# Fiscal Sustainability in Mongolia

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AUGUST 2017





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# Fiscal Sustainability in Mongolia

## Summary

- In 2010, the Mongolian parliament approved the Fiscal Stability Law (FSL) at
  a time of high commodity prices and strong economic growth. The law, which
  came into effect in 2013, aimed at ensuring the Mongolian economy develops
  in a sustainable fashion and is well protected from the volatility of commodity
  markets and the inflow and reversal of foreign direct investment (FDI) by
  managing the Fiscal Stability Fund (FSF).
- The good times, however, did not last for long—the prices of mineral commodities and FDI to Mongolia started dropping in 2013. As a result, the government did not abide by the rules of the FSL, which it suspended and modified on multiple occasions. It also did not accumulate much saving in the FSF. Instead it rapidly increased debt accumulation over the last decade. By the end of 2016, debt stock had reached about 80 percent of gross domestic product (GDP), and over 20 percent of revenue was devoted to interest payments, which is clearly unsustainable.

#### WHAT WERE THE REASONS BEHIND PAST FAILURES?

- The government was consistently over-optimistic about its revenue projections from 2012 to 2016. In fact, while nominal GDP increased, budget revenue did not grow in line.
- Expenditure plans adopted by the parliament were based on these overoptimistic revenue projections. Though they were reduced within the fiscal year on many occasions, they slipped further in the 2016 election year.
- Off-budget spending by the Development Bank of Mongolia (DBM) from 2012 to 2015 was added to government liabilities in 2016.
- Between 2012 and 2016, government debt increased by over 14 trillion Mongolian tugriks (MNT). Of that, MNT 9.4 trillion was a result of additional issuances to finance the deficit for this period. Because part of the debt was issued in foreign currencies, the depreciation of the tugrik added another MNT 4.7 trillion to the debt stock.

#### WHAT HAPPENED RECENTLY?

- A financial crisis unfolded in Q3 2016: Annual interest rates were hiked to 18
  percent and the tugrik depreciated rapidly. The government bond rate reached
  over 10 percent per annum in the international market. Moody's downgraded the
  Mongolian government's credit rating from B3 to Caa1.
- Mongolia approached the International Monetary Fund (IMF) and reached stafflevel agreement in February 2017, which was approved by the IMF board on 24 May 2017.
- The IMF deal and soaring coal price calmed the financial markets somewhat. The government bond rate fell in the international market, and the tugrik stabilized.
- Key export commodities for Mongolia (copper, coal, gold) have rallied since the end of 2016.
- The government terminated a fixed-price contract for coal from Erdenes Tavan Tolgoi with Chalco. The price of coal jumped from USD 22 per tonne to USD 70 per tonne.
- In November 2016, the government adopted the 2017 budget with significant cuts to expenditure compared to 2016 levels, especially capital expenditure.

#### WHAT DOES THE CURRENT OUTLOOK LOOK LIKE?

- NRGI's Mongolia Macro-Fiscal Model (MMM) predicts that the headline budget deficit will be around 6 percent and the debt will be around 85 percent of GDP for the period from 2017 to 2030 given historical trends and the budget approved by the parliament in November 2016.
- Given the prevailing economic circumstances in 2016—without significant FDI and noticeable persistent changes in the commodity prices—it is hard to expect that government revenue will increase in the near future. By contrast, government expenditure is likely to grow due to inflation and interest payments on the current debt. Consequently, the budget deficit is on an increasing path and debt dynamics are likely to deteriorate further. This explains why the government asked for support from the IMF.
- The Mongolian government and the IMF team reached an agreement on fiscal
  reform to increase revenue and decrease expenditure. The parliament ratified the
  agreement. In return, the expected budget deficits in the next years will be funded
  by loans from other international partners through an additional USD 3 billion in
  concessional lending.

## EFFECT OF THE MEASURES IN THE INTERNATIONAL MONETARY FUND PROGRAM

- This report considers the effect of the IMF program on the Mongolian economy
  using NRGI's MMM. In doing so, it only considers the changes in the excise
  taxes, import duties, personal income tax (PIT) and social security contribution
  (SSC), as well as the latest changes to government expenditure. These figures are
  compared with a baseline assuming fiscal policy follows the initially approved
  2017 budget.
- We estimate that the total additional revenue generated from the tax hikes will be MNT 389, 529 and 708 billion in 2018, 2019 and 2020, respectively.
- Because of the excise tax and import duty hikes, revenue is expected to increase by MNT 280, 363 and 433 billion in 2018, 2019 and 2020, respectively.
- Due to the increase in PIT and SSC, revenue is likely to increase by MNT 109, 166 and 274 billion in 2018, 2019 and 2020, respectively.
- Government expenditure is expected to decrease by MNT 215, 293 and 389 billion in 2018, 2019 and 2020, respectively.
- In comparison to the baseline scenario without this fiscal reform, we find the following results as a consequence of this tighter fiscal policy:
- GDP growth suffers while the inflation rate is higher in the short run, but both
  indicators converge back to their long-term rates. While GDP growth is mostly
  affected by consumption tax hikes through a fall in household consumption and a
  decrease in government spending, the higher inflation rate is the result of higher
  consumption taxes. The increase in PIT and SSC has a relatively smaller effect on
  growth and inflation.
- Budget revenue is noticeably higher in the IMF scenario throughout the simulation period because of the tax hikes and the higher price level.
- The policy measures to constrain the wage bill are estimated to save MNT 215, 293 and 389 billion in 2018, 2019 and 2020, respectively. However, these savings in government expenditure are offset by additional expenditure needs as a result of the higher price level. Consequently, the change in total primary government expenditure is insignificant.
- The headline budget deficit will be around 2 percent of GDP until 2030 as opposed to 6 percent in the baseline scenario.
- Government debt will decrease to 55 percent of GDP until 2030 in the IMF scenario rather than staying around 85 percent in the baseline scenario.
- In terms of compliance with the fiscal rules, the public debt convergences toward the debt threshold in the IMF scenario while staying at a distance in the baseline scenario; the structural deficit rule is met during the Oyu Tolgoi peak tax paying years, but it slips away afterward in the IMF scenario. It is never met in the baseline scenario.
- Overall, the IMF program has a positive effect on fiscal sustainability at the cost of reduced real GDP and an increased price level.

