INTERNATIONAL MONETARY FUND

MONGOLIA

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION AND THIRD POST-PROGRAM MONITORING—DEBT SUSTAINABILITY ANALYSIS

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The Debt Sustainability Analysis (DSA) has been prepared jointly by IMF and World Bank staff, in consultation with the Asian Development Bank (AsDB), using the debt sustainability framework for low-income countries approved by the Boards of both institutions.

The results of the debt sustainability analysis (DSA) are similar to those of the previous DSA.[1] *Mongolia's risk of debt distress remains low based on indicators of external and public debt. The successful Eurobond issuance by the Development Bank of Mongolia (DBM) earlier this year pushed up the country's public and publicly-guaranteed external debt. However, under the baseline scenario, with the economy expanding and large mining projects coming on stream, Mongolia's external and public debt ratios are projected to improve substantially over the medium term and external debt burden indicators remain below the relevant policy-dependent indicative thresholds.*[2]

[1] The 2011 DSA (see IMF Country Report No. 11/76) was based on end-2009 debt data. The current DSA is based on end-2011 debt data. The fiscal year for Mongolia is January–December.

[2] 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 are policy-dependent. Mongolia's policies and institutions, as measured by the World Bank's Country Policy and Institutional Assessment (CPIA), place it as a "medium performer," with an average rating of 3.41 during 2009-11. The relevant indicative thresholds for this category are: 40 percent for the 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. These thresholds are applicable to public and publicly guaranteed external debt.

BACKGROUND

1. **This DSA incorporates an updated baseline macroeconomic outlook, including revised assumptions on the public sector's external and domestic borrowing plans.** The economy is experiencing a structural shift as the development of the Oyu Tolgoi (OT) copper-gold mining complex nears completion. The assumptions and projections regarding the development of the OT and Tavan Tolgoi (TT) mining projects in this DSA are broadly in line with those in the previous DSA (Box 1). At the same time, expansionary fiscal policy has been causing double-digit inflation and balance of payments (BOP) pressures. Moreover, to address the country's large infrastructure needs, the DBM raised US$600 million through the issuance of five-year government-guaranteed Eurobonds (Box 2). Compared to the previous DSA, public and publicly guaranteed external debt is on a higher path, reflecting for the most part DBM borrowing:

- The face value of public external debt is now projected to amount to 29.4 percent of GDP in 2012, up from 19.8 percent of GDP in the previous DSA. The higher public external debt ratio is mostly accounted for by DBM borrowing (6 percent of GDP) and the U.S. dollar value of GDP being 6 percent lower than projected in the previous DSA.

- Reflecting the likely extent of DBM borrowing, the face value of public external debt is now projected to decline by 5½ percentage points of GDP over the next five years, compared to a 17½ percentage points of GDP decline projected in the previous DSA.

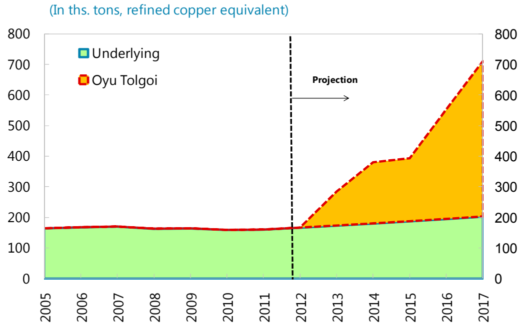
Box 1. Mongolia: Two Large Mining Projects

Exports of copper and coal are set to rise significantly over the medium term:

- **The Oyu Tolgoi mine**, located in the south near the border with China, will be one of the largest copper and gold mines in the world. The government owns 34 percent of the mine, and the rest is owned by Turquoise Hills Resources (Canada), in which Rio Tinto (UK) has a 51 percent stake. Production is expected to start in early 2013.

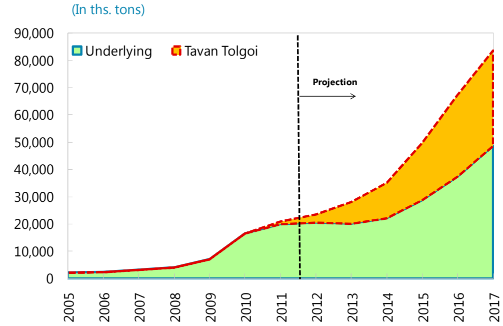
- **Tavan Tolgoi**, also located in southern Mongolia, is one of the world's largest untapped coal deposits with estimated reserves of about 6.4 billion tons. Erdenes Tavan Tolgoi LLC, a subsidiary of a 100 percent state-owned enterprise, has the mining license for what is called the eastern bloc (East Tsankhi) as well as the western bloc (West Tsankhi). An operating contract with foreign companies for the eastern bloc was concluded in October 2011. An initial public offering of 20 percent of Erdenes Tavan Tolgoi shares is expected to take place in the first half of 2013. The modalities for developing the western bloc are under discussion.

Copper: Export Volume
(In ths. tons, refined copper equivalent)



Sources: Mongolian authorities; and IMF staff estimates.

Coal: Export Volume
(In ths. tons)



Sources: Mongolian authorities; and IMF staff estimates.

Box 2: The Development Bank of Mongolia

The DBM was set up in May 2011 with the mandate to finance Mongolia's large infrastructure needs to develop the country's mineral wealth and associated transportation networks. The project portfolio of the DBM includes railroads, roads and infrastructure for housing projects, energy, and industrial development. A large number of mostly road projects were also shifted to the DBM's portfolio from the budget in 2011. The government signed a four-year management contract in 2011 with the Korean Development Bank. And a recent World Bank technical assistance mission provided specific recommendations to amend the Law on the DBM to bring it in line with international best practice.

