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STAFF REPORT FOR THE 2013 ARTICLE IV CONSULTATION—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 authorities and the Asian Development Bank (AsDB), using the debt sustainability framework for low-income countries approved by the Boards of both institutions.

This year's debt sustainability analysis (DSA) concludes that Mongolia faces a moderate risk of debt distress. The DSAs prepared in recent years concluded that Mongolia's risk of debt distress was low.[1] *However, the large international bond issuances by the Development Bank of Mongolia (DBM) and the sovereign have pushed up Mongolia's public and publicly-guaranteed external debt. Moreover, the near and medium-term outlook for the balance of payments has deteriorated owing to negative shocks to FDI and coal exports and expansionary fiscal and monetary policies. As a result, even in a "strong policy scenario," which is used as the baseline scenario in this DSA and which would require the authorities to tighten policies substantially from the current macroeconomic policy stance, Mongolia's present value of external debt-to-GDP ratio and debt-service-to-revenue ratio breach the relevant policy-dependent indicative threshold in certain years.*[2] *Some other debt-burden indicators breach the thresholds when standard stress tests are applied. Moreover, debt and debt-burden indicators would be even more unfavorable under an alternative "weak policy scenario," which assumes a continuation of current expansionary macroeconomic policies. Under this "weak policy scenario," Mongolia would need to be re-classified to a "high risk of debt distress."*

[1] This DSA is based on end-2012 debt data. The fiscal year for Mongolia is January–December. The 2012 DSA (see IMF Country Report No. 12/320) was based on end-2011 debt data.

[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 3.44 during 2010-12. 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.

A. Background

1. **This DSA is built on baseline medium-term macroeconomic projections which assume that the authorities tighten policies substantially from the current policy stance.** Medium-term prospects remain promising given Mongolia's large natural resource endowment, but macro-economic policies are currently on an unsustainable path. Negative shocks to FDI and coal exports are compounding balance of payments (BOP) pressures caused by expansionary fiscal and monetary policies. As a result, central bank reserves have been on a declining path and the exchange rate has depreciated by about 22 percent over the past year. Continuation of current policies could lead to a highly vulnerable situation. The important policy decisions facing the authorities are highlighted by a comparison of a "strong policy scenario" with a "weak policy scenario" (see text table on page 7 and Box 1). The "strong policy scenario" illustrates the substantial tightening of fiscal and monetary policy needed to bring the economy back on a sustainable track. This tightening is not yet in hand and the implications of the continuation of current policies are clearly illustrated in this DSA. Nevertheless, in view of some steps that have recently been taken, the "strong policy scenario" is used as the baseline scenario in this DSA. For instance, the authorities announced plans to reduce spending from the 2013 budget by almost MNT 1 trillion (about 6 percent of GDP) so as to stay within the FSL's 2 percent of GDP ceiling for the structural fiscal deficit for on-budget fiscal operations. Moreover, the pace of spending by the Development Bank of Mongolia (DBM) will be slowed during the last quarter of 2013. With regard to monetary policy, the Bank of Mongolia is discussing plans to unwind some of the monetary stimulus provided during the first half of 2013.

2. **Compared to the previous DSA, public and publicly guaranteed external debt is on a higher path, reflecting for the most part the additional sovereign borrowing contracted at the end of 2012 (Box 2)**:

- The face value of public external debt[3] is now projected to amount to 51.8 percent of GDP in 2013, up from 30 percent of GDP in the previous DSA. The higher public external debt ratio is mostly accounted for by sovereign borrowing (15 percent of GDP in 2012), foreign borrowing by the BOM (7 percent of GDP over the past 2 years) and the US$-value of GDP being 7 percent lower than projected in the previous DSA.

- The 18 percentage points of GDP projected decline in the face value of public external debt over the next five years is substantially larger than the 5½ percentage points of GDP decline projected in the previous DSA. This reflects the assumption in the strong policy scenario that underlies this DSA that foreign borrowing will be reduced considerably in view of the sharp rise in Mongolia's external debt in the past two years and the less benign outlook for frontier emerging market economies' access to international capital markets.

3. **Compared to the previous DSA, the main features of the current macroeconomic framework can be summarized as follows**:

[3] Consistent with the Staff Guidance Note, public external debt in this DSA includes government loans from bilateral and multilateral creditors, sovereign bonds, bonds issued by the Development Bank, and foreign borrowing by the central bank of Mongolia (BOM).

- GDP growth is projected to average 8 percent per annum over the medium term (2013−18), compared to 12 percent in the previous DSA. Projections for the nonmining sector have not changed materially from the previous DSA, while the mining output projections have been adjusted downward, reflecting weakening external demand and updated data on production schedules by major mining companies. Moreover, the second stage of the Oyu Togoi has been postponed, which would also affect mining output over the medium term. As such, mining sector growth is projected to average 12 percent per annum during 2013–18, compared to 20 percent per annum in the previous DSA, and is expected to slow gradually over the long run, with annual average growth decelerating to 3.5 percent. Nonmining growth is projected to decline to 5 percent in 2014 reflecting the tightening of macro-economic policies in the "strong policy scenario" before recovering gradually to 7 percent over the medium term, averaging about 7.3 percent per annum in 2013–18, a level similar to that of the previous DSA.
- Inflation is projected to rise above 10 percent by end-2013 and remain there until late 2014 on the back of the ongoing acceleration of credit growth and the exchange rate depreciation of the past year. Over the medium and long term, with monetary tightening and fiscal consolidation, inflation is projected to decelerate to about 5 percent. The trajectory of inflation moderation is similar to the previous DSA.
- The external current account is expected to remain weak despite the start of production at the Oyu Tolgoi mine and increased exports by the Tavan Tolgoi. The current account deficit in relation to GDP is expected to narrow to about 15 percent in 2018 from 33 percent in 2012, reflecting increased mining exports and reduced mining-related imports largely associated with moderating FDI inflows. This contrasts with the projection of the previous DSA that envisages a current account surplus in 2018.
- The copper and coal price projections through 2018 are based on the WEO projections as of August 2013. These prices are assumed to remain constant in real terms in the years beyond 2018.
- The on-budget fiscal operations are assumed to be tightened considerably to observe the FSL starting with the 2014 budget. The off-budget program of public investment projects is assumed to be phased out by the end of 2015. While this would represent a tightening from current policies it represents a loosening from the previous DSA which assumed that the consolidated fiscal deficit would be brought in line with the FSL from 2013.
- The previous DSA did not foresee the large size of Mongolia's maiden sovereign bond issuance (15 percent of GDP). Therefore, the spikes in the debt service to exports ratio and debt service to revenue ratio in 2017 and 2022 are new in this DSA. This DSA assumes that the 5-year bond and 10-year bond are rolled over.
- The authorities have announced that they are working on the issuance of a US$600 million (5½ percent of GDP) Samurai bond. The DSA assumes that this issuance will be completed in 2014.