## RISKS TO THE OUTLOOK

The measures taken before and as part of the IMF package alongside the improvement in the external environment provide signs of temporary relief to the Mongolian economy. Global prices of copper, gold and coal have all risen rapidly over the last six months. The price the Mongolian government receives for coal from the Erdenes Tavan Tolgoi mine has also jumped from USD 22 to USD 70 per tonne. But the current outlook is subject to major risks:

- It is unclear whether the latest rally in the commodity price is temporary or permanent. Even a 15 percent permanent drop in the commodity prices can undo the benefits from the IMF program.
- The outlook hinges on Mongolia being able to benefit from a rapid expansion of the mining sector over the next five years. But there are great uncertainties. For example, Tavan Tolgoi needs a major transport investment.
- The implementation of the measures in the IMF program is uncertain. For
  example, high-income earners may avoid the PIT and social security hikes,
  traders may smuggle and stock up on goods due to the excise tax increase, and
  the government may contract people in the public sector to circumvent the wage
  freeze.
- Budget slippages present a major risk: In the last boom, off-budget spending by DBM, over-optimistic revenue projections and ineffective spending programs derailed Mongolia's expenditure path. Even though the economic outlook is likely to improve, the government should not repeat past budgeting mistakes.

## Policy recommendations

- The State Great Hural (the country's parliament), government and political
  parties must take the provisions in the FSL seriously and ensure compliance.
  The rules should be subject to periodic monitoring by oversight actors with
  appropriate capacity and independence to carry out their task. Any necessary
  revision to the rule should be based on consultative expert review and not ad
  hoc changes.
- Given that the government was consistently over-optimistic about future
  economic conditions, the methodology or model used to predict its revenue
  should be revised and recalibrated by the Ministry of Finance to ensure no
  interference in the estimate for political benefits.
- The government of Mongolia should ensure that all spending is kept on budget
  and prevent expenditure slippages and extra spending, especially in election
  years. Increased transparency on the activities of state-owned enterprises can
  shed light on off-budget spending, costed impact assessments of government
  programs can help control spending, and in-year increases in spending should
  go through the supplementary budget process.
- The government of Mongolia and State Great Hural may wish to reprioritize government spending in the next budget. Significant cuts have been made to program and infrastructure spending in the 2017 budget, but certain areas of lavish government spending remain—especially on a plethora of politically motivated local infrastructure projects. Cuts to these projects and spending according to a new national development plan may be the key to re-establishing fiscal sustainability.
- The government of Mongolia and State Great Hural must put the debt-to-GDP ratio on a decreasing path. Aiming for levels closer to 30 to 50 percent in the long term is more appropriate for emerging economies and countries facing high cyclical volatility. This will enable the government to maintain an active fiscal policy and promote sustainable economic growth.

# 1. Recent experience and current challenges

The Fiscal Stability Law includes a set of fiscal rules meant to promote fiscal sustainability and smooth fiscal expenditures, given the boom and bust cycles in commodity markets. Following the rules would signal the government's commitment to responsible financial management, yielding better terms on Mongolian sovereign debt and creating space for the government to spend more on health, education, infrastructure and other growth-generating sectors.

The law has been amended several times, as the government has been unable to comply with the fiscal rules therein. Figure 1 shows increased expenditure and stagnant fiscal revenue in the period from 2013 to 2016. Consequently, budget deficits increased, leading to an accumulation of debt of approximately MNT 22 trillion by the end of 2016. If the debt-to-GDP ratio gets too high (which was 80 percent in net present value by the end of 2016), investors will worry that the government may default on its debt, which may lead to a crisis of confidence, spiraling interest rates, less investment and potentially a banking crisis.

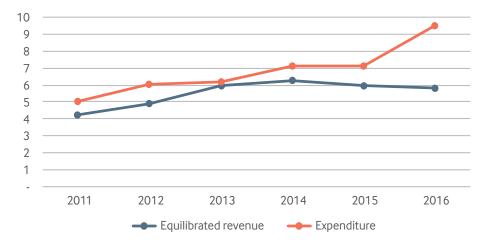


Figure 1. Budget dynamics (MNT trillion)

Source: National Statistics Office

## PROJECTED BUDGET REVENUE

The parliament-approved revenue forecasts have been mostly stable since 2013, notwithstanding low economic growth and inflation (Figure 2). Actual fiscal revenue, on the other hand, has always been lower than forecasted fiscal revenue. The difference is significant—about MNT 1 trillion in each year. The shortage of revenue in each year leads to a higher budget deficit than expected year after year.

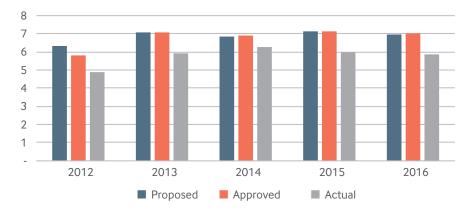


Figure 2. Budget revenue (MNT trillion)

Source: Annual budget laws, National Statistical Office

#### **BUDGET EXPENDITURE**

Actual fiscal expenditure has grown significantly since 2012, particularly in 2016 (Figure 3). Forecasted expenditure approved by parliament has been stable since 2013. Actual expenditure was considerably less than parliament-approved expenditure from 2012 to 2015, while it was much higher in 2016. The increase in expenditure in 2016 is partly explained by the inclusion of spending that was kept off budget in previous years. An example is the "Street Project" financed by DBM to build new roads and fix old roads and junctions in Ulaanbaatar. Therefore, the figures from 2012 to 2015 underreported expenditure growth over this period. 1



Figure 3. Fiscal expenditure (MNT trillion)

Source: Annual budget laws, National Statistical Office

<sup>1</sup> If we spread off-balance expenditure by DBM in the budget of each year rather than putting it all into the 2016 budget, expenditure could be around 35 percent of GDP.

### **BUDGET BALANCE**

Actual budget deficits have been greater than those approved by parliament in nearly every year since 2012 (see Figure 4). The huge increase in deficit figures in 2016 is explained by the inclusion of off-budget spending by DBM in the official government expenditure statistics.

The cumulative proposed budget deficit between 2012 and 2016 was MNT 2.89 trillion. The cumulative approved budget deficit was MNT 2.63 trillion. The cumulative actual budget deficit, on the other hand, was MNT 7.06 trillion, which has contributed significantly to bloating public debt.