Wholly-owned by the government, DBM borrowing carries a sovereign guarantee. The risk of contingent liabilities could be mitigated somewhat by the recently passed IBL which requires that all guarantees provided by the state, including for the DBM, be fully reflected in the budget (Box 4).

The DBM debuted its first foreign currency bond offering on international financial markets in March. The five-year US$580 million bond offering drew orders of US$6.25 billion, with a yield of 5.75 percent, much lower than the initial guidance of 6–6.25 percent. The bonds are rated B1 by Moody's and BB- by S&P, which is the same rating as the Mongolian sovereign. Along with an earlierUS$20 million in a private placement at the end of 2011, the offering completes its US$600 million program of issuance during 2012 to fund several infrastructure projects including roads and railway projects. The DBM is expected to continue issuing similarly large amounts of debt on international markets over the next few years, a scenario which is incorporated into the DSA.

Sources: World Bank and IMF.

2. **The macroeconomic outlook, summarized in Box 3, assumes that the government budget will observe the Fiscal Stability Law's (FSL) ceiling for the structural deficit of 2 percent of GDP from 2014 onwards**. The macro-economic outlook also takes into account the likely extent of off-budget spending by the DBM on public investment projects.

- The 2013 draft budget sent to Parliament targets a general government deficit of 1.2 percent of GDP in 2013. This is consistent with the FSL's structural deficit ceiling of 2 percent of GDP. However, revenues may be overestimated by as much as 6¾ percent of GDP. As a result, revenue shortfalls will likely cause the FSL's structural deficit ceiling to be breached in 2013. Meanwhile, any potential delay in the start of full commercial production at Oyu Tolgoi would also delay net revenue inflows into the budget, constraining fiscal space and growth prospects in the near term.

Box 3. Mongolia—Macroeconomic Outlook and Assumptions

The baseline macroeconomic framework assumes that growth will be driven by completion of the OT copper and gold mine and rising output from the eastern bloc of the TT coal mine, with the economy experiencing significant structural changes in the process.

- The medium-term outlook for real GDP growth is dominated by OT and TT. Production from the OT mine is expected to start in early 2013, with the mine expected to produce at full capacity by around 2016. Total mining output is projected to expand by more than 20 percent per annum, on average, over the next five years. As the mineral sector expands in size, there will also be significant spillovers to other sectors through changes in relative factor prices and factor movements. Overall growth is projected to average 12 percent per annum during 2012–17. Long-run growth is projected to average about 5½ percent, unchanged from the previous DSA. This could be higher, depending on the development of new mining projects. With progress on the development of the western part of the TT coal mine currently stalled, the macroeconomic framework only incorporates output projections from the eastern part of TT over the next few years.
- The baseline assumes that structural fiscal reforms including on pensions, civil service, social transfers will contribute to an improved business climate and overall competitiveness of the economy, while public investment management reforms should help to mitigate risks of contingent liabilities.
- The copper and coal price projections through 2017 are based on the WEO projections as of August 2012 and are assumed constant in real terms afterwards, but take into account transportation costs which reduced the price received by Mongolia.
- The continued strong growth of domestic demand is expected to prevent a rapid decline in inflation and the increase in consumer prices is projected to remain in double digits throughout 2013. Over the long term, with fiscal policy anchored by the FSL, inflation will decelerate to about 5 percent.
- The BOP will go through large swings. The current account is expected to gradually shift into surplus by 2015 as imports of mining-related investment goods ease and a larger share of the gross export proceeds from the OT mine accrue to the government in the form of tax and dividend payments. However, foreign direct investment (FDI) inflows are also expected to fall back.
- A restrained fiscal policy is projected over the medium to long term, supported by the FSL and Integrated Budget Law (IBL). The structural fiscal balance is expected to gradually converge to the numerical targets specified in the FSL starting from 2013 (when the structural deficit and spending growth rules take effect). Rising commodity exports will boost fiscal revenue. Implementation of the FSL is expected to 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 that was established in 2011. As a result, the primary deficit would average less than 1 percent of GDP during 2012–17.
- To take into account the likely extent of external borrowing by the DBM, the baseline macroeconomic projections assume the issuance of US$500 million in new government-guaranteed international bonds each year for the next five years.

- Considerable capital spending will be channeled through the DBM. This spending is not included in the budget. It is also not covered by the FSL's limits on the structural deficit or expenditure growth, even though, for the most part, it will not generate revenues and eventually require funding from the budget to repay principal and interest on the DBM's external loans. Off-budget DBM spending will add to overheating pressures and will undermine the FSL's integrity and meaningfulness. DBM borrowing is guaranteed by the government and projected DBM borrowing is included in the DSA.

- The enactment of the IBL in late-2011 should support the observance of the FSL in 2014 and beyond (Box 4). At the same time, for the next few years, there will also be off-budget capital spending by the DBM which will add to external debt accumulation and put pressure on inflation.

Mongolia: Structure of External Public Debt, 2011

	Nominal value (in US$m)	In percent of GDP	NPV (in US$m)
Public debt	2,074	26.1	1,579
Multilaterals	1,291	16.3	973
IMF	178	2.2	167
World Bank	447	5.6	276
AsDB	612	7.7	493
Official bilaterals	754	9.5	600
Paris Club	484	6.1	378
Non-Paris Club	270	3.4	222
Commercial	7	0.1	6

Source: Mongolian authorities.

3. **Mongolia's stock of public and publicly- guaranteed external debt had a face value of US$2.1 billion (26.1 percent of GDP) at end-2011.** Nearly two-thirds of Mongolia's external public debt is owed to multilateral creditors on concessional terms, and most of the remainder is owed to official bilateral creditors on relatively concessional terms. Private external debt is significant, but mainly reflects intercompany lending for mining projects, including by the Rio-Tinto/Ivanhoe mining conglomerate, to finance the development of the OT copper and gold mine.