4. **A joint IMF-World Bank mission visited Mongolia in April 2013 to help the authorities improve the process of developing and implementing an effective Medium-Term Debt Management Strategy (MTDS)**. The mission held a workshop on the MTDS toolkit, aimed at enhancing a common understanding of the design and implementation of an MTDS. The mission delivered presentations on quantification of cost and risk under alternative debt strategies, and the MTDS analytical tool. The workshop was attended by participants from the Ministry of Finance, Ministry of Economic Development and Bank of Mongolia.

5. **The current institutional set-up for debt management harbors important weaknesses.** An MTDS strategy document for 2012–14 was published by the Ministry of Finance in 2012, following a 2011 baseline MTDS mission by the World Bank. The strategy envisaged developing domestic debt markets and reducing external debt with high market risk. However, the large international bond issuance in late 2012 demonstrated the need to revisit debt management in Mongolia. The debt transaction was undertaken under the leadership of the Ministry of Economic Development with limited reference to the medium-term debt management strategy and insufficient involvement of the Ministry of Finance. This underscores the importance of ensuring that all debt management decisions are taken within the framework of an agreed and published medium-term debt management strategy.

6. **While the issuance of international bonds was successful from a market perspective, its size and structure has substantially changed the cost and risk profile of public debt**. After the issuance, the share of FX-denominated debt increased to 77 percent and substantial refinancing risks have emerged in 2017 and 2022 (about US$ 1 billion repayment is due in both of these years). Despite strong export receipts, with the economy highly vulnerable to commodity price swings, downside risks are large.

7. **Strengthening the capacity for domestic financing could help lower the risk profile of debt, by developing a deeper domestic debt market**. Over the last year, the authorities have made progress in increasing the size of the domestic debt market. The auctioning of treasury bills was modernized in late-2012. Since then, the outstanding stock of T-bills has risen by 4 percent of GDP. However, demand for government securities in the primary market is still limited to a few domestic banks and investor appetite for longer-dated government debt is uncertain.

B. Debt Sustainability

External DSA

8. **Mongolia's present value of public and publicly-guaranteed external debt to GDP ratio breaches the relevant policy-dependent indicative threshold through 2014, and the debt service-to-revenue ratio exceeds the threshold in 2017 and 2022**.[4] Some other debt-burden

[4] The focus of the DSA is on public and publicly-guaranteed external debt. However, private sector external debt is estimated at 85 percent of GDP in 2012. To the extent that this debt has floating interest rates, debt service obligations could rise in the period ahead as advanced economies are getting ready to exit from the very supportive monetary policies implemented in recent years. Similarly, rolling over this debt could become more difficult.

indicators breach the thresholds when standard stress tests are applied. The main results of the external DSA are as follows:

- **The present value of debt in relation to GDP, exports, and revenue are expected to decline over the 20-year projection period in the strong policy scenario that underlies this DSA** (Figure 1, Table 1). During the projection period, the PV of the debt-to-GDP ratio decreases from 43 percent in 2013 to about 17½ percent in 2033. However, it is projected to remain above the indicative threshold of 40 percent through 2014. The PV of the debt-to-exports ratio is projected to decrease from around 96¼ percent in 2013 to 38 percent in 2033 (compared to an indicative threshold of 150 percent). The PV of the debt-to-revenue ratio is expected to decline from 125¼ percent in 2013 to 56¾ percent in 2033, compared to an indicative threshold of 250 percent.
- **The debt service to export ratio and debt service to revenue ratio would be high in 2017 and 2022**. The debt service-to-export ratio would remain mostly below 10 percent in the next two decades, but would reach 17¾ percent and 13½ percent in 2017 and 2022, respectively. Similarly, the debt service-to-revenue ratio would largely stay around 10–15 percent, but would breach the indicative threshold of 20 percent in 2017 and 2022.
- **The standard stress tests reveal an important vulnerability to exchange rate and export shocks** (Figure 1, Table 2). The standard exchange rate shock causes a prolonged breach of the threshold by the PV of the debt to GDP ratio. The standard export shock causes the PV of the debt-to-exports ratio as well as the two debt service indicators to stay above relevant thresholds. This underscores the importance of restraint in borrowing internationally.
- **The standard "historical scenario" does not seem to represent a relevant comparator**. According to the way the historical scenario is set up in the standard DSA template, the relatively low FDI projections for the next few years (13 percent of GDP on average for the next 6 years) are replaced with the relatively high FDI inflows observed on average over the past ten years (21.8 percent of GDP, see Table 3a). As a consequence, in this scenario the need to contract new debt is lower and the external debt-to-GDP ratio rapidly declines to zero.

Public DSA

9. **In the strong policy scenario which is used as the baseline in this DSA, the PV of public debt-to-GDP ratio peaks at 58½ percent of GDP in 2013 and then falls gradually over the medium term to 44¾ percent of GDP in 2018 before stabilizing at about 39 percent of GDP over the long run** (Table 3). The alternative scenarios and bound tests indicate that the projected paths of debt indicators are sensitive to alternative assumptions (Table 4 and Figure 2). In particular, the scenario in which the primary balance is fixed at the level projected for 2013 illustrates the steadily rising trend of the PV of debt-GDP ratio (from 58½ percent in 2013 to 240 percent in 2033). This underscores the unsustainability of the government's current fiscal policy and the need to follow the consolidation path laid out in the strong policy scenario. In this regard, it should be noted that the strong policy scenario used as the baseline in this DSA produces broadly the same outcomes as the historical scenario in the public DSA. In a way this illustrates that the strong policy scenario is

broadly in line with the average fiscal outcomes in Mongolia over the past 10 years and hence should not be regarded as unachievable.

External DSA and Public DSA in a Weak Policy Scenario

10. **External and Public DSAs were also ran for the case in which a weak policy scenario is used as the baseline.** Under the weak policy scenario, continued expansionary policies would cause reserves to be drained in 2015 together with a sharp depreciation of 30–40 percent from end-2013. Subsequently, a large absorption adjustment is inevitable, with an output loss of 15–20 percent over the medium term compared to the strong policy scenario.