Figure 4. Structural budget deficit (MNT trillion)

Source: Annual budget laws, National Statistical Office

#### **GOVERNMENT DEBT**

Government debt (the sum of domestic securities, loans of state-owned enterprises, tax repayments, foreign loans, foreign securities, government guarantees and concession agreements) increased from MNT 5.2 trillion in 2012 to MNT 19.4 trillion at the end of Q3 of 2016 (Table 1). $^2$  The increase equaled MNT 14.1 trillion.

In fact, the government issued new debt worth MNT 9.4 trillion over this period. Each year, the stock of foreign currency denominated debt is revalued in the domestic currency. The cumulative exchange rate effects explain the remaining MNT 4.7 trillion of the debt created from 2012 to 2016.<sup>3</sup>

	2012	2013	2014	2015	2016 Q3
Debt at the beginning of the year	5.21	8.93	11.28	14.07	14.32
Net issuance	3.22	1.31	2.13	-0.17	2.95
Debt at the end of the year	8.93	11.28	14.07	14.32	19.36
Exchange rate effect	0.49	1.04	0.66	0.42	2.09

Table 1. Government debt (MNT trillion)

Source: Ministry of Finance and Mongolbank Note: The annual valuation effects are calculated by the authors.

Unrealistic revenue projections have contributed to Mongolia's debt challenges. From 2012 to 2016, the difference between the actual and approved budget revenue totaled more than MNT 5 trillion. As Table 2 shows, the government's revenue projections have been systematically over-optimistic since November 2011. This begs the question as to whether the Ministry of Finance's models are poorly calibrated or whether these aspirational projections are a product of political

<sup>2</sup> Government debt was expected to reach MNT 22.3 trillion at the end of 2016.

<sup>3</sup> See Appendix 1 for the debt structure.

interference in order to increase spending. As mentioned, the government has tried to adjust fiscal expenditure due to this revenue shortfall but has only been able to make partial adjustments.

Projection date	2012	2013	2014	2015	2016
9 Jul 2011	4.18	4.6	4.82		
30 Nov 2011	5.83	6.41	6.66		
22 May 2012		7.47	8.86	10.22	
25 Oct 2012		7.09	8.48	9.84	
24 May 2013			7.27	8.21	9.46
14 Nov 2013			6.88	8.21	9.45
23 May 2014			6.9	7.2	7.32
30 May 2014				7.2	7.32
23 Jan 2015				6.63	6.88
30 Oct 2015				6.07	6.98
21 May 2015					6.64
13 Nov 2015					7.01
09 Sep 2016					5.35
Actual revenue	4.88	5.94	6.28	5.97	5.85

Table 2. Projected vs. actual fiscal revenue (MNT trillion)

Source: Government of Mongolia, Medium-Term Fiscal Frameworks

## LARGE SHORT-RUN FINANCING NEEDS FACING THE GOVERNMENT

The government borrows on the domestic market to cover short-term financing needs and its budget deficit. In 2016, MNT 5.8 trillion of its debt was domestic, which is less than half of its external debt. Recently the parliament approved amendments to the 2017 budget. The budget deficit in 2017 is now estimated at MNT 2.7 trillion, which is equivalent to 11.3 percent of GDP in 2016 (in nominal terms). The government must borrow to finance this massive deficit. Furthermore, the government anticipates deficits of MNT 2.6 and MNT 2.1 trillion in 2018 and 2019, respectively. Roughly speaking, government debt will increase by an estimated MNT 8.4 trillion by 2020. Under the recently agreed IMF program, the Mongolian government is expected to receive about USD 5.5 billion of concessional loans from international partners to support the budget and projects in the coming years.

### **DEBT AND INTEREST PAYMENTS DYNAMICS**

In a growing economy, government debt may increase. However, its ratio to GDP should stay at a sustainable level; otherwise it runs the risk of ever increasing interest payments and eventually sovereign default.

**Mongolia Macro-Fiscal Model (MMM):** NRGI developed<sup>4</sup> a model that is comprised of three main sections—the macroeconomic model, the mineral sector block and the fiscal block—projecting debt and interest payment dynamics.

It is a small-scale, semi-structural macroeconomic model, which provides key calculations estimating the relationships among aggregate variables, such as consumption, investment, output, the interest rate, and domestic and international prices. These estimates are based on a theoretically consistent framework and calibrated using observations of Mongolia's economy between 2000 and 2015.

The mineral sector is modeled from the bottom up. It uses simplified project-level financial models of the country's six largest mines (Oyu Tolgoi, Erdenet, Tsagaan Suvarga, Gatsuurt, Erdenes Tavan Tolgoi and Ukhaa Khudag), which are then aggregated alongside a linear projection of the remainder of the mineral sector.

The fiscal block provides detailed projections across the main tax and expenditure categories, as well as the most important fiscal aggregates, such as various measures of the deficit and debt. The model assesses the country's debt sustainability outlook and compliance with the fiscal rules.

In addition, the model generates various scenarios compared to a pre-defined baseline scenario that is based on the historical trends. Our current baseline incorporates the originally approved 2017 budget and latest economic developments until Q1 2017 but excluding the measures adopted as part of the IMF program. The baseline scenario of the MMM yields the following results in the period from 2017 to 2030:

- The initial debt-to-GDP ratio (including government guarantees) is 84.8 percent and remains at such elevated levels until 2030 (and grows further beyond 2030). Maintaining such high levels of debt (80 to 90 percent of GDP) poses a threat to debt sustainability.
- To bring down the debt-to-GDP ratio would require a sufficiently large primary surplus to cover the interest payments, which account for 5.2 percent of GDP and 15 percent of government expenditure. Service payments on public debt alone were greater than MNT 1 trillion in 2016, more than the government spent on healthcare for the whole country. This year, service payments will likely exceed both health and education budgets.

<sup>4</sup> For more details and download a copy of the MMM, see Daniel Baksa, David Mihalyi and Balazs Romhanyi, *Mongolia Macro-Fiscal Model* (Natural Resource Governance Institute, 2017), https://resourcegovernance.org/analysis-tools/tools/mongolia-macro-fiscal-model.

## 2. The International Monetary Fund program

In this section, we present the results derived from NRGI's MMM, which examines the effect of the IMF's Extended Fund Facility program on the Mongolian economy—the "IMF scenario."