4. **Domestic public debt amounted to 25.6 percent of GDP at end-2011, up from 16.3 percent in the previous year.** The sharp increase mainly advance tax payments by the OT and TT mining companies, additional loans to the government from the local subsidiary of the OT mining conglomerate to finance the government's investment share in the OT mining project, as well as bond issuances in support of the wool, cashmere, and small-and-medium enterprise sectors (see text table).

Mongolia: Public Domestic Debt

(In billions of togrogs, unless otherwise noted)

	2010	2011
Government bonds	200	517
Bank restructuring bonds	100	80
Civil servants housing	95	137
Wool, cashmere, SMEs	5	300
Liabilities to mining companies	1,175	2,316
Oyu Tolgoi	1,175	1,978
Tax prepayments	202	318
Equity loan	973	1,660
Tavan Tolgoi	0	338
Tax prepayments	0	339
Total	1,375	2,833
(in percent of GDP)	16.3	25.6

Source: Mongolian authorities.

Box 4: Key provisions of the Integrated Budget Law

- The IBL (passed December 2011) is a comprehensive law which reforms the entire budget process, from public investment planning to budget execution and auditing, secures the implementation of the FSL, and fully accounts for contingent liabilities. Its key provisions are:
- On fiscal stability, the IBL mandates that budgets observe the 2 percent structural deficit ceiling and expenditure and debt rules set in the FSL and the expenditure limits set out in Medium-Term Budget Frameworks. The deficit and spending rules become binding in 2013.
- The law also explicitly states that the budget includes the state (central government) budget, the Human Development Fund, and the Social Insurance Fund; that the budget should list projects to be executed through concessions contracts, and include information on government guarantees and contingent liabilities, including those made to the newly formed DBM, thereby improving the budget's comprehensiveness. It therefore makes clear that any investments and debts by the DBM are public investments and debts, and that the safeguards of the FSL and IBL apply.
- It significantly strengthens capital budgeting, mandating that only projects that have gone through a proper appraisal process be considered for financing, and introduces the concept of a rolling four-year public investment program for large projects (greater than 30 billion MNT) as a stock of potentially financeable projects that have passed a pre-feasibility study. All financing decisions—whether to fund projects from the budget, loans, concessions, or the DBM—are then made by the Ministry of Finance (MOF), abiding by the good principle of the MOF as a single point of control on such matters.

Source: World Bank.

5. **Reflecting Mongolia's rapid economic development, strong growth prospects and improved credit-worthiness, the World Bank and Asian Development Bank (AsDB) confirmed its eligibility for non-concessional borrowing,**[3] while still retaining access to concessional funding.[4] With non-concessional borrowing from the two institutions expected to increase over the next few years alongside borrowing by the DBM through international bond issuances, the grant element of new external borrowing—as reflected by the grant-equivalent financing component—is projected to fall over the medium term. Meanwhile, however, an increase in concessional lending from multilateral and bilateral development partners in 2013 and 2014 is expected to cause the grant element of new borrowing to rise in those years. Interest rates in the medium term reflect International Development Association (IDA) blend terms and AsDB terms for concessional borrowing and market conditions for commercial loans.

[3]The process of graduation from IDA begins when a country exceeds its operational per capita income guidelines for a few years in a row. Mongolia's GNI per capita has nearly quadrupled since 2004, from $480 to $1,890 in 2010, a level well above the 2010 cut-off mark set for low-income countries of $1,005 per capita.

[4] Mongolia has been granted "Blend" status (in August 2011 by the AsDB, and in March 2012 by the World Bank, taking full effect in May 2012), which allows it to access both concessional and non-concessional (IBRD funding from the World Bank, and OCR funding from the AsDB) resources. Non-concessional funding from the World Bank is expected to be phased in over the next few years, while Mongolia will tap such funding from the AsDB from 2012 onwards.

6. **A comprehensive assessment of debt management operations using the Debt Management Performance Assessment tool was undertaken by a World Bank mission in December 2010.** The mission found that relative strengths of Mongolia's debt management are in governance and strategy development. The mission noted room for improvement in the areas of cash flow forecasting and cash management as well as operational risk management and reporting.

DEBT SUSTAINABILITY

A. External DSA

7. **All external debt indicators remain well below the policy-dependent debt burden thresholds under the baseline scenario.** There would be a one-off breach of a threshold under one of the standardized stress tests. The main results of the external DSA are as follows:

- **All debt indicators in the baseline scenario are expected to decline over the 20-year projection period** (Table 1). During the projection period, the present value (PV) of the external debt-to-GDP ratio decreases from 20 percent in 2011 to about 8 percent in 2032 (compared to an indicative threshold of 40 percent), while the PV of the debt-to-exports ratio is projected to hover around 45 percent over the medium term and decrease to around 20 percent in 2032 (compared to an indicative threshold of 150 percent).