11. **Under the weak policy scenario, Mongolia would need to be reclassified to being at "high risk of debt distress."** Figure 1 illustrates that the PV of the debt-to-GDP ratio would generally remain above the indicative threshold of 40 percent throughout the 20-year projection period. Moreover, the PV of debt service to revenue ratio would breach the threshold in 2017 and from 2021 onwards.

C. Authorities' View

12. **The authorities broadly concurred with the overall assessment of the Debt-Sustainability Analysis, but made several important observations**. First, they did not rule out another international bond issuance in the next couple of years in addition to the Samurai bond they plan to issue in the near term. They pointed out that the current medium-term fiscal framework envisages additional international bond issuances of up to US$3.5 billion (32 percent of GDP) by 2015. The authorities expected that the approval of the new Investment Law, by creating favorable conditions for FDI inflows, would reduce the need for government borrowing to support growth. As a result, they expected the risk of debt distress to decline over the medium term.

D. Conclusion

In the staffs' view, Mongolia now faces a moderate risk of debt distress provided a strong policy scenario is implemented. In a weak-policy scenario, which illustrates the risks of a continuation of current policies, vulnerabilities would increase and Mongolia would need to be reclassified to being at a "high risk of debt distress." The overall medium- to long-term economic outlook is favorable given Mongolia's large natural resource endowments, but macroeconomic policies have been on an unsustainable path. Even in a "strong policy scenario," which would require the authorities to tighten policies substantially from the current policy stance, Mongolia's present value of external debt to GDP ratio breaches the relevant policy-dependent indicative threshold through 2014, and the debt service-to-revenue ratio breaches the indicative threshold in 2017 and 2022. Some other debt-burden indicators breach the thresholds when standard stress tests are applied.

Mongolia: Strong Policy and Weak Policy Scenarios, 2010-18

	2010	2011	2012	Strong policy scenario						Weak policy scenario					
				2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018
Real sector (change in percent)															
Real GDP growth	6.4	17.5	12.3	11.8	9.6	7.0	5.2	8.5	6.0	11.8	12.1	-2.6	-1.2	3.2	1.2
Mineral growth	3.6	7.3	8.9	16.1	33.4	7.2	-2.1	14.9	1.8	16.1	33.4	7.2	-2.1	14.9	1.8
Non-mineral growth	7.0	19.7	12.9	11.0	5.0	7.0	7.0	7.0	7.0	11.0	8.0	-5.0	-1.0	0.0	1.0
Consumer prices (end-period)	14.3	9.4	14.2	11.7	11.0	7.4	6.7	6.6	5.5	11.7	14.3	11.7	5.0	5.5	5.4
Fiscal accounts (in percent of GDP, unless otherwise indicated)															
Overall balance (in percent of GDP) 1/	0.5	-4.8	-10.9	-13.5	-7.4	-3.8	-1.7	-1.8	-2.0	-13.5	-13.1	-10.1	-7.6	-5.1	-4.7
Structural balance (FSL, in percent of GDP) 1/	...	-6.9	-11.5	-13.7	-7.5	-4.2	-2.0	-2.0	-2.0	-13.7	-13.3	-10.5	-8.0	-5.3	-4.7
Non-mineral balance (In percent of non-mineral GDP)	-13.6	-17.8	-20.7	-22.8	-15.9	-11.3	-9.6	-10.7	-10.6	-22.8	-23.4	-21.6	-20.3	-19.4	-19.4
Non-mineral revenue (In percent of non-mineral GDP)	33.8	39.3	36.5	35.1	35.0	34.8	34.0	33.8	32.6	35.1	34.8	36.0	35.9	37.0	36.9
Total expenditure (In percent of non-mineral GDP)	47.4	57.1	57.2	57.9	50.9	46.1	43.6	44.5	43.1	57.9	58.2	57.6	56.2	56.4	56.3
Total public debt (in percent of GDP)	35.9	38.8	63.0	67.3	65.8	60.4	55.9	52.4	50.1	67.3	72.9	78.1	81.1	79.9	79.0
of which: Domestic debt	5.1	10.9	14.7	15.5	15.1	15.5	16.3	16.2	16.6	15.5	14.7	15.6	16.8	17.5	18.4
External debt	30.8	27.9	48.3	51.8	50.7	44.9	39.6	36.2	33.4	51.8	58.1	62.5	64.3	62.4	60.6
NPV of public debt			54.6	58.6	58.0	53.3	49.5	46.4	44.7	58.6	63.9	68.9	72.1	70.9	70.4
Monetary accounts (Change in percent)															
Broad money	61.6	37.1	18.8	17.1	28.8					29.5	30.0				
Reserve money	29.2	75.5	30.5	12.2	11.9					44.7	29.1				
Credit to the private sector	21.5	72.3	24.1	40.9	16.1					54.1	33.6				
External accounts															
Current account balance (percent of GDP)	-14.9	-31.7	-32.8	-31.6	-20.3	-18.3	-21.5	-15.3	-14.6	-31.6	-22.2	-14.1	-16.2	-9.9	-8.7
Gross official reserves (in millions of U.S. dollars)	2,490	2,630	4,126	2,214	2,290	2,178	2,369	2,592	2,821	2,244	755	116	308	532	758
(in months of imports)	3.9	3.9	6.5	3.4	3.3	3.0	3.0	3.2	3.2	3.4	1.2	0.2	0.5	0.8	1.0
Memorandum items:															
Nominal GDP (in billions of togrogs)	8,415	11,088	13,944	16,691	20,352	23,513	26,258	30,358	34,125	16,691	21,692	24,167	25,668	28,126	29,952
Nominal GDP (in millions of U.S. dollars)	6,244	8,709	10,258	10,982	11,417	12,494	13,286	14,701	15,918	10,982	10,927	10,227	10,086	10,586	10,815
Government expenditure (in billions of togrog)	3,081	4,997	6,494	8,000	8,205	8,636	9,382	10,943	12,104	8,000	9,883	10,468	10,998	11,700	12,439
Government expenditure (growth in percent)	32	62	30	23	3	5	9	17	11	23	24	6	5	6	6
DBM spending (in percent of GDP)	...	...	3.4	9.0	5.5	2.2	0.0	0.0	0.0	9.0	11.3	8.5	5.9	3.3	2.6

Sources: Mongolian authorities; and IMF staff calculations.

1/ Includes DBM spending.

