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MONGOLIA

Joint IMF/World Bank Debt Sustainability Analysis Under the Debt Sustainability Framework for Low-Income Countries[1]

Approved by Nigel Chalk and James Roaf (IMF)
and Jeffrey Lewis and Vikram Nehru (IDA)

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Mongolia's risk of debt distress is low based on indicators of external and public debt. External and public debt ratios had risen during 2009 due to the government receiving front-loaded foreign financing to recover from major terms of trade shock in late 2008. With the economic recovery entrenched and a several large mining projects on the horizon, external and public debt ratios are projected to improve substantially over the medium term.

I. Background

1. **This joint Debt Sustainability Analysis (DSA)[2] update reflects the latest fiscal developments and new assumptions on the development of the Tavan Tolgoi mine.** A landmark Fiscal Stability Law (FSL)[3] was adopted in 2010 and adherence to it will help anchor fiscal discipline, prevent a repeat of boom-bust fiscal policy, and contribute toward achieving sustainable growth. Specifically the FSL calls for a 2 percent ceiling on the structural fiscal deficit, which is defined using smoothed mineral prices (based on a more

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[1] The DSA has been produced jointly by the staffs of the International Monetary Fund and the World Bank, in consultation with the Asian Development Bank (AsDB) and the Mongolian authorities (Debt Management Department and Aid Coordination Department of the Ministry of Finance). The fiscal year for Mongolia is January–December.

[2] The DSAs presented in this document are based on the common standard low-income countries (LIC) DSA framework. Under the Country Policy and Institutional Assessment (CPIA), Mongolia is rated as a medium performer with an average rating of 3.4 between 2007–09, and the DSA uses the indicative threshold indicators for countries in this category. See "Debt Sustainability in Low-Income Countries: Proposal for an Operational Framework and Policy Implications" (http://www.imf.org/external/np/pdr/sustain/2004/020304.htm and IDA/SECM2004/0035, 2/3/04), "Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework, Policy Implications" (http://www.imf.org/external/np/pdr/sustain/2004/091004.htm and IDA/SECM2004/0629, 9/10/04), and "Applying the Debt Sustainability Framework for Low-Income Countries Post Debt Relief," (8/11/06).

[3] This is referred to as the Fiscal Responsibility Law in the IMF staff report.

than 10 year moving average) to calculate revenue, limits expenditure growth, and has a ceiling on debt (Box 1). The projections also incorporate updated assumptions on development of Tavan Tolgoi and fiscal projections based on the 2011 budget.

Box 1: Three Ceilings in the FSL

- *The floor of structural balance is the deficit of 2 percent of GDP*. The structural balance is calculated by using the moving average price of major minerals—currently copper and coal—over 16 years (past 12 years, current year, and future three years). This provision takes effect in 2013.
- *The ceiling of expenditure growth is the non-mineral GDP growth rate,* determined as the greater between its 12-year moving average value and the budget year's GDP growth rate. This provision takes effect in 2013.
- *Net present value of public debt cannot exceed 40 percent of GDP*. This excludes any borrowing in which the government has agreed to contribute into the paid-in capital of a foreign invested mining entity and which is repayable from the future profits of the entity.[4] The provision takes effect from 2014, with a transition period specified for the preceding years.

2. **Mongolia's stock of external debt as of end-2009 stood at US$2.1 billion (46 percent of GDP).** This includes public or publicly guaranteed debt (PPG) of US$2.0 billion as reported by the Ministry of Finance (MoF) and estimated private external debt of US$0.1 billion. Most of Mongolia's public debt is external with about 63 percent of external debt contracted with multilateral creditors on concessional terms, 33 percent with official bilateral creditors on relatively concessional terms, and 4 percent with commercial banks.

Mongolia: Structure of External Public Debt

	End-2009 Nominal		End-2009 Present Value
	USD mn	% of GDP	
Public debt	1,977	43.3	1,452
Multilaterals	1,253	27.4	878
IMF	182	4.0	160
World Bank	392	8.6	239
AsDB	627	13.7	447
Official bilaterals	650	14.2	494
Paris Club	508	11.3	380
Non-Paris Club	142	3.1	114
Commercial	75	1.6	80

Sources: Mongolian Ministry of Finance; AsDB; WB; and IMF staff estimates.

[4] Although no government guarantees arising from public-private partnerships and development banks have yet been issued, they are required to be treated as part of the public debt stock.

3. **As in the previous DSA, the medium-term macroeconomic outlook remains bright, although an expansionary fiscal stance for 2011 poses a risk of overheating.** The economy has rebounded considerably since the last DSA, and growth has extended beyond the mineral sector to become more broad based. The IMF SBA-supported program was successfully completed on October 1, 2010. The overall fiscal balance recorded a small surplus at the end of 2010, the first since 2007, and international reserves are at an all time high. The growth profile has been updated in line with revised production estimates for the Oyu Tolgoi copper and gold mine and incorporation of the Tavan Tolgoi coal mine (Box 2). Government spending and the deficit are set to rise under the 2011 budget passed. The deficit will be financed through domestic borrowing, and prepayments from Oyu Tolgoi (US$100 million) and Tavan Tolgoi (yet to be negotiated). A return to fiscal restraint is expected in 2012 as the budget transitions to the numerical targets set out under the FSL.

4. **This update continues to reflect the fiscalization of banking sector restructuring.** In 2010, the government issued bonds amounting to Tog 100 billion to recapitalize a bank. In 2011, the authorities plan to fiscalize the restructuring cost associated with Anod Bank, estimated to be around Tog 120 billion. No other costs of bank restructuring are included in the projections.