- **The standard stress tests do reveal some vulnerabilities** (Table 3 and Figure 1). The standard exports shock causes a one-off breach of the threshold by the PV of the debt-to-exports ratio. This underscores that, to limit vulnerability, recourse to non-concessional foreign financing should be limited to commercially viable projects. As indicated in the previous DSAs, the prospective strong increase in real GDP related to the start of OT mining operations is so large that historical scenarios with key variables at their historical averages do not seem to represent relevant comparators. [5]

B. Public DSA

8. In the baseline scenario, the PV of public debt-to-GDP ratio peaks at 52 percent of GDP in 2012 and then falls rapidly over the medium term to 25 percent of GDP in 2017 before stabilizing at about 22 percent of GDP over the long run (Table 2). The domestic debt to GDP ratio declines rapidly as the advance tax payments and the government's investment share borrowing are repaid from the mining

[5] At the same time, it should be noted that, despite the structural changes, the current account deficits during 2012-14 will still be larger than the average current account deficit of the past 10 years (4.5 percent of GDP). Therefore, if the large current account deficits (and hence large external borrowing requirements) in the baseline scenario in 2012–14 are replaced by the smaller current account deficits (and hence smaller external borrowing requirements) in the historical scenario, then the debt to GDP ratio, the debt to export ratio and the debt to revenue ratio decline very rapidly. However, for the subsequent five years the reverse is the case: the projected current account balance is much stronger (moving into surplus). Therefore, whereas the debt to GDP ratio, the debt to export ratio, and the debt to revenue ratio decline in the baseline scenario, they rise in the historical scenario.

projects' forthcoming revenue streams. Meanwhile, new external borrowing by the DBM prevents a rapid decline in the PV of external public debt-to-GDP ratio over the medium term.

9. The alternative scenarios and bound tests indicate that the projected paths of debt indicators are sensitive to alternative assumptions and point to some risks (Table 4 and Figure 2). A case in point is the scenario in which GDP growth in 2013–14 is one standard deviation below its historical average. In this scenario the PV of debt-GDP ratio rises from 52 percent in 2012 to 115 percent in 2032.

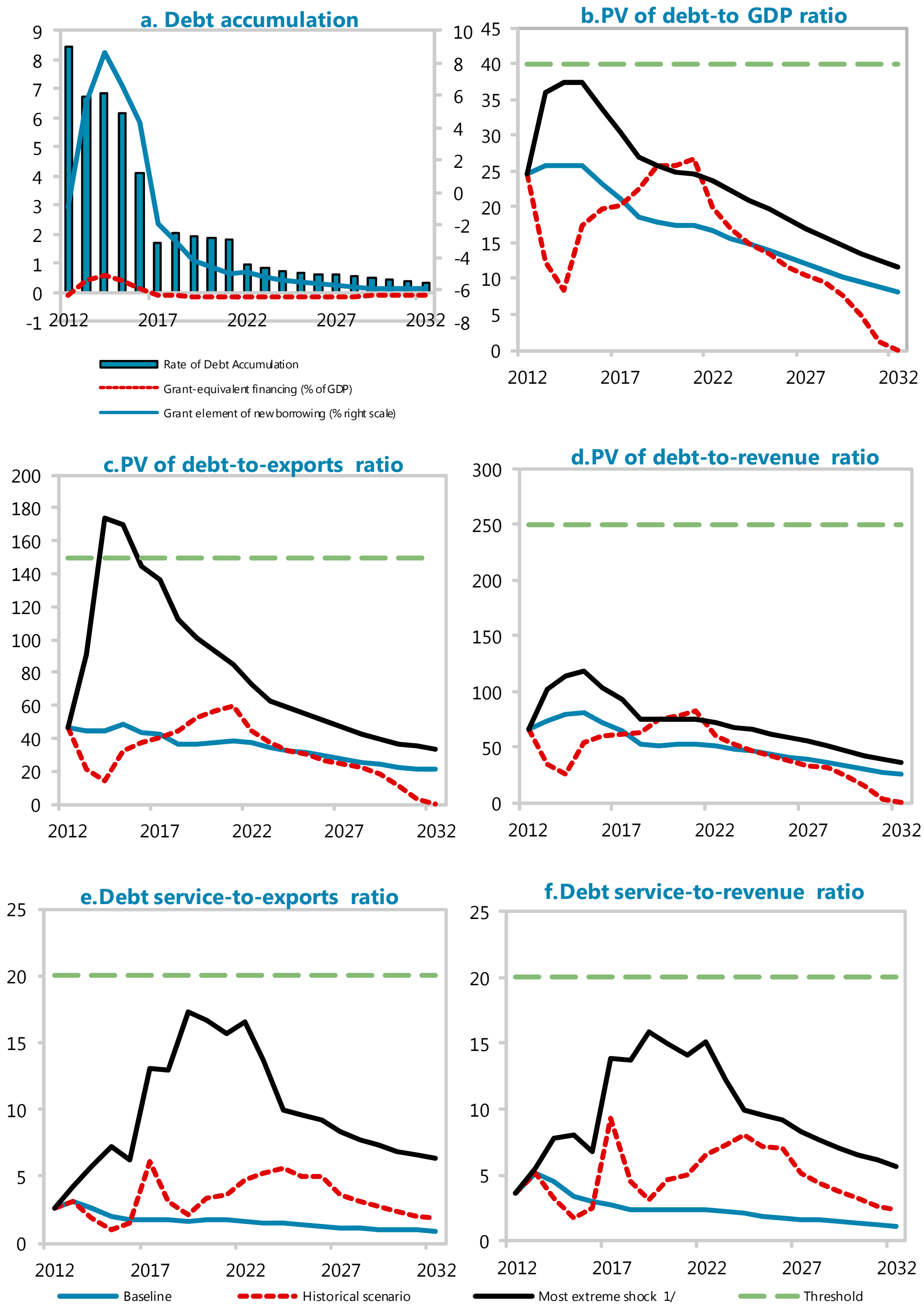
AUTHORITIES' VIEW

10. The authorities concurred with the overall assessment. With regard to the DBM's external borrowing, they emphasized the need to increase investment in infrastructure. They viewed this as essential to facilitate exports, reduce the economy's reliance on the mining sector, and ease supply-side price pressures, by improving the connections of traders and farmers to markets. The authorities confirmed that the main purpose of the DBM is to finance bankable projects. Over time, DBM funding for non-bankable social benefit projects would decrease.