Box 1. Macroeconomic Assumptions: Strong vs. Weak Policy Scenario

In the "strong policy scenario", a tightening of fiscal and monetary policies would help relieve BOP pressure and enhance debt sustainability. The monetary stimulus launched by the BOM since late-2012 would be phased out by mid-2014. The budget framework would be brought in line with the FSL over the medium term. On-budget fiscal operations would observe the FSL starting in 2014. The overall fiscal balance, including DBM operations, would be put on a credible medium-term consolidation path. In view of the prevailing BOP pressures the fiscal adjustment would be frontloaded. Accordingly, in the "strong policy scenario" the off-budget program of public investment projects, which was initiated in 2012 and was quickly ramped up in 2013, is phased out by the end of 2015.

- It is assumed that mining sector growth is not materially affected by macroeconomic policies, while nonmining growth is projected to decline to 5 percent in 2014 due to the tightening of macroeconomic policies, and recover to 7 percent over the medium-term.
- Reflecting the large exchange rate depreciation of the past year, inflation would rise and remain in low double-digits through late-2014. It would gradually decline to 5 percent over the medium term.
- The balance of payments' current account deficit would narrow to 15 percent of GDP by 2018 due to rising commodity exports and moderating imports, the latter reflecting slowing FDI inflows.

The weak policy scenario illustrates the risks of a continuation of current policies. In this scenario, it takes the government two more years to bring on-budget fiscal operations in line with the FSL. In addition, the government continues to pursue its development strategy through the implementation of off-budget public investment projects. The BOM's stimulus measures are phased out only gradually. In this scenario, nonmining growth in 2014 would be higher than in the strong policy scenario. However, the inevitable large adjustment of absorption would cause a cumulative nonmining output loss of about 20 percentage points compared to the strong policy scenario over a 4-year horizon (calibrated on cross-country experiences summarized in IMF WP/08/224 and the IMF Board Paper on "Assessing Reserve Adequacy"). The larger exchange rate depreciation (compared to the "strong policy scenario") would add to inflationary pressures.

- It is assumed that mining sector growth is the same as in the strong policy scenario, while nonmining growth is projected to reach 8 percent in 2014, boosted by looser macroeconomic policies. However, nonmining growth would slump to -5 percent in 2015 as the large absorption adjustment unfolds. By 2018, nonmining growth would recover to 1 percent.
- Reflecting the larger exchange rate depreciation, inflation would be around 3–4 percentage points higher than in the strong policy scenario. Over the medium term, the inflation rate would converge to 5½ percent.
- The large absorption adjustment and exchange rate depreciation would help BOP adjustment. Accordingly, the current account deficit would narrow to 9 percent of GDP by 2018, compared to 15 percent in the strong policy scenario.

Box 2. The Structure of Public Debt

Mongolia's stock of public and publicly-guaranteed external debt had a face value of US$4.8 billion (48.3 percent of GDP) at end-2012. The external debt more than doubled, from US$2.2 billion at end-2011, owing to the large borrowing by the sovereign, the DBM, and the BOM. The share of Mongolia's external public debt owed to multilateral creditors on concessional terms, declined from 56 percent in 2011 to 25 percent of total external debt in 2012. Private external debt is also significant. It 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.

Domestic public debt amounted to 14.7 percent of GDP at end-2012, up from 10.9 percent in the previous year.

- The MNT 849 billion increase in domestic public debt in 2012 mainly reflects the issuance of government paper to finance the large government deficit in 2012. The sovereign bond issued in late-2012 was not used to finance the deficit that year.
- To preserve consistency between debt stocks and flows of deficit financing, some government paper issued during the first quarter of 2013 is also included in the end-2012 stock of government bonds (MNT 1,280 billion). In particular, Treasury bills were issued to settle government spending carried over from the 2012 budget (MNT 191 billion) and to settle the end-2012 overdraft of the Treasury Single Account (MNT 79 billion).
- Unlike the previous DSAs, this DSA does not include government borrowing from the OT company to finance its 34 percent equity share in the mine. There are several reasons for this. First, the amount of this debt is under discussion and no officially confirmed estimate is available. Second, the government's investment share in the OT mining project will be repaid from expected dividends and the government will not be liable for the loan in the event that dividends are insufficient.

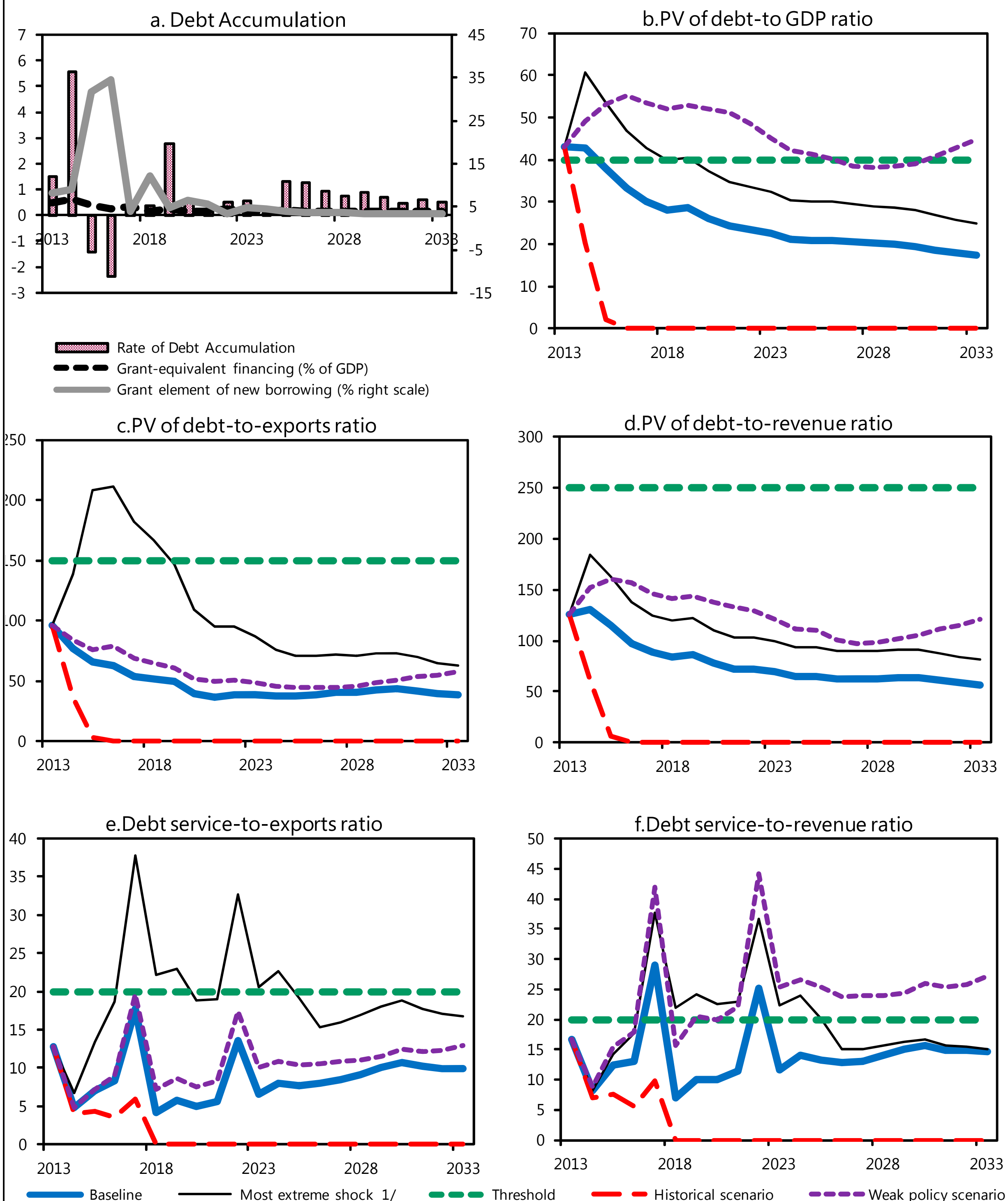
Text Table 1. Mongolia: Structure of Public Debt