5. **During 2010, there have been some important improvements in debt management.** The MoF revised its debt management strategy, developing it as a formal medium-term strategy for 2010–12, which has been approved by Cabinet and published. In addition to external audits (including on performance), internal audits have also been introduced. Other key strengths in debt management include the provision of inputs on debt and borrowing from the debt management department during budget preparation, a clear separation between monetary policy and debt management, and information sharing between the MoF and the central bank. An area for improvement includes making more information publicly available. A Debt Management Performance Assessment is currently underway.

II. Underlying DSA Assumptions

6. **The baseline assumptions are similar to the previous DSA, but now include output from Tavan Tolgoi**. In particular, the assumptions of a strong institutional framework and macroeconomic policies to minimize Dutch Disease are maintained (Box 3). A restrained fiscal policy is projected over the medium to long term, supported by the FSL adopted in July 2010. As in the previous DSA, the baseline assumes that structural fiscal reforms including pensions, civil service, social transfers, and public investment management

Box 2. Mongolia—The Tavan Tolgoi Mining Project

Tavan Tolgoi is one of the largest undeveloped coking and thermal coal deposits in the world with total resources estimated in the range 6.0–6.5 billion tonnes. Development of the deposit, which is close to the border with China, would make Mongolia a major world coal producer. Initially, its development will increase equipment imports, FDI, and loan inflows, but soon after it will lead to a large increase in exports and corresponding improvement in the current account balance.

The deposit was discovered in the 1950s and drilled through the 1960s and 1970s, and during the economic transition, the area became available for private sector exploration. It was held initially by BHP but later acquired by Energy Resources LLC, a consortium of top Mongolian companies. In 2006, the government passed amendments to the Mineral Law creating a category of Strategic Deposits which included Tavan Tolgoi. These same amendments provided for the State to have a right to take up to 50 percent of any mine developed on deposits discovered using state-funded exploration.

In March 2008 the government assumed ownership of the majority of the Tavan Tolgoi deposit from Energy Resources LLC and placed the asset into a state-owned mining company: Erdenes MGL LLC. In 2009, expressions of interest were sought from major mine developers to take up a 49 percent interest in the deposit but these were not successful and in early 2010 the government announced that it would retain 100 percent ownership of the resource, seeking to enter into contract mining arrangements to develop the mine.

The government plans to develop the deposit initially in two different blocks, each potentially operating under different contracting arrangements. The first block is to be developed by Erdenes Tavan Tolgoi LLC, a wholly-owned subsidiary of Erdenes MGL, which will own and market the coal produced under a fee based contract. It is not clear yet how the infrastructure and working capital for the development of this first block will be financed. Currently Energy Resources LLC and Tavan Tolgoi LLC are exporting close to 3 million tonnes per year. Production is expected to quickly ramp up to over 10 million tonnes per year by 2014.

The second block is planned to be developed under a contract where the developer invests in the mine infrastructure, markets the coal independently, and provides a share of production to the license holder. Essentially the government would not have to provide any financing to develop the mine. The Minister for Mineral Resources and Energy recently stated that selection of this second contractor would also take into account infrastructure and possible downstream processing issues supporting the mine development. Key challenges include the completion of a draft contract and the competitive bidding process.

Source: World Bank.

Box 3. Mongolia—Macroeconomic Assumptions

The baseline macroeconomic framework assumes that the economy will be underpinned by the investment in the Oyu Tolgoi copper and gold mine and an expansion in output from the Tavan Tolgoi coal mine. The construction and exploitation of Oyu Tolgoi and Tavan Tolgoi are expected to lead to significant structural changes in the economy.

- The outlook for **real GDP growth** is dominated by Oyu Tolgoi and Tavan Tolgoi. The scaling up of mining will increase mineral GDP and will have significant knock-on effects on other sectors through a reallocation of resources and changes in relative prices. After bottoming out at minus 1.3 percent in 2009, real GDP growth hit 6.1 percent in 2010, fueled by mineral exports notably for copper and coal. Production from the Oyu Tolgoi mine is expected to start by 2013, while that from Tavan Tolgoi is expected to be gradually scaled up and to reach full capacity by 2016. GDP growth is expected to rise to over 20 percent in 2013 mainly as Oyu Tolgoi comes on stream and a further boost to GDP is expected when Tavan Tolgoi reaches full capacity. Real GDP growth is expected to average 13 percent over the medium term (2013–18), taking into account the impact on the non-mineral economy.

- The **copper and coal price** projections through 2016 are based on the WEO projections as of **December 17, 2010** and are assumed constant in real terms afterwards, but take into account transportation costs for Mongolia which reduce the price received by the country.

- In the near term, with the economy currently operating close to capacity and an expansionary fiscal stance envisaged for 2011, **inflation** will rise sharply in the near term. But with medium-term fiscal sustainability ensured by the FSL, and a tightening of monetary policy, it is projected to converge to about 5 percent over the long term.

- The **balance of payments** will go through large swings. The current account will remain in a deficit of around 14 percent in 2011 and 2012 due to large imports of mining-related investment goods and partly as expansionary fiscal policy feeds into higher non-mineral sector related imports. Once the Oyu Tolgoi and Tavan Tolgoi projects start producing, the current account will jump into a large surplus.

- **The fiscal deficit is expected to converge to the numerical targets specified in the FSL starting from 2013 (when the structural deficit and spending growth rules take effect). Fiscal revenues** will be boosted by the Oyu Tolgoi and Tavan Tolgoi project and are expected to reach around 35.5 percent of GDP in 2020. The Fiscal Stability Law will reduce pro-cyclicality by restraining **expenditure** growth during periods of high mineral revenues and enable the authorities to save a substantial fraction of mineral revenues in a Stabilization Fund to be established in 2011. As a result, the overall balance would gradually converge from surpluses to around zero by 2030.