CONCLUSION

11. In the staff's view, Mongolia is at a low risk of debt distress based on external indicators. The overall medium- to long-term macroeconomic outlook is favorable. However, short-term risks remain as expansionary policies lead to overheating pressures and increase Mongolia's vulnerability to a commodity price downturn, which remains a substantial risk in the current global environment. Under the baseline scenario, public debt ratios are projected to peak in 2013 and then fall steadily over the medium term with the rapid growth in the economy. On that basis, and taking into account possible contingent fiscal liabilities related to government-guaranteed external borrowing by the DBM to fund infrastructure projects, the projected path of public debt ratios does not alter the external DSA's assessment.

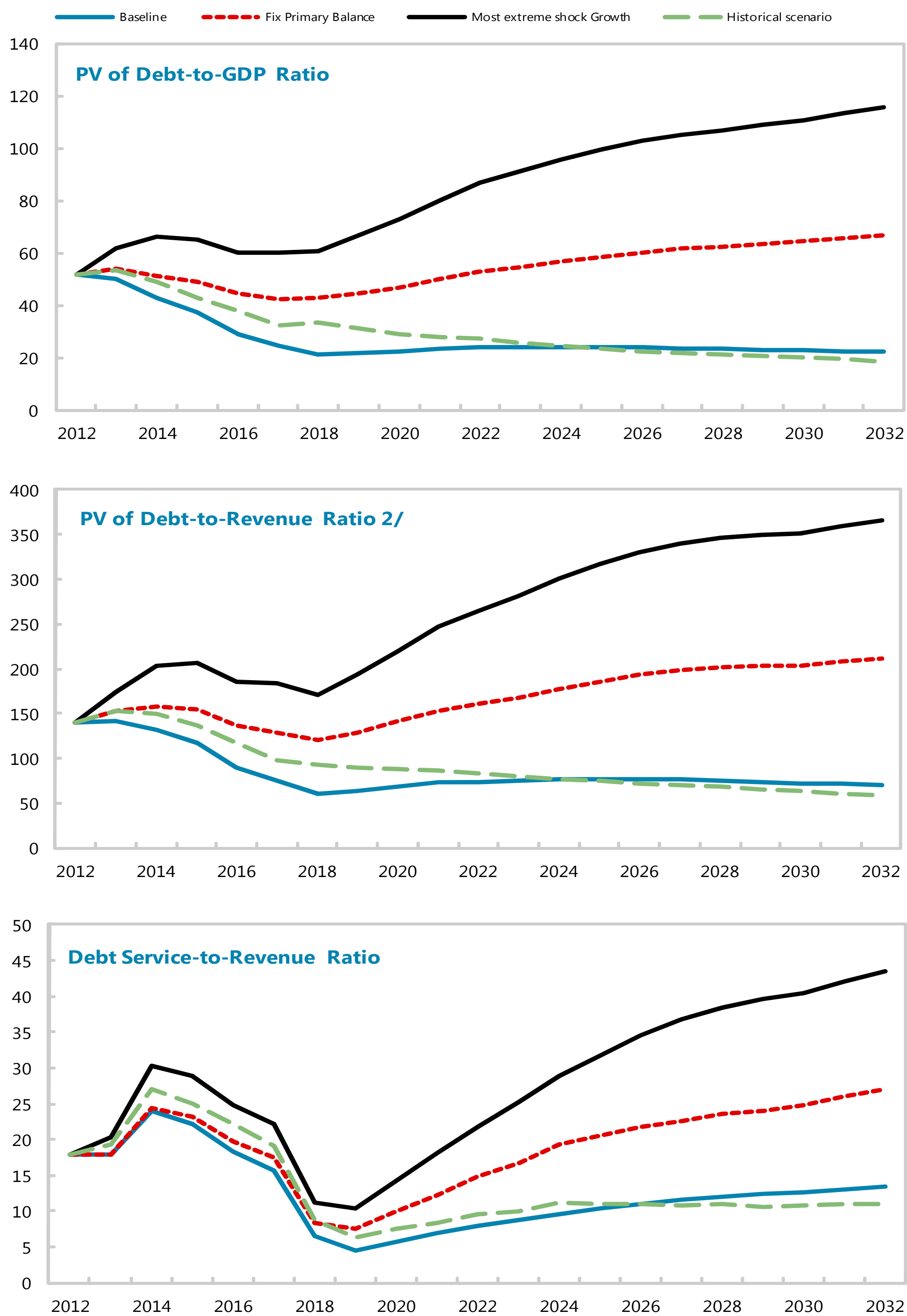
Figure 1. Mongolia: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2012–32 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2022. In figure b. it corresponds to a One-time depreciation shock; in c. to a Exports shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a Combination shock

Figure 2. Mongolia: Indicators of Public Debt Under Alternative Scenarios, 2012-32 1/



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2022.
2/ Revenues are defined inclusive of grants.