	2010	2011	2012
Public debt (in MNT bn)	3,020	4,304	8,790
Public debt (in percent of GDP)	35.9	38.8	63.0
Domestic debt (in MNT bn)	429	1,206	2,055
Domestic debt (in percent of GDP)	5.1	10.9	14.7
Government bonds	200	517	1,280
Bank restructuring bonds	100	80	60
Civil servants housing	95	137	72
Wool, cashmere, SMEs	5	300	197
Other bonds 1/			951
Tax prepayments	229	689	776
OT	229	353	377
ETT		336	399
External debt (in MNT bn)	2,591	3,099	6,735
External debt (in US$ mn)	2,061	2,219	4,838
External debt (in percent of GDP)	30.8	27.9	48.3
Multilaterals	1,551	1,727	1,706
ADB	797	855	832
World Bank	506	624	653
IMF	247	249	221
Official bilateral	824	1,053	1,635
Paris club	632	676	993
Non-Paris club	193	377	642
Commercal	0	0	2,896
Sovereign "Chinggis" bond			2,088
DBM bond			807
BOM foreign liabilities (excl. IMF) 1/	16	15	484
Other	200	304	14

Source: Mongolian authorities.

1/ Source: Bank of Mongolia and staff estimates.

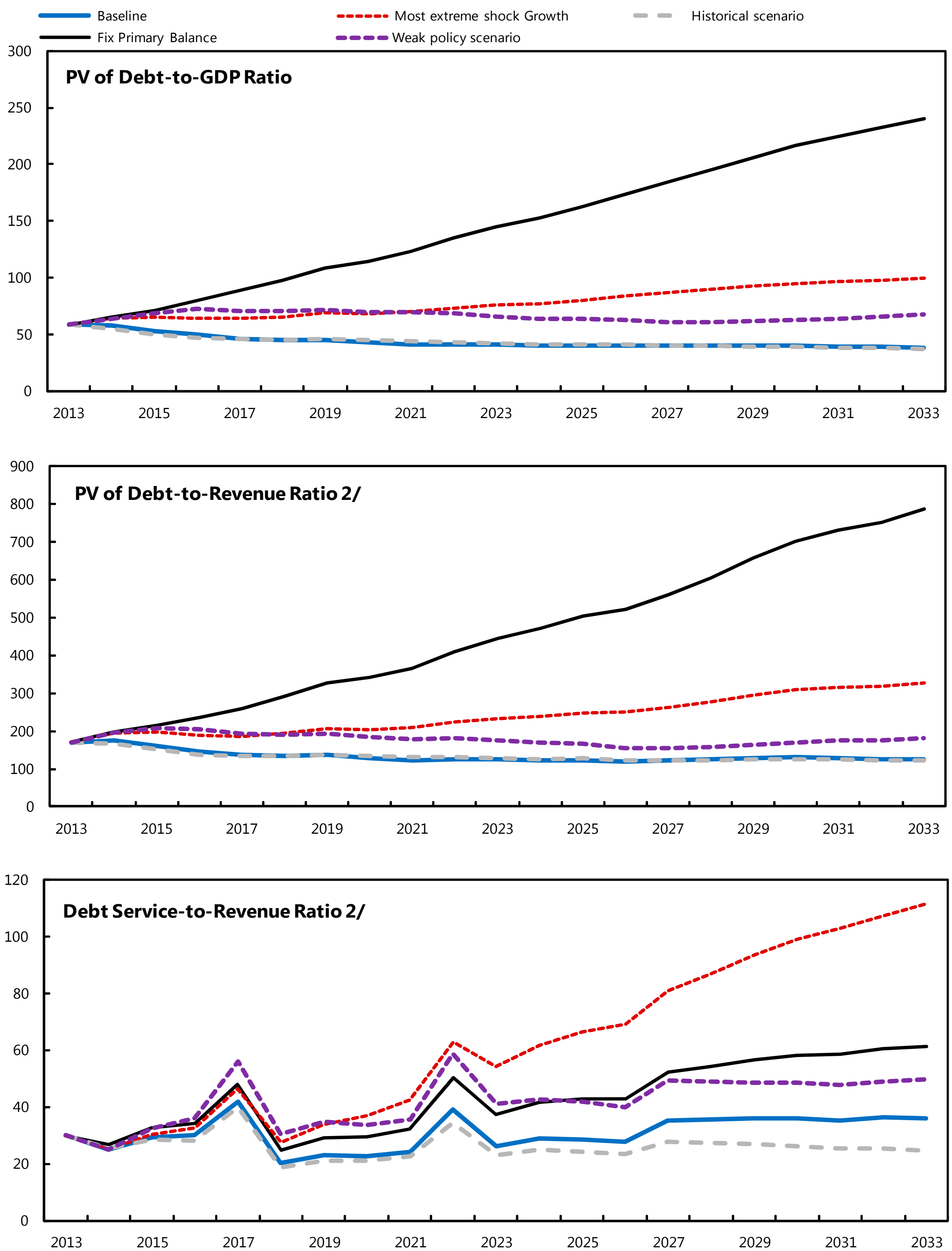
Figure 1. Mongolia: Indicators of Public and Publicly Guaranteed External Debt under Strong Policy Scenario, 2013-2033 1/



Sources: Country authorities; and staff estimates and projections.