- Prepayments for budget support from Tavan Tolgoi in 2011 are included, in line with the 2011 budget financing plans. The terms and repayment are assumed identical to those for Oyu Tolgoi.

reforms will contribute to an improved business climate and overall competitiveness of the economy.[5]

7. **With Mongolia rapidly moving towards middle-income status, non-concessional financing will replace concessional lending**. As the large mining projects come on stream, Mongolia is expected to become eligible for non-concessional borrowing from both the International Bank for Reconstruction and Development and the Asian Development Bank (AsDB), which would be phased in starting in 2013. After that point, the grant element of new external borrowing—as reflected by the grant-equivalent financing component—is projected to decline from 35 percent in 2011 to 24 percent by 2030.[6] Interest rates reflect International Development Association (IDA) blend terms and AsDB terms for concessional borrowing and market conditions for commercial loans (although, with global financial markets still uncertain, present conditions on the international capital markets for low-rated, first-time issuers may not be favorable).

III. Debt Sustainability

A. External DSA

8. **Mongolia remains at low risk of debt distress.** A brighter medium-term macroeconomic outlook supported by a big increase in mineral production means that debt indicators remain below the relevant thresholds.[7] This is mainly due to the fact that the country is undergoing a major structural shift with real GDP growth expected to rise sharply over the medium term with a concomitant impact on exports and revenues. The debt stock also falls sharply from 2013 as loan repayments come due, in particular to the Fund. The present value (PV) of external public debt is forecast to fall from 22.4 percent in 2010 to 6.4 percent of GDP at the end of the projection period.[8]

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[5] Note that in contrast to the previous DSA, current mineral GDP estimates are based on more improved mineral export methodology rather than mineral production estimates.

[6] The process for IDA transition begins when a country exceeds its operational per capita income guidelines for a few years in a row. In Mongolia's case, 2009 was the third year in a row that it exceeded the minimum cutoff.

[7] The *Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries* defines a "low risk of debt distress" when: All debt indicators are well below relevant country-specific debt-burden thresholds. Stress testing and country-specific alternative scenarios do not result in indicators significantly breaching thresholds. In case where only one indicator is above its benchmark, judgment is needed to determine whether there is a debt sustainability problem or some other issues.

[8] The debt burden thresholds for medium policy performer are 150, 40, and 250 for the PV of debt in percent of exports, GDP, and revenue, respectively. Under the same medium policy classification, thresholds for debt service are 20 percent and 30 percent of exports and revenue, respectively.

9. **Stress tests do not indicate any breach of the relevant debt thresholds.** Under the most extreme test—a combination of shocks including real GDP and export growth one-half of a standard deviation below historical averages in 2011–12—the PV of debt-GDP ratio climbs to 39 percent in 2012 but then falls back over the remainder of the projection period. As indicated in the previous DSA, the historical scenario with key variables at their historical averages is not especially relevant to Mongolia as the country is undergoing a major structural shift in terms of real GDP growth and current account balance. With the development of the Oyu Tolgoi mine advancing well, a slight delay in the Tavan Tolgoi mine reaching full capacity should not significantly impact the risk assessment.

B. Public DSA

10. **Baseline.** The public debt ratio peaked in 2009 at just below 50 percent of GDP, and is projected to fall substantially over the medium term as the budget benefits directly and indirectly from the increase in mineral output. Debt rose last year, in part, due to loans to the government from the local subsidiary of the Oyu Tolgoi mining conglomerate to finance the government's investment share in Oyu Tolgoi; the 2011 budget plan includes advance payments from both Oyu Tolgoi and Tavan Tolgoi. The investment share borrowing will be repaid from expected dividends[9] and the prepayments from the general budget. The baseline includes fiscalization of banking sector restructuring costs through domestic bond issuances, as described above. As a result, public sector domestic debt service ratios are projected to increase around 2014 when these payments fall due.

11. **Alternative scenarios and stress tests.** Under the most extreme test— GDP growth in 2011–12 is one standard deviation below its historical average —the PV of debt-GDP ratio rises from 35 percent in 2010 to 63 percent in 2030. In the near term it is more likely that the economy will overheat given budgetary spending plans for 2011, but downside risks still remain relating to volatility in commodity prices. This suggests that, before increased output and revenues from Oyu Togloi and Tavan Tolgoi materialize, fiscal policy should continue to adhere to the framework set out in the FSL.