The IMF and the Mongolian government have reached an agreement on the following fiscal reform:

- Increase excise taxes on fuel, cars, tobacco and cigarettes.
- Increase import duties on tobacco and cigarettes.
- Introduce progressive personal income taxes.
- Increase the social security contribution of both employers and employees.
- Freeze government salaries and hiring.
- Reduce the cost of providing military personnel with accommodation.
- Increase the retirement age for both men and women.
- Introduce income tax on interest earned on savings.

The parliament has in general approved the program, and these changes are taking place. In our analysis, we consider these changes except for the increase in the retirement age and the tax on interest income.

### THE INTERNATIONAL MONETARY FUND PROGRAM: EXCISE TAXES

Under the IMF program, the following specific changes will take place in excise taxes:

- The government will cancel its Resolution 166 in 2016 and 34 in 2017—on reduction in excise taxes on fuel from 1 July and 1 October 2017, respectively.
   The tax rates will revert to those effective before Resolution 166 was passed.
- Excise taxes on alcohol and tobacco will increase by 10 percentage points in 2018, 5 points in 2019 and 5 points in 2020, respectively.
- Import duties on cigarettes will increase from 5 percent to 30 percent in 2017.
- Excise taxes on cars (that depend on the age and engine size) are increasing. In
  addition, excise taxes on hybrid cars and cars with LPG engines are increasing from
  zero percent to 50 percent of those imposed on cars with petrol and diesel engines.

Because of the increase in excise taxes and import duties, we estimate that the following additional revenue will be generated in the government budget each year until 2021 (Table 3). Most of the additional revenue is expected to be generated from the tax hikes on fuel. For the period from 2022 to 2030, we simply assume that this type of revenue will increase at the same rate as nominal household consumption in the baseline scenario.

	2017	2018	2019	2020	2021
Fuel	65.9	200.8	220.2	241.8	264.2
Alcohol	0.0	4.3	7.1	10.6	11.5
Tobacco	0.0	38.5	64.0	95.1	103.9
Cars	0.0	36.1	71.8	85.9	93.8
Total	65.9	279.7	363.1	433.4	473.4

Table 3. IMF scenario: additional revenue generated by the excise tax and import duties (MNT bln)

We analyzed the effect of the excise tax hike using the MMM. The following table shows some results that are different from those in the baseline scenario in percentage points. For example, it has a temporary negative effect on growth and leads to a permanently higher price level compared to the baseline. The increase in consumption taxes leads to lower household consumption and hence lower growth. At the same time, it leads to higher inflation. This reform has a positive impact on fiscal sustainability. For example, the debt-to-GDP ratio in the IMF scenario will be 15.1 percentage points lower than that in the baseline scenario in 2030 as a result of this measure.

	2018	2020	2022	2024	2026	2028	2030
GDP growth	-0.5	0.1	0.0	0.0	0.0	0.0	0.0
Inflation (CPI)	0.9	0.2	0.2	0.2	0.2	0.2	0.2
Structural deficit-to-GDP ratio	-0.8	-1.4	-1.6	-1.7	-1.9	-2.1	-2.3
Debt-to-GDP ratio (incl. guarantees)	-0.7	-3.2	-5.7	-7.8	-10.4	-12.6	-15.1

Table 4. Impact of excise tax hike (percentage point difference from the baseline)

Although we take into account the effect of the price increase on the quantity of consumption through price elasticity, this paper does not consider a possibility that traders would stock up in advance and smuggle. Therefore, there is a risk that the government may not be able to collect the target revenue; hence, we may not able to see the model results.

## THE INTERNATIONAL MONETARY FUND PROGRAM: SOCIAL SECURITY CONTRIBUTION AND PERSONAL INCOME TAX

Under the IMF program, the following changes will take place:

- The PIT rate is changing from the flat 10 percent to the progressive rates of 15, 20 and 25 percent. The income brackets are MNT 18, 30 and 42 million a year.
- The zero-personal income tax bracket is increasing from MNT 84,000 per year to 120,000 in 2018, 160,000 in 2019, 200,000 in 2020 and 240,000 in 2021.
- The SSC rate is currently 10 percent for employees and 11 percent for employers. These rates are increasing to 11 and 12 percent in 2018, 11.5 and 12.5 percent in 2019 and 12.5 and 13.5 percent in 2020.

To calculate how much revenue is expected to be generated, we carry out a microsimulation. Given the information about the income distribution, the number of PIT payers and the total PIT collected by the government in 2016, we obtain the results in Table 5. This shows the number of PIT payers by income groups, their shares in the total number of PIT payers and their PIT shares. Accordingly, 94.3 percent of PIT payers are in the income group earning less than MNT 18 million a year and account for 80 percent of PIT revenue. On the other spectrum, people earning more than MNT 42 million a year account for 0.05 percent of PIT payers and contribute 0.5 percent of PIT revenue.

Income group (MNT million)	Number of PIT payers	Shares in total PIT payers (%)	PIT revenue share (%)
0–18	902,327	94.3	80.0
18–30	49,223	5.1	16.6
30–42	4,703	0.5	2.9
42+	451	0.0	0.5
Total	956,704	100.0	100.0

Table 5. PIT payers

Table 6 shows the amount of PIT being generated by individual income groups and the progressive tax rates. Most of the PIT revenue is generated by those paying the PIT rate of 10 percent.

		Tax brackets					
		10%	15%	20%	25%		
	0–18	562.60	-	-	-		
Income group	18–30	107.11	9.55	-	-		
(MNT million)	30–42	15.84	3.71	0.89	-		
million)	42+	2.11	0.65	0.38	0.11		
Total		687.65	13.91	1.27	0.11		

Table 6. PIT revenue (by income groups and tax rates)

We use the same information and calculate the total SSC. The microsimulation yields the following additional revenue generated by SSC and PIT reform in the period from 2018 to 2021 (Table 7).

<sup>6</sup> See Appendix 2 for the assumptions used in this calculation.

	2018	2019	2020	2021
PIT	33	49	76	87
SSC	76	117	198	227
Total	109	166	274	314

Table 7. IMF scenario: additional revenue generated by PIT and SSC reform (MNT billion)

In the remaining simulation period (2022–2030), the additional revenue from this source is indexed with the nominal wage in the baseline scenario.

We also estimate the individual effect of the PIT and SSC hike. Table 8 shows the results. The effects on growth and inflation are relatively small. The underlying mechanism is that the increase in income taxes reduces household consumption and increases nominal wages, which in turn leads to a higher price level. On the other hand, the effect on the fiscal variables is significant. For example, the debt-to-GDP ratio will be 8.8 percentage points lower than that in the baseline scenario.