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

Figure 2. Mongolia: Indicators of Public Debt Under Alternative Scenarios (Strong Policy Scenario), 2013-2033 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2023.

2/ Revenues are defined inclusive of grants.

Table 1: External Debt Sustainability Framework, Strong Policy Scenario, 2010-2033 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average [6/]	Standard Deviation [6/]	Projections									
	2010	2011	2012			2013	2014	2015	2016	2017	2018	2013-2018 Average	2023	2033	2019-2033 Average
External debt (nominal) 1/	**92.7**	**113.0**	**133.1**			**137.1**	**143.9**	**135.1**	**131.6**	**120.9**	**116.1**		**84.5**	**47.4**	
of which: public and publicly guaranteed (PPG)	30.8	27.9	48.3			51.8	50.7	44.9	39.6	36.2	33.4		26.4	20.5	
Change in external debt	27.4	20.3	20.1			4.0	6.8	-8.8	-3.5	-10.7	-4.9		-5.1	-2.8	
Identified net debt-creating flows	-27.8	-45.8	-27.2			-1.5	-2.6	-2.4	2.4	-7.2	-4.5		-9.7	-10.7	
Non-interest current account deficit	**14.1**	**31.8**	**29.7**	**10.3**	**14.9**	**26.9**	**15.2**	**12.6**	**15.3**	**9.1**	**8.8**		**1.4**	**-0.9**	0.6
Deficit in balance of goods and services	8.9	24.7	25.9			24.2	11.9	9.2	12.6	7.3	7.1		0.5	-0.4	
Exports	54.3	62.5	52.1			44.8	55.9	57.9	53.2	56.2	54.6		58.4	45.6	
Imports	63.2	87.2	78.0			69.1	67.8	67.1	65.7	63.5	61.7		58.9	45.2	
Net current transfers (negative = inflow)	-2.4	-0.9	-0.8	-3.7	2.7	-1.1	-1.1	-1.0	-0.9	-0.9	-0.8		-0.8	-0.7	-0.7
of which: official	-0.8	-0.2	-0.4			-0.2	-0.2	-0.1	-0.1	-0.1	-0.1		-0.1	-0.1	
Other current account flows (negative = net inflow)	7.6	8.0	4.6			3.8	4.4	4.4	3.7	2.7	2.4		1.6	0.1	
Net FDI (negative = inflow)	**-25.2**	**-53.1**	**-43.0**	**-21.8**	**17.3**	**-18.5**	**-10.5**	**-11.5**	**-12.5**	**-12.5**	**-12.5**		**-11.4**	**-9.4**	-10.8
Endogenous debt dynamics 2/	**-16.6**	**-24.6**	**-14.0**			**-9.9**	**-7.4**	**-3.6**	**-0.4**	**-3.9**	**-0.8**		**0.4**	**-0.3**	
Contribution from nominal interest rate	0.8	1.7	3.1			4.8	5.3	5.7	6.2	6.2	5.9		4.4	1.7	
Contribution from real GDP growth	-3.0	-11.6	-11.8			-14.7	-12.7	-9.3	-6.6	-10.1	-6.7		-4.0	-2.1	
Contribution from price and exchange rate changes	-14.4	-14.6	-5.3			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**55.1**	**66.1**	**47.3**			**5.5**	**9.4**	**-6.3**	**-5.9**	**-3.5**	**-0.3**		**4.6**	**7.9**	
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/	...	...	124.7			128.4	136.1	128.0	125.2	115.0	110.7		80.7	44.3	
In percent of exports	...	...	239.3			286.5	243.4	221.2	235.5	204.4	202.8		138.1	97.0	
PV of PPG external debt	**...**	**...**	**39.9**			**43.1**	**42.9**	**37.8**	**33.2**	**30.2**	**28.1**		**22.6**	**17.4**	
In percent of exports	**...**	**...**	**76.6**			**96.2**	**76.8**	**65.4**	**62.4**	**53.6**	**51.4**		**38.6**	**38.1**	
In percent of government revenues	**...**	**...**	**112.4**			**125.2**	**130.3**	**115.0**	**97.6**	**88.2**	**83.9**		**69.3**	**56.8**	
Debt service-to-exports ratio (in percent)	**5.0**	**4.0**	**15.1**			**30.7**	**25.6**	**37.3**	**31.1**	**44.0**	**23.5**		**19.0**	**15.6**	
PPG debt service-to-exports ratio (in percent)	**4.4**	**1.7**	**2.2**			**12.8**	**4.9**	**7.0**	**8.4**	**17.7**	**4.2**		**6.5**	**9.8**	
PPG debt service-to-revenue ratio (in percent)	**6.5**	**2.7**	**3.2**			**16.7**	**8.2**	**12.3**	**13.1**	**29.0**	**6.9**		**11.7**	**14.7**	
Total gross financing need (millions of U.S. dollars)	-274	-1,265	35			3,539	3,069	3,784	3,564	4,144	2,451		1,281	-339	
Non-interest current account deficit that stabilizes debt ratio	-13.3	11.5	9.6			22.9	8.5	21.4	18.8	19.8	13.7		6.5	1.8	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.4	17.5	12.3	8.9	5.7	11.8	9.6	7.0	5.2	8.5	6.0	8.0	4.8	4.4	4.9
GDP deflator in US dollar terms (change in percent)	28.3	18.7	4.9	13.3	15.6	-4.2	-5.2	2.2	1.1	2.0	2.2	-0.3	2.1	2.2	2.0
Effective interest rate (percent) 5/	1.7	2.5	3.2	132.8	346.6	3.8	4.0	4.3	4.9	5.2	5.3	4.6	5.2	3.7	4.4
Growth of exports of G&S (US dollar terms, in percent)	48.4	60.5	-1.7	23.3	29.0	-7.9	29.6	13.3	-2.3	17.0	5.1	9.1	2.8	5.3	6.0
Growth of imports of G&S (US dollar terms, in percent)	49.3	92.4	5.4	31.7	39.5	-5.2	2.0	8.4	4.2	7.0	5.2	3.6	5.3	4.5	4.9
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	8.3	9.0	31.7	34.4	3.8	12.1	16.5	4.9	3.2	4.1
Government revenues (excluding grants, in percent of GDP)	36.7	40.3	35.5			34.4	32.9	32.9	34.0	34.2	33.5		32.6	30.6	32.2
Aid flows (in millions of US dollars) 7/	...	15.1	44.0			23.7	44.6	44.7	36.3	31.3	30.1		30.1	30.1	
of which: Grants	28.6	1.2	18.2			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
of which: Concessional loans	...	13.9	25.9			23.7	44.6	44.7	36.3	31.3	30.1		30.1	30.1	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			0.5	0.6	0.4	0.3	0.3	0.2		0.2	0.1	0.2
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			8.3	9.0	31.7	34.4	3.8	12.1		4.9	3.2	4.1
Memorandum items:															
Nominal GDP (millions of US dollars)	6,244	8,709	10,258			10,982	11,417	12,494	13,286	14,701	15,918		23,437	44,190	
Nominal dollar GDP growth	36.5	39.5	17.8			7.1	4.0	9.4	6.3	10.7	8.3	7.6	7.0	6.6	7.1
PV of PPG external debt (in millions of US dollars)			3,997			4,153	4,768	4,605	4,310	4,343	4,397		5,219	7,578	
(PVt-PVt-1)/GDPt-1 (in percent)						1.5	**5.6**	-1.4	-2.4	0.2	0.4	0.7	0.6	0.5	0.8
Gross workers' remittances (millions of US dollars)	101.9	58.5	41.0			103.9	104.5	105.0	105.5	106.0	106.6		156.9	265.8	
PV of PPG external debt (in percent of GDP + remittances)	...	...	39.7			42.7	42.5	37.5	32.9	30.0	27.9		22.4	17.3	
PV of PPG external debt (in percent of exports + remittances)	...	...	76.0			94.2	75.6	64.4	61.5	53.0	50.8		38.2	37.6	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	2.2			12.5	4.8	6.9	8.3	17.4	4.2		6.4	9.7	