IV. Authorities' View

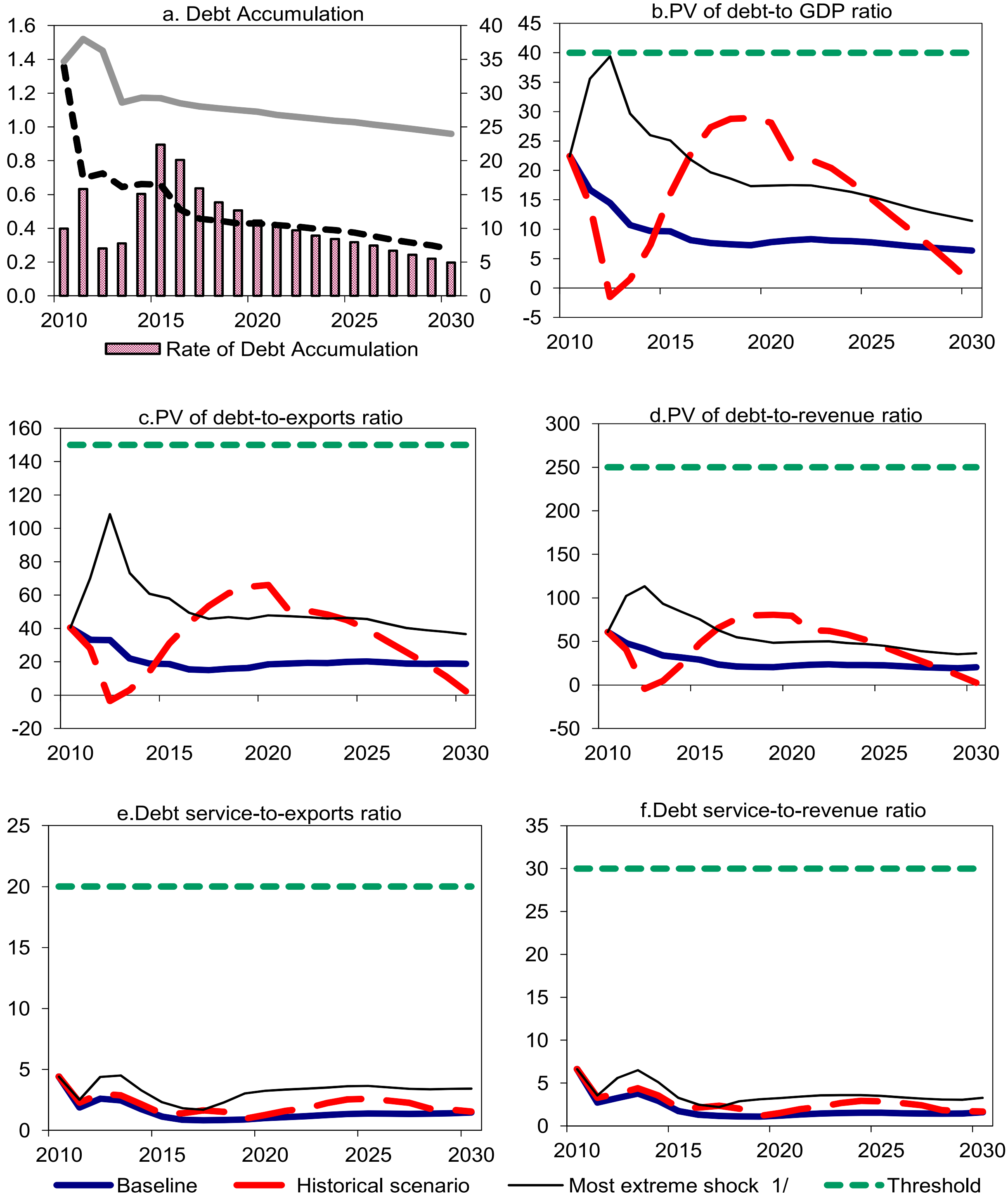
12. **The authorities concurred with the overall assessment**. They acknowledged that the bridging period till revenues from Oyu Tolgoi and Tavan Tolgoi enter the budget warrants a cautious approach and that fiscal consolidation will be needed. They recognized that high public debt makes the economy vulnerable to commodity price changes or financing constraints. At the same time, they also acknowledged that a debt ceiling rule in the FSL will help prevent excessive borrowing and that adherence to the numerical targets in the FSL will reinforce the government's commitment to fiscal sustainability.

[9] The government will not be liable for the loan in the unlikely event that dividends are insufficient.

V. Conclusions

13. **The overall assessment has not changed since the last DSA and the external DSA indicates that Mongolia remains at low risk of external debt distress.** Compared to the previous DSA, the overall medium- to long-term macroeconomic outlook has improved, as development of Tavan Tolgoi becomes nearer and is thus included in the projections. However, short-term risks remain, notably the budget remains vulnerable to financing shocks in the period before increased mining production (2013) and the expansionary 2011 fiscal stance risks overheating the economy. Meanwhile, public debt ratios are projected to have peaked last year and then fall steadily over the medium term with the rapid growth in the economy. They do not lead to a different assessment from external DSA.

