.9	184.9	178.4	172.0	167.2	164.3		131.1	80.4	
Debt service-to-revenue and grants ratio (in percent) 4/	4.2	4.4	4.0			3.1	3.8	3.8	4.0	4.1	4.7		5.9	5.2	
Debt service-to-revenue ratio (in percent) 4/	5.1	5.2	5.0			3.8	4.6	4.4	4.6	4.8	5.4		6.6	5.6	
Primary deficit that stabilizes the debt-to-GDP ratio	4.4	2.8	4.5			-0.8	2.4	2.6	2.1	1.5	1.4		1.9	1.0	
<b>Key macroeconomic and fiscal assumptions</b>															
Real GDP growth (in percent)	10.8	10.2	6.7	9.5	2.2	-2.7	4.3	6.8	6.2	6.0	6.2	4.5	6.8	6.7	6.8
Average nominal interest rate on forex debt (in percent)	1.2	1.1	0.8	1.1	0.1	0.9	1.3	1.3	1.3	1.6	1.9	1.4	3.3	5.1	3.8
Average real interest rate on domestic debt (in percent)	-4.2	-5.9	-17.6	-6.5	5.6	-0.2	-4.4	-4.0	-4.5	-3.8	-3.2	-3.3	...	...	-3.5
Real exchange rate depreciation (in percent, + indicates depreciation)	-2.7	-5.0	-14.6	-2.6	5.3	2.2	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	4.6	6.5	21.9	6.1	6.7	0.7	4.8	4.4	4.9	4.1	3.5	3.8	3.9	4.0	4.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	20.0	18.8	19.1	17.2	17.8	18.8	18.6	17.4	9.9	...

Sources: Cambodian authorities; and staffs' 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 2009–29

	Projections							
	2009	2010	2011	2012	2013	2014	2019	2029
<b>PV of Debt-to-GDP Ratio</b>								
<b>Baseline</b>	25	25	25	25	25	24	20	14
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	25	23	22	22	22	23	22	21
A2. Primary balance is unchanged from 2009	25	26	28	30	32	35	41	50
A3. Permanently lower GDP growth 1/	25	25	26	26	27	27	28	40
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	25	25	26	26	27	27	24	21
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	25	25	26	26	26	26	21	15
B3. Combination of B1-B2 using one half standard deviation shocks	25	24	25	24	24	24	19	13
B4. One-time 30 percent real depreciation in 2010	25	34	33	32	32	31	26	20
B5. 10 percent of GDP increase in other debt-creating flows in 2010	25	35	34	33	33	32	26	18
<b>PV of Debt-to-Revenue Ratio 2/</b>								
<b>Baseline</b>	168	159	155	150	147	145	117	74
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	168	146	139	136	135	136	130	118
A2. Primary balance is unchanged from 2009	168	172	171	181	192	206	244	278
A3. Permanently lower GDP growth 1/	168	161	160	158	159	162	166	218
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	168	160	163	161	160	160	143	115
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	168	160	164	158	155	152	124	82
B3. Combination of B1-B2 using one half standard deviation shocks	168	153	153	148	144	142	113	72
B4. One-time 30 percent real depreciation in 2010	168	218	207	198	191	186	153	110
B5. 10 percent of GDP increase in other debt-creating flows in 2010	168	222	213	204	197	192	153	97
<b>Debt Service-to-Revenue Ratio 2/</b>								
<b>Baseline</b>	3	4	4	4	4	5	6	5
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	3	4	4	4	3	4	12	17
A2. Primary balance is unchanged from 2009	3	5	5	5	8	11	19	16
A3. Permanently lower GDP growth 1/	3	5	5	5	6	7	15	32
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	3	5	5	5	6	7	13	18
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	3	5	5	5	6	8	11	12
B3. Combination of B1-B2 using one half standard deviation shocks	3	5	4	4	5	6	9	10
B4. One-time 30 percent real depreciation in 2010	3	6	7	7	8	10	16	21
B5. 10 percent of GDP increase in other debt-creating flows in 2010	3	5	7	7	16	16	17	15

Sources: Cambodian authorities; and staffs' 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.