Table 1. External Debt Sustainability Framework, Baseline Scenario, 2009–32 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2009	2010	2011			2012	2013	2014	2015	2016	2017	2012-2017 Average	2022	2032	2018-2032 Average
External debt (nominal) 1/	**63.4**	**60.4**	**111.4**			**131.4**	**122.8**	**108.3**	**86.2**	**66.8**	**56.0**		**35.0**	**15.0**	
Of which: public and publicly guaranteed (PPG)	43.2	28.9	26.1			29.4	30.2	30.0	29.7	26.6	23.9		18.2	8.9	
Change in external debt	32.0	-2.9	51.0			20.0	-8.5	-14.5	-22.1	-19.4	-10.8		-2.2	-1.4	
Identified net debt-creating flows	5.2	-27.2	-38.4			12.4	-11.2	-10.8	-17.8	-18.3	-14.6		-6.9	-3.3	
Non-interest current account deficit	**8.5**	**14.0**	**30.2**	**4.5**	**11.7**	**32.1**	**18.2**	**5.2**	**-6.4**	**-9.3**	**-10.3**		**-5.9**	**-3.0**	-8.7
Deficit in balance of goods and services	7.8	8.9	24.9			29.5	15.9	1.6	-10.0	-15.8	-15.7		-9.4	-3.6	
Exports	49.9	54.3	62.0			52.4	57.9	57.6	53.6	53.2	49.9		45.1	39.6	
Imports	57.8	63.2	86.9			81.9	73.8	59.2	43.6	37.4	34.2		35.7	36.0	
Net current transfers (negative = inflow)	-2.6	-2.4	-0.9	-4.0	3.8	-1.4	-1.1	-0.9	-0.6	-0.5	-0.4		-0.3	-0.2	-0.3
Of which: official	0.0	-0.8	-0.2			-0.3	-0.2	-0.1	0.0	0.0	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	3.3	7.5	6.2			4.0	3.3	4.5	4.2	6.9	5.8		3.7	0.8	
Net FDI (negative = inflow)	**-10.8**	**-25.2**	**-53.1**	**-13.8**	**15.6**	**-13.0**	**-16.2**	**-8.2**	**-8.5**	**-2.0**	**-1.5**		**-0.5**	**-0.3**	-0.9
Endogenous debt dynamics 2/	**7.6**	**-16.0**	**-15.5**			**-6.7**	**-13.2**	**-7.8**	**-2.8**	**-6.9**	**-2.8**		**-0.5**	**-0.1**	
Contribution from nominal interest rate	0.5	0.9	1.6			4.3	5.4	4.9	4.2	3.2	1.8		1.1	0.5	
Contribution from real GDP growth	0.5	-3.0	-7.6			-11.0	-18.6	-12.7	-7.0	-10.1	-4.7		-1.6	-0.6	
Contribution from price and exchange rate changes	6.6	-14.0	-9.5			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**33.3**	**10.3**	**79.8**			**7.5**	**2.7**	**-3.8**	**-4.3**	**-1.1**	**3.8**		**4.7**	**2.0**	
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/	...	...	105.2			126.5	118.4	104.1	82.3	63.5	53.1		33.5	14.3	
In percent of exports	...	...	169.5			241.3	204.6	180.7	153.7	119.3	106.3		74.2	36.2	
PV of PPG external debt	**...**	**...**	**19.9**			**24.5**	**25.8**	**25.8**	**25.8**	**23.2**	**21.1**		**16.7**	**8.2**	
In percent of exports	**...**	**...**	**32.1**			**46.7**	**44.6**	**44.8**	**48.2**	**43.7**	**42.2**		**37.0**	**20.7**	
In percent of government revenues	**...**	**...**	**49.4**			**66.1**	**73.3**	**79.3**	**81.6**	**71.7**	**64.3**		**51.0**	**25.9**	
Debt service-to-exports ratio (in percent)	**3.9**	**5.3**	**3.9**			**17.5**	**22.5**	**27.7**	**33.5**	**21.0**	**15.1**		**6.5**	**2.6**	
PPG debt service-to-exports ratio (in percent)	**3.8**	**4.4**	**1.7**			**2.6**	**3.2**	**2.6**	**2.0**	**1.8**	**1.8**		**1.7**	**0.9**	
PPG debt service-to-revenue ratio (in percent)	**6.3**	**6.5**	**2.7**			**3.6**	**5.2**	**4.5**	**3.4**	**2.9**	**2.7**		**2.3**	**1.1**	
Total gross financing need (Millions of U.S. dollars)	-18	-453	-1,529			3,459	2,772	3,127	1,941	1,440	322		-397	-2,261	
Non-interest current account deficit that stabilizes debt ratio	-23.5	16.9	-20.7			12.1	26.7	19.8	15.7	10.1	0.5		-3.8	-1.6	

Table 1. External Debt Sustainability Framework, Baseline Scenario, 2009–32 1/ (concluded)

(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/	Standard 6/	Projections									
				Average	Deviation							2012-2017			2018-2032
	2009	2010	2011			2012	2013	2014	2015	2016	2017	Average	2022	2032	Average
Key macroeconomic assumptions															
Real GDP growth (in percent)	-1.3	6.4	17.5	8.0	4.8	11.2	16.8	12.7	8.0	15.2	8.3	12.0	4.8	4.1	5.4
GDP deflator in U.S. dollar terms (change in percent)	-17.4	28.3	18.7	13.1	13.1	2.6	1.6	8.3	14.0	12.2	9.5	8.0	4.7	7.8	7.4
Effective interest rate (percent) 5/	1.3	2.0	3.6	1.7	0.8	4.4	4.9	4.9	4.8	4.8	3.3	4.5	3.4	3.7	3.4
Growth of exports of G&S (U.S. dollar terms, in percent)	-23.8	48.4	59.4	26.7	26.7	-3.6	30.9	21.5	14.5	28.4	11.3	17.2	10.4	8.8	11.4
Growth of imports of G&S (U.S. dollar terms, in percent)	-30.5	49.3	91.8	32.6	38.7	7.5	6.9	-2.0	-9.4	10.9	8.5	3.7	31.8	18.4	13.6
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	-0.9	5.6	8.7	6.7	4.3	-2.0	3.7	-4.9	-6.0	-5.3
Government revenues (excluding grants, in percent of GDP)	30.0	36.7	40.3			37.1	35.2	32.6	31.6	32.4	32.8		32.7	31.6	32.2
Aid flows (in Millions of U.S. dollars) 7/	13.5	28.8	1.5			35.2	33.3	34.2	31.1	25.0	24.3		0.0	0.8	
Of which: Grants	13.2	28.6	1.2			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Of which: Concessional loans	0.3	0.2	0.2			35.2	33.3	34.2	31.1	25.0	24.3		0.0	0.8	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			-0.1	0.4	0.6	0.4	0.2	-0.1		-0.1	-0.1	-0.1
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			-0.9	5.6	8.7	6.7	4.3	-2.0		-4.9	-6.0	-5.3
Memorandum items:															
Nominal dollar GDP growth	-18.4	36.5	39.5			14.0	18.7	22.0	23.2	29.2	18.6	21.0	9.7	12.3	13.1
PV of PPG external debt (in Millions of U.S. dollars)			1,579			2,317	2,985	3,794	4,684	5,411	5,799		9,044	14,031	
PV of PPG external debt (in percent of GDP + remittances)	...	...	19.8			24.3	25.6	25.6	25.7	23.1	21.0		16.6	8.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	31.7			45.8	44.0	44.3	47.7	43.3	41.8		36.7	20.6	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.7			2.5	3.1	2.5	2.0	1.8	1.8		1.7	0.9	