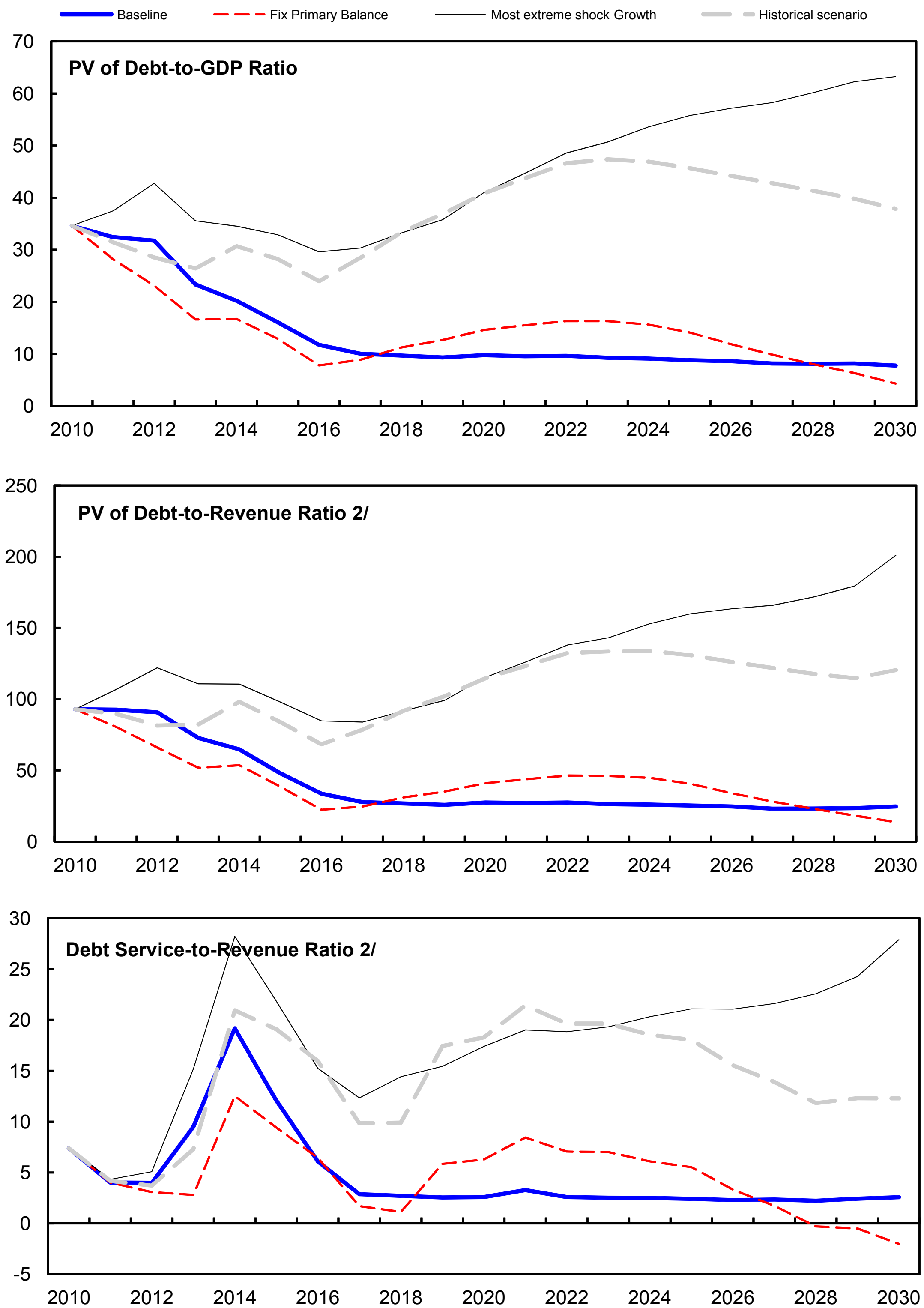
Figure 1. Mongolia: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2010-30 1/



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

1/ The most extreme stress test is the test that yields the highest ratio in 2020. In Figure b, it corresponds to a combination of shocks; in c, to a exports shock; in d, to a combination of shocks; in e, to a exports shock; and in f, to a combination of shocks.

Figure 2. Mongolia: Indicators of Public Debt Under Alternative Scenarios, 2010-30 1/



Sources: Mongolian authorities; and IMF staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2020 (growth).
2/ Revenues are defined inclusive of grants.