	2018	2020	2022	2024	2026	2028	2030
GDP growth	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
CPI inflation	0.1	0.1	0.2	0.2	0.2	0.1	0.1
Structural deficit-to-GDP ratio	-0.3	-0.8	-0.9	-1.0	-1.1	-1.2	-1.3
Debt-to-GDP ratio (including guarantees)	-0.3	-1.5	-3.1	-4.4	-6.0	-7.4	-8.8

Table 8. Impact of PIT and SSC hike (percentage point difference from the baseline)

It is worthwhile to mention that the effect of the PIT and SSC on government revenue and hence on the economy and fiscal sustainability can be different if income earners find ways to pay less PIT and SSC.

## INTERNATIONAL MONETARY FUND PROGRAM: GOVERNMENT WAGE AND SALARY

Under the IMF program, the following specific changes will take place.

- One of the requirements of the IMF program is to freeze the salary of government employees in 2017/2018.
- The government plans to reduce the number of its employees over time.
   In doing so, it will not hire anyone when someone retires from the public administration and state special services and will hire one person for two retirees from the public service sectors such as the education, health and defense sectors in the period from 2018 to 2021.
- Based on our assumptions, we estimate that government expenditure will decrease by the following amounts in the period from 2018 to 2021 in comparison to the baseline case (Table 9).<sup>7</sup>

	2017	2018	2019	2020	2021
Change in government expenditure	-60	-215	-293	-389	-501

Table 9. IMF scenario: Government expenditure (MNT billion)

The individual impact of this policy is significant. Table 10 shows the results of the MMM. Its effect on growth is similar to that of the excise tax hike, while its effect on inflation is small and negative. The underlying mechanism of the shock is that the decrease in government spending leads to lower aggregate demand, which in turn causes both growth and inflation to decrease. Its effect on fiscal sustainability is almost the same as that of the PIT and SSC hike.

	2018	2020	2022	2024	2026	2028	2030
GDP growth	-0.4	-0.2	0.0	0.0	0.0	0.0	0.0
CPI inflation	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Structural deficit-to-GDP ratio	-0.4	-0.8	-1.0	-1.1	-1.2	-1.3	-1.5
Debt-to-GDP ratio (incl. guarantees)	0.6	0.0	-1.4	-3.0	-4.8	-6.4	-8.1

Table 10. Impact of government expenditure (percentage point difference from the baseline)

Although it has a positive impact on fiscal sustainability, there is a risk of achieving this result. This policy reform effectively blocks hiring of government employees, such that it might cause a higher workload for individuals and dysfunctional public services. Alternatively, hiring might continue through contracts, which will undermine the fiscal benefits expected from the policy.

<sup>7</sup> See Appendix 2 for the assumptions used by the report authors for the remaining simulation period.

## 3. The international monetary fund scenario vs. the baseline scenario

In this section, we present the combined effect of the fiscal reform in the IMF scenario. In doing so, we compare the IMF scenario results with those of the baseline scenario.

GDP growth will be slightly smaller in the IMF scenario in the short run, but will converge to that in the baseline scenario in the long run (Figure 5). This is mainly because of the decrease in government expenditure and the increase in consumption taxes leading to lower household consumption.

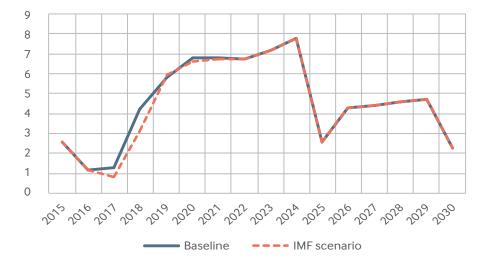


Figure 5. GDP growth rate (%)

The Mongolbank rate in the IMF scenario is lower than that in the baseline scenario for the simulation period (Figure 6). Given that the production of the agricultural and mining sectors is exogenous in the model, the decrease in GDP is more reflected by the core sector. The central bank responds to this by decreasing the policy rate.

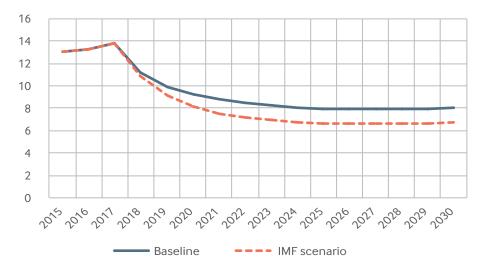


Figure 6. Mongolbank rate (%)

The inflation rate measured by the CPI is slightly higher in the IMF scenario (Figure 7). Although there are opposite forces in play, the combined effect of the consumption taxes, PIT and SSC hikes dominate the effect of the decrease in government expenditure, and the inflation rate is higher in the IMF scenario than the baseline scenario. Therefore, the price level is higher in the IMF scenario.

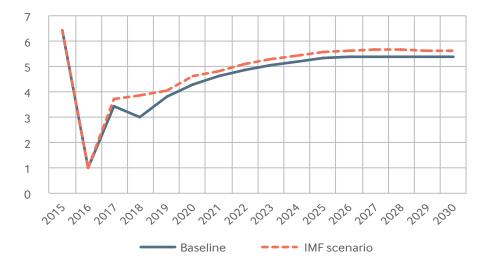


Figure 7. CPI inflation (%)

The total budget revenue is higher in the IMF scenario (Figure 8). This is because of the tax hikes and the higher price level.

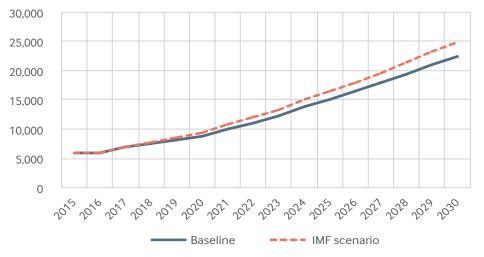


Figure 8. Nominal budget revenue (MNT billion)

We see an insignificant change in primary expenditure (expenditure excluding interest payments) (Figure 9). The decrease in government wages and salaries leads to a decrease in total expenditure. However, nominal government expenditure increases because of the higher price level. As a result, the change in total primary government expenditure is insignificant.