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: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt (Strong Policy Scenario), 2013-2033
(In percent)

	Projections							
	2013	2014	2015	2016	2017	2018	**2023**	2033
PV of debt-to GDP ratio								
Baseline	43	43	38	33	30	28	**23**	17
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	43	20	2	0	0	0	0	0
A2. New public sector loans on less favorable terms in 2013-2033 2	43	43	38	34	31	29	**26**	24
A3. Weak policy scenario	43	49	53	55	53	52	45	45
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	43	44	40	35	32	30	**24**	19
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	43	56	73	68	62	55	**31**	17
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	43	40	37	33	30	28	**22**	17
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	43	47	49	45	40	37	**25**	17
B5. Combination of B1-B4 using one-half standard deviation shocks	43	42	43	38	35	32	**22**	16
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	43	61	54	47	43	40	**32**	25
PV of debt-to-exports ratio								
Baseline	96	77	65	62	54	51	**39**	38
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	96	36	4	0	0	0	0	0
A2. New public sector loans on less favorable terms in 2013-2033 2	96	77	66	64	55	53	**44**	53
A3. Weak policy scenario	96	84	75	79	68	65	48	58
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	96	74	63	60	52	50	**38**	37
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	96	139	209	211	182	167	**86**	63
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	96	74	63	60	52	50	**38**	37
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	96	85	85	84	72	67	**43**	38
B5. Combination of B1-B4 using one-half standard deviation shocks	96	97	100	98	85	80	**52**	47
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	96	74	63	60	52	50	**38**	37
PV of debt-to-revenue ratio								
Baseline	125	130	115	98	88	84	**69**	57
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	125	61	6	0	0	0	0	0
A2. New public sector loans on less favorable terms in 2013-2033 2	125	130	116	100	90	87	**78**	79
A3. Weak policy scenario	125	152	161	157	146	141	121	121
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	125	134	122	104	94	90	**75**	61
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	125	171	222	200	181	165	**94**	57
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	125	122	113	96	87	83	**69**	57
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	125	144	149	131	118	110	**77**	56
B5. Combination of B1-B4 using one-half standard deviation shocks	125	128	129	113	102	95	**68**	51
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	125	184	163	138	125	119	**99**	82

Table 2. Mongolia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt (Strong Policy Scenario), 2013–2033(concluded)

(In percent)

Debt service-to-exports ratio								
Baseline	13	5	7	8	18	4	**7**	10
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	13	4	4	4	6	0	0	0
A2. New public sector loans on less favorable terms in 2013-2033 2	13	5	4	5	17	4	**6**	13
A3. Weak policy scenario	13	5	7	9	20	7	10	13
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	13	5	7	8	18	4	**6**	10
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	13	7	13	19	38	22	**21**	17
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	13	5	7	8	18	4	**6**	10
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	13	5	7	9	20	7	**9**	10
B5. Combination of B1-B4 using one-half standard deviation shocks	13	6	9	11	24	8	**10**	12
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	13	5	7	8	18	4	**6**	10
Debt service-to-revenue ratio								
Baseline	17	8	12	13	29	7	**12**	15
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	17	7	8	6	10	0	0	0
A2. New public sector loans on less favorable terms in 2013-2033 2	17	8	6	8	28	6	**10**	19
A3. Weak policy scenario	17	9	15	18	42	16	25	27
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	17	9	14	14	32	7	**13**	16
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	17	8	14	18	38	22	**22**	15
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	17	8	13	13	29	7	**12**	15
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	17	8	13	15	32	12	**15**	15
B5. Combination of B1-B4 using one-half standard deviation shocks	17	8	12	13	28	10	**13**	13
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	17	12	18	19	42	10	**17**	21
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	3	3	3	3	3	3	**3**	3

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 assumingan 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 3. Mongolia: Public Sector Debt Sustainability Framework, Strong Policy Scenario, 2010-2033
(In percent of GDP, unless otherwise indicated)