Table 1. Mongolia: External Debt Sustainability Framework, Baseline Scenario, 2007-30 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/ Average	Standard 6/ Deviation	Projections									
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
External debt (nominal) 1/	**37.2**	**31.8**	**45.9**			**41.6**	**42.9**	**55.1**	**40.9**	**30.9**	**25.8**		**12.1**	**8.1**	
Of which: public and publicly guaranteed (PPG)	36.1	31.0	43.3			30.8	22.8	19.8	14.7	13.4	13.2		10.2	7.9	
Change in external debt	-4.4	-5.4	14.2			-4.4	1.3	12.2	-14.2	-10.0	-5.1		-0.5	-0.4	
Identified net debt-creating flows	-22.8	-11.1	5.3			-12.6	-1.0	5.7	-15.7	-13.9	-17.0		-7.6	-2.2	
Noninterest current account deficit	**-6.6**	**12.6**	**8.5**	**2.7**	**6.8**	**14.7**	**14.8**	**13.2**	**-4.0**	**-7.8**	**-13.2**		**-6.8**	**-1.0**	-5.9
Deficit in balance of goods and services	-2.5	14.3	7.8			9.1	15.3	13.2	-9.9	-16.1	-18.7		-11.9	-3.5	
Exports	59.6	53.5	49.9			55.3	50.3	43.6	48.8	51.3	51.7		42.5	33.9	
Imports	57.1	67.8	57.8			64.4	65.5	56.8	38.9	35.2	33.0		30.6	30.5	
Net current transfers (negative = inflow)	-5.1	-3.2	-2.6	-7.5	3.1	-2.5	-1.5	-1.3	-0.9	-0.7	-0.6		-0.4	-0.3	-0.4
Of which: official	-3.1	-1.5	0.0			-0.8	-0.3	-0.3	-0.2	-0.1	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	1.0	1.5	3.3			8.1	1.0	1.3	6.8	9.0	6.1		5.5	2.9	
Net FDI (negative = inflow)	**-8.5**	**-14.9**	**-10.8**	**-8.0**	**3.5**	**-25.7**	**-13.1**	**-5.2**	**-4.6**	**-2.5**	**-2.5**		**-1.0**	**-1.0**	-1.1
Endogenous debt dynamics 2/	**-7.6**	**-8.8**	**7.6**			**-1.6**	**-2.8**	**-2.3**	**-7.1**	**-3.5**	**-1.2**		**0.2**	**-0.3**	
Contribution from nominal interest rate	0.4	0.3	0.4			0.5	0.3	0.4	2.2	1.9	1.3		0.3	0.1	
Contribution from real GDP growth	-3.4	-2.5	0.5			-2.1	-3.0	-2.7	-9.3	-5.4	-2.5		-0.1	-0.4	
Contribution from price and exchange rate changes	-4.5	-6.6	6.7			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**18.3**	**5.7**	**8.8**			**8.2**	**2.4**	**6.5**	**1.5**	**3.9**	**11.9**		**7.1**	**1.9**	
Of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	34.4			33.1	36.8	49.8	36.9	27.3	22.3		9.6	6.6	
In percent of exports	...	...	68.9			59.9	73.1	114.2	75.6	53.1	43.1		22.7	19.3	
PV of PPG external debt	**...**	**...**	**31.8**			**22.4**	**16.7**	**14.4**	**10.7**	**9.7**	**9.6**		**7.8**	**6.4**	
In percent of exports	**...**	**...**	**63.6**			**40.5**	**33.2**	**33.1**	**22.0**	**19.0**	**18.6**		**18.4**	**18.8**	
In percent of government revenues	**...**	**...**	**106.4**			**60.9**	**47.9**	**41.6**	**33.7**	**31.4**	**28.9**		**22.2**	**20.4**	
Debt service-to-exports ratio (in percent)	**4.3**	**2.8**	**3.8**			**4.4**	**2.0**	**3.0**	**9.0**	**13.9**	**9.8**		**3.8**	**1.5**	
PPG debt service-to-exports ratio (in percent)	**2.0**	**2.0**	**3.8**			**4.4**	**1.9**	**2.6**	**2.5**	**1.8**	**1.1**		**1.0**	**1.5**	
PPG debt service-to-revenue ratio (in percent)	**3.2**	**3.3**	**6.3**			**6.6**	**2.7**	**3.3**	**3.8**	**2.9**	**1.8**		**1.2**	**1.6**	
Total gross financing need (millions of U.S. dollars)	-531.9	-46.0	1.8			-502.5	272.4	1044.2	-542.5	-480.9	-1968.4		-2005.1	-779.8	
Noninterest current account deficit that stabilizes debt ratio	-2.2	18.0	-5.6			19.1	13.5	1.0	10.2	2.2	-8.1		-6.3	-0.6	
Key macroeconomic assumptions															
Real GDP growth (in percent)	10.2	8.9	-1.3	6.0	4.0	6.1	10.3	7.6	22.9	15.7	9.0	11.9	0.8	4.9	5.6
GDP deflator in U.S. dollar terms (change in percent)	12.3	21.6	-17.4	10.0	11.7	26.2	27.8	14.3	10.8	3.1	1.3	13.9	1.6	2.1	2.4
Effective interest rate (percent) 5/	1.1	1.1	1.2	1.6	0.6	1.4	0.9	1.0	5.4	5.4	4.7	3.1	2.4	1.6	2.1
Growth of exports of G&S (U.S. dollar terms, in percent)	24.2	18.9	-23.8	17.1	20.7	48.4	28.0	6.7	52.5	25.4	11.1	28.7	-2.3	3.4	5.2
Growth of imports of G&S (U.S. dollar terms, in percent)	28.5	57.4	-30.5	16.7	22.1	49.3	43.3	6.6	-6.6	7.9	3.3	17.3	1.9	6.5	7.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	34.7	38.0	36.3	28.6	29.3	29.3	32.7	27.2	24.0	26.2
Government revenues (excluding grants, in percent of GDP)	37.5	32.9	29.9			36.8	34.8	34.7	31.8	31.0	33.3		35.3	31.3	34.8
Aid flows (in millions of U.S. dollars) 7/	18.8	13.8	17.0			25.6	22.0	29.1	35.1	39.5	43.1		72.4	84.0	
Of which: Grants	18.8	13.8	17.0			25.6	22.0	29.1	35.1	39.5	43.1		72.4	84.0	
Of which: Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			1.4	0.7	0.7	0.6	0.7	0.7		0.4	0.3	0.4
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			43.5	49.2	47.8	39.2	38.8	38.6		42.7	38.9	41.0
Memorandum items:															
Nominal dollar GDP growth	23.8	32.4	-18.4			33.9	40.9	22.9	36.3	19.3	10.4	27.3	2.4	7.1	8.1
PV of PPG external debt (in millions of U.S. dollars)			1452.1			1470.3	1509.0	1533.2	1566.1	1653.2	1807.5		2557.3	3796.4	
(PVt-PVt-1)/GDPt-1 (in percent)						0.4	0.6	0.3	0.3	0.6	0.9	0.5	0.4	0.2	0.4
Gross remittances (Millions of U.S. dollars)	83.9	94.2	120.5			101.9	102.9	103.4	103.9	104.5	105.0		120.8	206.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	31.0			22.0	16.5	14.3	10.7	9.7	9.6		7.8	6.4	
PV of PPG external debt (in percent of exports + remittances)	...	...	60.5			39.3	32.4	32.4	21.7	18.7	18.4		18.3	18.6	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	3.6			4.3	1.9	2.5	2.4	1.7	1.1		1.0	1.4	