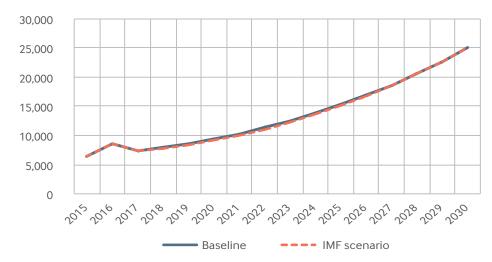


Figure 9. Primary budget expenditure (MNT billion)

The budget deficit-to-GDP ratio is significantly lower in the IMF scenario (Figure 10). As we saw above the individual fiscal reform tends to decrease the deficit-to-GDP ratio unambiguously. The combined effect leads to an even lower deficit-to-GDP ratio in the long run. The main reason is the increase in the revenue and no change in the expenditure, leading to lower budget deficits over time. Although nominal GDP is smaller in the IMF scenario each year, the decrease in the deficits dominates.

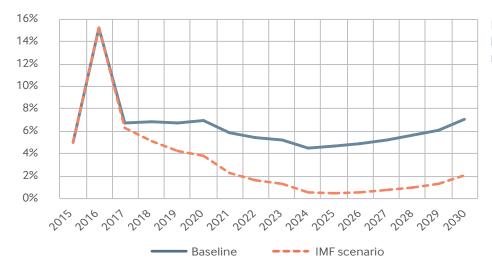


Figure 10. Headline budget deficit-to-GDP ratio

The debt-to-GDP ratio in the IMF scenario falls to almost 50 percent in the long run (Figure 11). This is because the decrease in the budget deficits holds the stock of debt at more or less constant level. As the economy grows, this results in a falling debt-to-GDP ratio.

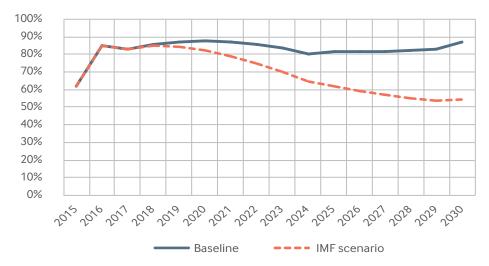


Figure 11. Debt-to-GDP ratio

## 4. Risks to outlook

#### COMMODITY PRICE RELATED

Commodity prices are highly volatile, as seen in the price of copper in the below example (Figure 12). It shows the actual annual copper price from 2001 to 2016 and the projected price used in both the baseline and IMF scenarios for the period from 2017 to 2030. Given the volatility of the actual price, the future price can be very different from our prediction.

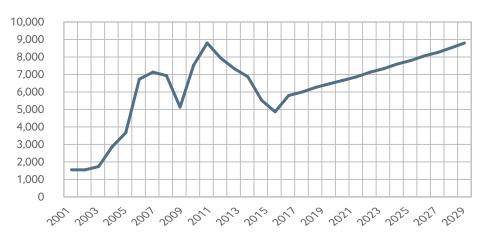


Figure 12. Copper price (USD/tonne)

About a year and half ago, the prospects of the coal market looked gloomy—it was not expected to improve until 2020. However, because of the unexpected shocks such as China's control of overproduction and natural disasters in Queensland, Australia, the market situation turned positive for Mongolian coal exporters, at least temporarily.

We increased our projections for mineral prices (including coal, copper and gold) by over 15 percent on the forecasted horizon compared to 2016 levels because of the recent price recovery. However, in section 5, we also simulate the model with a 15 percent permanent drop in commodity prices to evaluate how it would affect the outlook.

Just as positive commodity shocks happen, negative ones are likely to happen in the future. Therefore, Mongolian policy-makers should be prudent in approving annual budgets and should pay down as much public debt as possible to maintain fiscal sustainability and hence support sustainable growth.

### MINING SECTOR DEVELOPMENT

The mining sector plays an important role in the Mongolian economy. The government received 24 percent of its revenue from the mining sector in 2014, and in 2016 it produced 20 percent of GDP and nearly 80 percent of exports (National Statistical Office). In addition, the mining sector attracts the majority of FDI.

The development and operation of the Oyu Tolgoi underground mine is important, as it increases the potential sources of budget revenue and hence improves the fiscal

position, especially the structural budget balance. In that sense, any delays of the operation could have an adverse impact on the budget.

The government is negotiating with private investors on the development of the state-owned Erdenes Tavan Tolgoi mine. One issue of the Tavan Tolgoi project is transportation. The railway project connecting the mine and Gashuun Sukhait port has been delayed for several years. The low capacity of transportation by trucks has restrained the volume of coal export in times of high prices. Following reforms in China in 2016 to control overproduction, growing demand from Asia-Pacific Mining company and the recent lack of supply from Queensland in Australia have led the coal price to soar. Mongolian coal exporters have responded to the positive shocks by increasing their output and export. If the current price is higher than the equilibrated price, we expect that the FSF will accumulate, which will be used in times with low prices. Mongolia may not be taking the full advantage of the increased price of coal because of their low transportation capacity.

#### **BUDGET SLIPPAGES**

Off-budget spending by DBM (though arguably contributing to important spending programs) was a key vehicle to masking the debt, which ultimately contributed to the budget crisis in 2016. Hence, it is important to learn from this mistake and avoid off-budget spending by DBM to rise.

Another major problem has been consistent over-optimism in the government's revenue projections—by roughly MNT 1 trillion per annum. Allegedly, politicians push the revenue to justify an increase in government expenditure. Another possibility is the model used by the Ministry of Finance for the forecast could be poorly calibrated. Whatever the reason is, the government needs to improve its reputation in planning and performance.

Spending has also spiked in election years. In 2016, this happened as the government introduced various projects such as "good students" and "good herdsmen." The ruling party at that time argued that it was not government expenditure, but it was later included.

We also saw above that the government made most of its borrowing in 2012/2013 when the future looked bright. In 2013, the GDP growth rate was expected to be 14.8 percent in 2014, 11.8 percent in 2015 and 14.6 percent in 2016. This could happen again because the IMF program is only for three years and the economy is expected to grow much faster in the period from 2021 to 2025. But the government and the public must remember that Mongolia's economy relies heavily on the volatile mining sector, so the country needs to pursue sustainable growth rather than expose the budget to frequent boom and bust cycles.