	Actual					Projections									
	2010	2011	2012	Average 5/	Standard Deviation 5/	2013	2014	2015	2016	2017	2018	2013-18 Average	2023	2033	2019-33 Average
Public sector debt 1/	35.9	38.8	63.0			67.3	65.8	60.4	55.9	52.4	50.1		44.6	41.7	
of which: foreign-currency denominated	33.5	34.2	53.9			56.9	53.9	46.3	39.5	36.0	33.4		26.4	20.5	
Change in public sector debt	-12.6	2.9	24.2			4.3	-1.5	-5.4	-4.5	-3.6	-2.3		-0.8	-0.4	
Identified debt-creating flows	-15.8	-0.7	3.0			15.1	-1.7	-2.3	-2.6	-4.2	-2.7		-1.4	-1.2	
Primary deficit	-1.0	4.4	10.0	1.0	5.8	11.1	4.6	0.9	-1.2	-1.1	-0.6	2.3	-0.4	-0.7	-0.6
Revenue and grants	37.1	40.3	35.7			34.4	32.9	32.9	34.0	34.2	33.5		32.6	30.6	
of which: grants	0.5	0.0	0.2			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Primary (noninterest) expenditure	36.1	44.7	45.7			45.5	37.5	33.8	32.8	33.1	32.8		32.1	29.9	
Automatic debt dynamics	-14.7	-5.0	-7.0			4.0	-6.3	-3.1	-1.5	-3.1	-2.1		-1.0	-0.5	
Contribution from interest rate/growth differential	-3.2	-5.3	-4.2			-5.0	-4.7	-3.0	-1.7	-3.1	-1.8		-1.0	-0.5	
of which: contribution from average real interest rate	-0.3	0.1	0.1			1.6	1.2	1.4	1.3	1.3	1.1		1.1	1.3	
of which: contribution from real GDP growth	-2.9	-5.3	-4.2			-6.6	-5.9	-4.3	-3.0	-4.4	-3.0		-2.1	-1.8	
Contribution from real exchange rate depreciation	-11.6	0.3	-2.8			9.0	-1.6	-0.2	0.2	0.0	-0.2		...	...	
Other identified debt-creating flows	0.0	-0.1	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	-0.1	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	3.1	3.6	21.2			-10.9	0.2	-3.1	-1.8	0.6	0.4		0.6	0.8	
Other Sustainability Indicators															
PV of public sector debt	...	...	54.6			58.6	58.0	53.3	49.5	46.4	44.7		40.7	38.5	
of which: foreign-currency denominated	...	...	45.5			48.2	46.1	39.2	33.0	30.0	28.1		22.6	17.4	
of which: external	...	...	39.9			43.1	42.9	37.8	33.2	30.2	28.1		22.6	17.4	
PV of contingent liabilities (not included in public sector debt	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	1.6	6.2	15.3			23.8	12.5	10.3	9.0	13.3	6.2		8.1	10.2	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	153.1			170.3	176.0	162.0	145.5	135.5	133.5		125.1	125.9	
PV of public sector debt-to-revenue ratio (in percent)	...	...	153.9			170.3	176.0	162.0	145.5	135.5	133.5		125.1	125.9	
of which: external 3/	...	...	112.4			125.2	130.3	115.0	97.6	88.2	83.9		69.3	56.8	
Debt service-to-revenue and grants ratio (in percent) 4/	7.3	5.6	15.3			29.9	25.0	29.1	30.0	42.0	20.3		26.0	35.9	
Debt service-to-revenue ratio (in percent) 4/	7.4	5.6	15.4			29.9	25.0	29.1	30.0	42.0	20.3		26.0	35.9	
Primary deficit that stabilizes the debt-to-GDP ratio	11.6	1.5	-14.2			6.9	6.1	6.2	3.3	2.5	1.7		0.4	-0.2	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.4	17.5	12.3	8.9	5.7	11.8	9.6	7.0	5.2	8.5	6.0	8.0	4.8	4.4	4.9
Average nominal interest rate on forex debt (in percent)	1.3	1.1	0.7	1.1	0.2	2.8	3.1	3.1	3.0	3.7	3.3	3.2	3.7	4.5	4.0
Average real interest rate on domestic debt (in percent)	-3.1	14.4	9.6	7.0	9.0	15.0	6.9	7.6	6.3	4.3	4.6	7.5	3.9	3.8	3.9
Real exchange rate depreciation (in percent, + indicates depreciatio	-26.1	1.0	-9.4	-8.3	12.6	18.6	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	20.0	12.1	12.0	14.4	7.3	7.1	11.2	7.9	6.2	6.6	6.1	7.5	4.9	5.0	4.9
Growth of real primary spending (deflated by GDP deflator, in perce	0.1	0.4	0.2	0.2	0.2	0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	8.3	9.0	31.7	34.4	3.8	12.1	16.5	4.9	3.2	...

Sources: Country authorities; and staff estimates and projections.

1/ General government gross debt.

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 4. Mongolia: Sensitivity Analysis for Key Indicators of Public Debt (Strong Policy Scenario) 2013-2033

	Projections							
	2013	2014	2015	2016	2017	2018	2023	2033
PV of Debt-to-GDP Ratio								
Baseline	59	58	53	49	46	45	41	39
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	59	55	49	47	46	45	42	37
A2. Primary balance is unchanged from 2013	59	65	71	80	89	98	144	240
A3. Permanently lower GDP growth 1/	59	59	56	54	53	54	69	138
A4. Weak policy scenario	59	64	69	72	71	70	66	67
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	59	64	65	64	64	65	76	100
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	59	60	62	58	55	53	48	44
B3. Combination of B1-B2 using one half standard deviation shocks	59	59	58	56	54	54	56	65
B4. One-time 30 percent real depreciation in 2014	59	79	73	69	65	64	60	65
B5. 10 percent of GDP increase in other debt-creating flows in 2014	59	69	64	60	56	54	49	45
PV of Debt-to-Revenue Ratio 2/								
Baseline	170	176	162	146	136	134	125	126
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	170	166	150	137	134	133	129	121
A2. Primary balance is unchanged from 2013	170	198	217	236	259	293	444	786
A3. Permanently lower GDP growth 1/	170	180	170	159	155	161	212	450
A4. Weak policy scenario	170	197	207	204	194	191	176	181
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	170	194	197	189	187	195	232	327
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	170	184	189	172	160	157	146	145
B3. Combination of B1-B2 using one half standard deviation shocks	170	180	177	164	158	160	171	211
B4. One-time 30 percent real depreciation in 2014	170	239	223	204	191	190	183	213
B5. 10 percent of GDP increase in other debt-creating flows in 2014	170	209	194	176	164	161	150	148
Debt Service-to-Revenue Ratio 2/								
Baseline	30	25	29	30	42	20	26	36
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	30	25	28	28	40	19	23	25
A2. Primary balance is unchanged from 2013	30	25	30	33	46	28	54	112
A3. Permanently lower GDP growth 1/	30	25	30	31	45	22	34	75
A4. Weak policy scenario	30	25	32	36	56	31	41	50
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	30	27	33	34	48	25	37	61
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	30	25	30	31	43	22	29	39
B3. Combination of B1-B2 using one half standard deviation shocks	30	26	30	32	45	22	31	47
B4. One-time 30 percent real depreciation in 2014	30	27	35	37	56	25	37	57
B5. 10 percent of GDP increase in other debt-creating flows in 2014	30	25	31	32	43	24	30	39

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.