Sources: Mongolian 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 2. Mongolia: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007-30
(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2007	2008	2009	Average 5/	Standard Deviation 5/	2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
Public sector debt 1/	36.5	31.0	49.4			43.0	38.6	37.1	27.3	23.9	19.6		12.2	9.3	
Of which: foreign-currency denominated	36.1	31.0	45.5			40.9	36.4	31.8	23.6	20.8	16.7		10.2	7.9	
Change in public sector debt	-4.4	-5.5	18.4			-6.4	-4.5	-1.5	-9.8	-3.5	-4.3		0.5	-0.5	
Identified debt-creating flows	-10.6	-2.2	8.7			-9.6	-8.2	-1.8	-10.6	-7.2	-3.4		-3.3	-0.2	
Primary deficit	-3.1	4.2	4.6	0.6	4.1	-1.8	3.1	3.7	-1.8	-4.4	-1.8	-0.5	-3.6	0.3	-1.8
Revenue and grants	37.9	33.1	30.2			37.2	35.1	35.0	32.1	31.2	33.5		35.5	31.4	
Of which: grants	0.4	0.2	0.4			0.4	0.3	0.3	0.2	0.2	0.2		0.2	0.1	
Primary (noninterest) expenditure	34.9	37.3	34.8			35.4	38.1	38.7	30.2	26.8	31.7		31.9	31.7	
Automatic debt dynamics	-7.2	-6.3	4.5			-14.0	-11.3	-5.4	-8.8	-2.8	-1.6		0.3	-0.5	
Contribution from interest rate/growth differential	-7.5	-8.6	7.5			-11.7	-12.0	-6.9	-8.6	-3.3	-1.6		-0.1	-0.5	
Of which: contribution from average real interest rate	-3.7	-5.6	7.1			-8.8	-7.9	-4.1	-1.6	0.4	0.4		0.0	0.0	
Of which: contribution from real GDP growth	-3.8	-3.0	0.4			-2.9	-4.0	-2.7	-6.9	-3.7	-2.0		-0.1	-0.5	
Contribution from real exchange rate depreciation	0.3	2.3	-2.9			-2.3	0.6	1.4	-0.2	0.5	0.0		...	...	
Other identified debt-creating flows	-0.4	-0.1	-0.4			6.3	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.4	-0.1	-0.4			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 (bank recapitalization)	0.0	0.0	0.0			6.3	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	6.2	-3.3	9.7			3.2	3.8	0.3	0.8	3.7	-0.8		3.8	-0.3	
Other Sustainability Indicators															
PV of public sector debt	0.4	0.0	37.9			34.6	32.4	31.8	23.3	20.2	16.1		9.8	7.8	
Of which: foreign-currency denominated	0.0	0.0	34.0			32.5	30.3	26.5	19.6	17.1	13.2		7.8	6.4	
Of which: external	...	...	31.8			22.4	16.7	14.4	10.7	9.7	9.6		7.8	6.4	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	-1.0	6.0	6.5			3.1	4.5	5.1	1.2	1.6	2.2		-2.7	1.1	
PV of public sector debt-to-revenue and grants ratio (in percent)	1.2	0.1	125.4			93.0	92.5	90.7	72.7	64.8	47.9		27.5	24.7	
PV of public sector debt-to-revenue ratio (in percent)	1.2	0.1	126.9			94.0	93.2	91.4	73.3	65.3	48.3		27.7	24.8	
Of which: external 3/	…	…	106.4			60.9	47.9	41.6	33.7	31.4	28.9		22.2	20.4	
Debt service-to-revenue and grants ratio (in percent) 4/	5.5	4.5	6.4			7.4	4.0	4.0	9.5	19.2	12.1		2.6	2.6	
Debt service-to-revenue ratio (in percent) 4/	5.5	4.5	6.5			7.5	4.0	4.0	9.6	19.3	12.2		2.6	2.6	
Primary deficit that stabilizes the debt-to-GDP ratio	1.3	9.7	-13.9			4.6	7.6	5.2	8.0	-0.9	2.4		-4.1	0.8	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	10.2	8.9	-1.3	6.0	4.0	6.1	10.3	7.6	22.9	15.7	9.0	11.9	0.8	4.9	5.6
Average nominal interest rate on forex debt (in percent)	1.1	1.1	1.2	1.7	0.6	1.4	0.8	0.7	4.1	4.6	2.7	2.4	1.4	1.6	1.5
Real exchange rate depreciation (in percent, + indicates depreciation)	1.0	8.4	-7.6	-0.3	4.0	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	11.6	21.4	1.8	13.3	6.7	18.0	14.1	8.9	9.7	3.7	4.4	9.8	5.6	5.0	4.7
Growth of real primary spending (deflated by GDP deflator, in percent)	0.5	0.2	-0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.1
Grant element of new external borrowing (in percent)	...	...	...	…	…	34.7	38.0	36.3	28.6	29.3	29.3	32.7	27.2	24.0	...