Mongolia has urgent needs to address infrastructure gaps and widespread poverty. Times of high commodity prices and FDI inflow urged politicians and the government to increase spending on public investment and social programs. Such spending programs are then usually interrupted when the commodity market outlook changes. This makes government policy ineffective and short-lived, hence undermining their reputation. This tendency happened in the past and is likely to happen in the future. Abiding by the rules of the FSL is a way to avoid such policy failure, and hence to promote sustainable growth.

## 5. Compliance with fiscal rules

The FSL defines three specific rules—an expenditure rule, a budget balance rule and a debt threshold rule.

#### **RULE 1: GOVERNMENT EXPENDITURE**

The growth rate of government expenditure must not exceed the maximum of the growth rate of non-mining GDP in the current year and the average growth rate of non-mining GDP in the last 12 consecutive years. The growth rate of government expenditure stayed within the limits initially approved by the parliament in the period from 2013 to 2015. However, the rule was breached in 2016 (Table 11) because of the off-balance expenditure by DBM. Consequently, the parliament postponed the implementation of this rule to 2017.

	2012	2013	2014	2015	2016
Initially approved by parliament	28.0	18.0	10.0	-4.7	9.7
Legal limit	-	22.4	22.8	23.1	24.3
Realized	20.4	2.4	15.9	-0.1	33.4

Table 11. Government expenditure growth (%)

Source: Annual budget laws and National Statistical Office

### **RULE 2: STRUCTURAL BUDGET BALANCE**

The legal limit on the structural deficit-to-GDP ratio was initially 2 percent and it was changed to 5 percent in 2015 and 18.5 percent in 2016 (Table 12).

	2012	2013	2014	2015	2016
Initially approved by parliament	3	2	1.9	1.8	3.4
Realized	6.8	1.2	4	5	15.3
Legal limit	-	2	2	5	18.5

Table 12. Budget deficitto-GDP ratio (%)

Source: Annual budget laws and National Statistical Office

## **RULE 3: DEBT THRESHOLD**

The debt threshold rule (debt-to-GDP ratio) has changed (Table 13). The initial aim was to bring the level of debt down to 40 percent of GDP in 2014 from 46 percent in 2013. The actual debt-to-GDP ratio has never been within the limit initially set by the parliament at the end of preceding years.

	2012	2013	2014	2015	2016
Initially approved by parliament	35.3	46	40	40	55
Legal limit	60	50	40	58.3	88
Realized	53.3	53.3	54.1	52.3	79

Table 13. Government debt-to-GDP ratio (percent)

Source: Annual budget laws and National Statistical Office

The debt-to-GDP ratio grew much faster than forecasted as a result of overoptimistic views of economic conditions. Table 14 shows the date and projection of the GDP growth rates in the following three years in every amendment of the fiscal frameworks. The last row shows the actual GDP growth rates. Comparing the projected GDP growth rates and the actual one in each year shows that the government has been over-optimistic about GDP growth. For example, when the government issued the Chinggis bond in 2013, the government expected that 2016 GDP growth would be 14.6 percent. But actual growth turned out to be 1 percent.

Projection date	2012	2013	2014	2015	2016
9 July 2011	16.6	14.8	15.4		
30 Nov 2011	19.7	14.9	14.2		
22 May 2012		19.0	16.3	11.2	
25 Oct 2012		17.6	16.3	11.2	
24 May 2013			14.7	11.8	14.6
14 Nov 2013			14.8	16.0	14.8
23 May 2014			11.2	10.2	7.0
30 May 2014				10.2	7.0
23 Jan 2015				7.1	9.1
30 Oct 2015				3.1	4.1
21 May 2015					5.0
13 Nov 2015					4.1
09 Sep 2016					1.3
Actual growth	12.3	11.6	7.9	2.4	1.0

Table 14. GDP growth rates: projected vs. actual (%)

Source: Government of Mongolia, Medium-Term Fiscal Frameworks

Nominal GDP is used for the debt-to-GDP and budget deficit-to-GDP ratios. When approving the budget, the government predicts the inflation rate together with the real GDP growth rate. The forecasted and actual nominal inflation rates have been also quite different from each other and the difference contributes to the actual ratios (Table 15). In the period from 2012 to 2014, the higher actual inflation rates led to lower debt-to-GDP ratios, while the lower actual inflation rates in 2015 and 2016 resulted in higher ratios.

	2012	2013	2014	2015	2016
Approved by parliament	9	8	8	7	7
Actual	14	12.5	11	1.9	1.1

Our projections used the MMM review compliance with fiscal rules. The following figures show expenditure growth, structural deficit-to-GDP ratio and the debt-to-GDP ratio and their respective targets (limits). We show three scenarios here. In addition to the baseline and IMF scenarios, we consider a scenario in which the commodity prices fall by 15 percent permanently—i.e., the prices are 15 percent lower than those in the baseline scenario in the period from 2018 to 2030 to show how vulnerable the fiscal situation is.

Table 15. Inflation rates: projected vs. actual (percent)

Source: Government of Mongolia, Medium-Term Fiscal Frameworks, National Statistical Office According to Figure 13, the expenditure rule will be met in the three scenarios throughout the simulation period. While the target is declining over time, predicted expenditure growth in each simulation increases toward the target.



Figure 13. Rule 1: Expenditure growth (%)

The structural deficit in the baseline scenario diverges from the target while that in the IMF scenario hits and even exceeds the target, though this favorable position reverses from 2022 onward, and the rule is projected to be breached in 2027 (Figure 14). However, the 15 percent permanent drop in commodity prices sets the fiscal situation back to that in the baseline scenario and defeats the benefits of the IMF program.

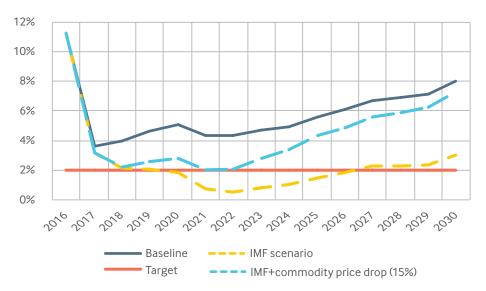


Figure 14. Rule 2: Structural deficit-to-GDP ratio

The debt-to-GDP ratio in the baseline scenario diverges from the target of 60 percent of GDP until 2021 and remains about 25 percent higher in the rest of the simulation period (Figure 15). By contrast, the debt-to-GDP ratio in the IMF scenario converges to the target and hits the target in 2026 and remains lower than the target afterward. Again, the 15 percent drop in commodity prices wipes out the benefits of the IMF program and puts the debt situation similar to that in the baseline scenario.