Sources: Country authorities; and 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, 2009–32

(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Projections									
	2009	2010	2011			2012	2013	2014	2015	2016	2017	2012-17 Average	2022	2032	2018-32 Average
Public sector debt 1/	46.6	45.3	51.7			56.7	54.2	47.0	41.0	32.3	27.5		25.6	23.0	
Of which: foreign-currency denominated	45.4	42.9	47.0			49.6	46.7	41.0	35.7	28.2	22.5		18.2	8.9	
Change in public sector debt	15.6	-1.3	6.4			5.0	-2.5	-7.2	-5.9	-8.8	-4.7		0.4	-0.2	
Identified debt-creating flows	9.3	-15.3	-2.6			-3.2	-8.2	-9.8	-7.3	-8.7	-3.2		-0.2	-0.6	
Primary deficit	4.8	-1.1	4.0	0.3	4.1	4.1	0.5	-0.4	-0.2	-1.2	0.5	0.5	0.8	0.2	0.4
Revenue and grants	30.3	37.1	40.3			37.1	35.2	32.6	31.6	32.4	32.8		32.7	31.6	
Of which: grants	0.3	0.5	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Primary (noninterest) expenditure	35.0	36.0	44.3			41.2	35.8	32.2	31.4	31.2	33.3		33.5	31.8	
Automatic debt dynamics	4.5	-14.2	-6.5			-7.3	-8.7	-9.4	-7.1	-7.5	-3.6		-1.0	-0.8	
Contribution from interest rate/growth differential	7.4	-11.9	-11.9			-5.5	-7.5	-7.9	-7.0	-7.7	-3.7		-1.0	-0.8	
Of which: contribution from average real interest rate	7.0	-9.1	-5.2			-0.3	0.7	-1.8	-3.5	-2.3	-1.2		0.1	0.1	
Of which: contribution from real GDP growth	0.4	-2.8	-6.8			-5.2	-8.2	-6.1	-3.5	-5.4	-2.5		-1.1	-0.9	
Contribution from real exchange rate depreciation	-2.9	-2.3	5.5			-1.7	-1.2	-1.6	-0.1	0.2	0.1		...	...	
Other identified debt-creating flows	0.0	0.0	-0.1			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	-0.1			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	6.3	14.0	9.0			8.2	5.6	2.6	1.3	0.0	-1.6		0.7	0.4	
Other sustainability indicators															
PV of public sector debt	...	...	45.4			51.9	49.8	42.8	37.2	28.9	24.7		24.1	22.3	
Of which: foreign-currency denominated	...	...	40.8			44.7	42.3	36.9	31.8	24.9	19.7		16.7	8.2	
Of which: external	...	...	19.9			24.5	25.8	25.8	25.8	23.2	21.1		16.7	8.2	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	6.7	3.8	6.2			10.7	6.8	7.4	6.8	4.7	5.6		3.4	4.5	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	112.8			139.9	141.3	131.5	117.6	89.3	75.3		73.8	70.6	
PV of public sector debt-to-revenue ratio (in percent)	...	...	112.8			139.9	141.3	131.5	117.6	89.3	75.3		73.8	70.6	
Of which: external 3/	...	...	49.4			66.1	73.3	79.3	81.6	71.7	64.3		51.0	25.9	
Debt service-to-revenue and grants ratio (in percent) 4/	6.3	7.3	5.6			17.8	17.9	24.0	22.1	18.4	15.6		7.9	13.3	
Debt service-to-revenue ratio (in percent) 4/	6.4	7.4	5.6			17.8	17.9	24.0	22.1	18.4	15.6		7.9	13.3	
Primary deficit that stabilizes the debt-to-GDP ratio	-10.8	0.2	-2.4			-0.9	3.1	6.8	5.7	7.5	5.2		0.4	0.5	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	-1.3	6.4	17.5	8.0	4.8	11.2	16.8	12.7	8.0	15.2	8.3	12.0	4.8	4.1	5.4
Average nominal interest rate on forex debt (in percent)	1.2	1.4	0.9	1.4	0.5	1.0	1.4	2.0	2.2	2.3	2.6	1.9	3.3	3.8	3.4
Average real interest rate on domestic debt (in percent)	3.5	-12.6	14.4	4.3	13.2	8.2	12.7	9.8	8.3	9.0	11.3	9.9	6.2	3.1	4.6
Real exchange rate depreciation (in percent, + indicates depreciation)	-7.6	-6.8	17.6	1.1	7.3	-4.2	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.8	20.0	12.1	14.2	6.9	10.0	8.9	8.3	9.1	7.8	6.1	8.4	5.4	8.6	7.3
Growth of real primary spending (deflated by GDP deflator, in percent)	-0.1	0.1	0.4	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	-0.9	5.6	8.7	6.7	4.3	-2.0	3.7	-4.9	-6.0	...