Sources: Mongolian authorities; and IMF staff estimates and projections.
1/ General government, on a gross basis.
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 3a. Mongolia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-30
(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	**2020**	2030
PV of debt-to GDP ratio								
Baseline	22	17	14	11	10	10	**8**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-30 1/	22	14	-1	1	7	16	**28**	1
A2. New public sector loans on less favorable terms in 2010-30 2	22	18	15	12	11	11	**9**	9
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-12	22	19	16	12	11	11	**9**	7
B2. Export value growth at historical average minus one standard deviation in 2011-12 3/	22	27	32	24	21	20	**14**	8
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-12	22	23	22	16	14	14	**11**	9
B4. Net nondebt creating flows at historical average minus one standard deviation in 2011-12 4/	22	22	16	12	11	11	**8**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	22	36	39	30	26	25	**17**	11
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	22	23	19	14	13	12	**10**	8
PV of debt-to-exports ratio								
Baseline	41	33	33	22	19	19	**18**	19
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-30 1/	41	28	-3	3	14	31	**66**	2
A2. New public sector loans on less favorable terms in 2010-30 2	41	35	35	24	21	21	**22**	27
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-12	41	35	33	22	19	18	**18**	18
B2. Export value growth at historical average minus one standard deviation in 2011-12 3/	41	70	109	73	61	58	**48**	37
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-12	41	35	33	22	19	18	**18**	18
B4. Net nondebt creating flows at historical average minus one standard deviation in 2011-12 4/	41	43	37	25	21	20	**19**	19
B5. Combination of B1-B4 using one-half standard deviation shocks	41	65	73	49	41	39	**33**	27
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	41	35	33	22	19	18	**18**	18
PV of debt-to-revenue ratio								
Baseline	61	48	42	34	31	29	**22**	20
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-30 1/	61	40	-4	5	24	48	**80**	3
A2. New public sector loans on less favorable terms in 2010-30 2/	61	51	43	36	34	33	**27**	30
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-12	61	54	47	39	35	32	**24**	23
B2. Export value growth at historical average minus one standard deviation in 2011-12 3/	61	76	93	76	69	61	**39**	27
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-12	61	65	63	51	47	43	**32**	30
B4. Net nondebt creating flows at historical average minus one standard deviation in 2011-12 4/	61	62	47	38	35	32	**23**	20
B5. Combination of B1-B4 using one-half standard deviation shocks	61	102	113	93	84	75	**49**	36
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	61	66	54	44	40	37	**28**	26

Table 3b. Mongolia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-30 (continued)
(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
Debt service-to-exports ratio								
Baseline	4	2	3	2	2	1	**1**	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-30 1/	4	2	3	3	2	1	**1**	2
A2. New public sector loans on less favorable terms in 2010-30 2/	4	2	3	2	2	1	**1**	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-12	4	2	3	2	2	1	**1**	1
B2. Export value growth at historical average minus one standard deviation in 2011-12 3/	4	3	4	4	3	2	**3**	3
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-12	4	2	3	2	2	1	**1**	1
B4. Net nondebt creating flows at historical average minus one standard deviation in 2011-12 4/	4	2	3	3	2	1	**1**	2
B5. Combination of B1-B4 using one-half standard deviation shocks	4	2	4	3	3	2	**2**	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	4	2	3	2	2	1	**1**	1
Debt service-to-revenue ratio								
Baseline	7	3	3	4	3	2	**1**	2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-30 1/	7	3	4	4	4	2	**2**	2
A2. New public sector loans on less favorable terms in 2010-30 2/	7	3	3	4	3	2	**2**	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-12	7	3	4	4	3	2	**1**	2
B2. Export value growth at historical average minus one standard deviation in 2011-12 3/	7	3	4	5	4	2	**3**	3
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-12	7	4	5	6	4	3	**2**	2
B4. Net nondebt creating flows at historical average minus one standard deviation in 2011-12 4/	7	3	3	4	3	2	**1**	2
B5. Combination of B1-B4 using one-half standard deviation shocks	7	4	6	7	5	3	**3**	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	7	4	4	5	4	2	**2**	2
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	27	27	27	27	27	27	**27**	27

Sources: Mongolian 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 4. Mongolia: Sensitivity Analysis for Key Indicators of Public Debt 2010-30

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
PV of Debt-to-GDP Ratio								
Baseline	35	32	32	23	20	16	10	8
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	35	31	29	26	31	28	41	38
A2. Primary balance is unchanged from 2010	35	28	23	17	17	13	15	4
A3. Permanently lower GDP growth 1/	35	33	33	25	23	20	22	52
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-12	35	37	43	36	35	33	41	63
B2. Primary balance is at historical average minus one standard deviations in 2011-12	35	34	34	25	22	17	11	8
B3. Combination of B1-B2 using one half standard deviation shocks	35	34	33	27	26	24	29	44
B4. One-time 30 percent real depreciation in 2011	35	41	39	29	25	21	13	10
B5. 10 percent of GDP increase in other debt-creating flows in 2011	35	41	40	29	25	21	13	10
PV of Debt-to-Revenue Ratio 2/								
Baseline	93	93	91	73	65	48	27	25
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	93	90	81	82	98	84	115	120
A2. Primary balance is unchanged from 2010	93	80	66	52	54	39	41	14
A3. Permanently lower GDP growth 1/	93	94	94	78	73	58	62	165
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-12	93	107	122	111	111	98	115	201
B2. Primary balance is at historical average minus one standard deviations in 2011-12	93	96	97	78	69	52	30	27
B3. Combination of B1-B2 using one half standard deviation shocks	93	96	94	84	83	71	81	141
B4. One-time 30 percent real depreciation in 2011	93	118	113	91	82	62	36	33
B5. 10 percent of GDP increase in other debt-creating flows in 2011	150	182	179	181	192	158	74	36
Debt Service-to-Revenue Ratio 2/								
Baseline	7	4	4	9	19	12	3	3
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	7	4	4	7	21	19	18	12
A2. Primary balance is unchanged from 2010	7	4	3	3	13	9	6	-2
A3. Permanently lower GDP growth 1/	7	4	4	10	21	14	8	23
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-12	7	4	5	15	28	22	17	28
B2. Primary balance is at historical average minus one standard deviations in 2011-12	7	4	4	11	20	13	3	3
B3. Combination of B1-B2 using one half standard deviation shocks	7	4	4	9	20	17	12	19
B4. One-time 30 percent real depreciation in 2011	7	4	5	12	22	14	4	4
B5. 10 percent of GDP increase in other debt-creating flows in 2011	7	4	6	21	21	17	3	4

Sources: Mongolian 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.