Sources: Country authorities; and staff estimates and projections.

1/ Gross debt of the general government including Development Bank of Mongolia

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 3. Mongolia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2012–32
(In percent)

	Projections							
	2012	2013	2014	2015	2016	2017	**2022**	2032
PV of debt-to GDP ratio								
Baseline	25	26	26	26	23	21	**17**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	25	12	8	17	20	20	**20**	-6
A2. New public sector loans on less favorable terms in 2012-2032 2/	25	27	30	31	28	26	**21**	13
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	25	29	32	33	29	26	**21**	10
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	25	40	63	57	48	43	**21**	8
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2013-2014	25	26	29	29	26	23	**18**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	25	46	56	51	43	39	**20**	8
B5. Combination of B1-B4 using one-half standard deviation shocks	25	47	65	60	51	45	**23**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	25	36	37	37	34	30	**24**	12
PV of debt-to-exports ratio								
Baseline	47	45	45	48	44	42	**37**	21
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	47	21	14	32	37	41	**44**	-15
A2. New public sector loans on less favorable terms in 2012-2032 2/	47	47	52	58	53	52	**47**	32
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	47	44	46	49	44	43	**37**	21
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	47	91	173	170	144	136	**73**	33
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2013-2014	47	44	46	49	44	43	**37**	21
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	47	80	97	96	82	77	**43**	21
B5. Combination of B1-B4 using one-half standard deviation shocks	47	89	123	121	103	98	**54**	26
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	47	44	46	49	44	43	**37**	21
PV of debt-to-revenue ratio								
Baseline	66	73	79	82	72	64	**51**	26
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	66	35	25	55	61	62	**61**	-19
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	66	81	100	103	90	81	**63**	32
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	66	115	193	180	149	131	**63**	26
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2013-2014	66	73	89	92	80	72	**56**	28
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	66	131	171	162	134	118	**60**	26
B5. Combination of B1-B4 using one-half standard deviation shocks	66	133	200	189	156	137	**69**	30
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	66	102	115	118	103	93	**72**	37
Debt service-to-exports ratio								
Baseline	3	3	3	2	2	2	2	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	3	3	2	1	1	6	5	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	3	3	3	2	2	6	5	4
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	3	4	6	7	6	13	17	6
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2013-2014	3	3	3	2	2	6	5	4
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	3	3	4	4	4	8	9	4
B5. Combination of B1-B4 using one-half standard deviation shocks	3	4	5	5	4	10	12	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	3	3	3	2	2	6	5	4

Table 3. Mongolia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2012–32 (concluded)

(In percent)

	Projections							
	2012	2013	2014	2015	2016	2017	**2022**	2032
Debt service-to-revenue ratio								
Baseline	4	5	5	3	3	3	2	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	4	5	3	2	2	9	6	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	4	6	6	5	4	12	9	6
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	4	5	6	8	6	13	14	5
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2013-2014	4	5	5	4	4	11	8	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	4	5	7	7	6	12	13	5
B5. Combination of B1-B4 using one-half standard deviation shocks	4	6	8	8	7	14	15	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	4	7	7	5	5	14	10	7

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assu 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.

Table 4. Mongolia: Sensitivity Analysis for Key Indicators of Public Debt 2012–32

		Projections						
	2012	2013	2014	2015	2016	2017	2022	2032
PV of Debt-to-GDP Ratio								
Baseline	52	50	43	37	29	25	24	22
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	52	54	49	43	38	32	27	18
A2. Primary balance is unchanged from 2012	52	54	51	49	44	42	53	67
A3. Permanently lower GDP growth 1/	52	51	45	40	33	30	43	80
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	52	62	66	65	60	60	87	115
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	52	54	52	45	35	30	28	24
B3. Combination of B1-B2 using one half standard deviation shocks	52	57	56	54	49	49	70	93
B4. One-time 30 percent real depreciation in 2013	52	67	56	48	37	32	29	26
B5. 10 percent of GDP increase in other debt-creating flows in 2013	52	61	52	45	35	30	28	24
PV of Debt-to-Revenue Ratio 2/								
Baseline	140	141	131	118	89	75	74	71
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	140	152	150	136	117	98	83	59
A2. Primary balance is unchanged from 2012	140	153	157	155	137	129	161	211
A3. Permanently lower GDP growth 1/	140	144	137	127	101	92	130	255
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	140	175	203	206	185	184	265	365
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	140	154	159	141	108	92	84	76
B3. Combination of B1-B2 using one half standard deviation shocks	140	162	170	172	152	149	214	293
B4. One-time 30 percent real depreciation in 2013	140	189	172	152	116	98	90	83
B5. 10 percent of GDP increase in other debt-creating flows in 2013	140	173	160	142	108	92	85	76
Debt Service-to-Revenue Ratio 2/								
Baseline	18	18	24	22	18	16	8	13
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	18	19	27	25	22	19	10	11
A2. Primary balance is unchanged from 2012	18	18	24	23	20	17	15	27
A3. Permanently lower GDP growth 1/	18	18	24	23	19	17	11	30
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	18	20	30	29	25	22	22	44
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	18	18	24	23	19	16	10	14
B3. Combination of B1-B2 using one half standard deviation shocks	18	20	29	27	23	20	17	36
B4. One-time 30 percent real depreciation in 2013	18	19	26	24	20	17	10	15
B5. 10 percent of GDP increase in other debt-creating flows in 2013	18	18	25	23	19	16	10	14

Sources: Country authorities; and 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.