Figure 15. Rule 3: Debt-to-GDP ratio

## 6. Conclusion

This report considered Mongolia's fiscal sustainability in light of recent experience, future prospects, the IMF program and potentially adverse commodity market conditions. We used NRGI's Mongolia Macro-Fiscal Model to perform projections and evaluate impacts of the IMF program and adverse market conditions until 2030.

In recent years, government debt increased significantly because of politically motivated spending and stagnant budget revenue. The government was also consistently over-optimistic about its revenue projections (by about MNT 1 trillion in each year) leading to higher budget deficits. Off-budget spending by DBM also increased government debt. In addition, foreign currency denominated borrowing increased debt because of exchange rate depreciation.

Consequently, the FSL has been amended a number of times to accommodate the changes in the fiscal position. Public debt increased to over 80 percent of GDP in 2016, and the country came to a point where speculation of sovereign default erupted.

The newly elected parliament consolidated the budget, included off-budget spending by DBM in the government budget and started negotiating with the IMF for a bailout, which the IMF's board of directors recently approved. Under the IMF program, the government agreed to reduce spending and increase certain taxes. Our calculations show that without the IMF program, the debt would be around 80 to 90 percent of GDP and the FSL rules would be broken. Following the implementation of the IMF program, on the other hand, the debt is expected to fall to 50 percent of GDP over time, and the fiscal rules will be met (though compliance with the structural deficit and the debt rule eventually reverses after Oyu Tolgoi's build-up).

Both the baseline and the IMF scenarios are based on the latest economic developments (Q1 2017). These include a fortunate recovery in the commodity markets. However, our analysis shows that a 15 percent permanent decrease in commodity prices is likely to erase all the benefits of the IMF program indicating how vulnerable the economic situation is. There are also other risks that could potentially undermine the effect of the IMF program on the country's fiscal sustainability. For example, the tax hikes may not generate the expected revenue because traders may smuggle and stock up in advance, high income earners may find ways to avoid paying higher taxes, and the government may contract individuals to maintain the quality of public service. In addition, off-budget spending, budget slippages and over-optimism about the future economic conditions present a great risk to recent gains in fiscal consolidation.

Mongolia is a mineral-rich country and developments in the mining industry play a vital role in the well-being of its economy. The economy is simply too exposed to the mining boom and bust cycles and associated FDI flows. Within the last seven years, the country experienced the turbulent economic shocks resulting from swings in the commodity markets. To avoid these shocks, Mongolia needs counter-cyclical fiscal policy, compliance with the fiscal rules of the FSL, accumulation of sufficient reserves and to acquire a credible reputation in financial markets. These efforts combined will help achieve sustainable growth in a volatile environment.

## APPENDIX 1. STRUCTURE OF NEWLY ISSUED AND REPAID DEBT (MNT BILLION)

New issuance	2012	2013	2014	2015	2016			
MNT denominated transactions								
Domestic securities	881.6	2648.7	2588.7	2545.5	1326.1			
Veksel				164.3	530.1			
State-owned enterprises		103.8	1249.1	0	0			
Tax prepayment	8.4	0	0	175	0			
FX denominated transactions								
Foreign loans	363	321.1	369	505.1	1013.5			
Foreign securities	2088.2	0	0	314.9	1021.2			
Government guarantees	807.4	200.8	0	0	188.7			
Concession agreements				261	662.7			
	'	Repaid						
	MNT denom	ninated transa	ections					
Domestic securities	-87.9	-1838.6	-1405.2	-2079.4	-1062.2			
Veksel				0	-251.2			
State-owned enterprises		0	-191.1	-1613.1	-42.1			
Tax prepayment	-	-25.3	-233.8	-293	0			
FX denominated transactions								
Foreign loans	-463.3	-98.4	-226.4	-126.4	-89			
Foreign securities	-375.4	0	0	0	0			
Government guarantees	-	0	-21.8	-23.1	-20.4			
Concession agreements				0	-332.4			

Source: Ministry of Finance, Mongolbank, news reports

## APPENDIX 2. THE INTERNATIONAL MONETARY FUND PROGRAM

We made the following assumptions to calculate how much budget revenue will be generated in the IMF scenario:

- Approximately 50 percent of the adult population (2.25 million people) smoke regularly and an average smoker smokes one package of cigarettes per day.<sup>9</sup>
- Of the population aged 15 years or older 45.6 percent consumes alcohol and an average person consumes 15.1 liter of alcohol, implying that alcohol consumption is 13.6 million liters per year.<sup>10</sup>
- The Ministry of Finance estimates that budget revenue will increase by about MNT 69 billion in 2018 due to the excise tax hike on imported cars. Since the excise tax hike is effective from 1 May 2017, budget revenue will increase by about MNT 37 billion in 2017. The additional revenue expected in 2019 by the government is MNT 75 billion.
- As excise tax is also a basis for VAT, we calculate the extra VAT-revenue induced by the excise tax hike. We used the 10 percent VAT rate to calculate this indirect effect.

We made the following assumptions to calculate how much revenue will be generated from the reform in SSC and PIT in the IMF scenario:

- The income distribution is the gamma distribution.
- The total amount of declared personal income is MNT 7 trillion. The number of tax declarations is 956,703, which is the total number of PIT payers in 2016.

Decile	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Share of income	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.15	0.26

Table A2.1. Income distribution (by deciles)

Source: United Nations University, World Income Inequality Database

<sup>9</sup> World Lung Foundation, The tobacco atlas: Mongolia, (2015), http://www.tobaccoatlas.org/country-data/mongolia.

<sup>10</sup> World Health Organization, Mongolia: Alcohol consumption, (2014), http://www.who.int/substance\_abuse/publications/global\_alcohol\_report/profiles/mng.pdf.

Given the information we obtained the following gamma distribution for income:

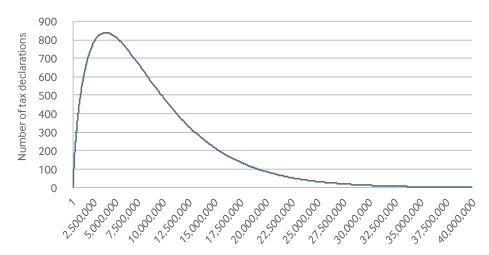


Figure A2.1. Estimated Gamma income distribution

Source: United Nations University, World Income Inequality Database

In the IMF scenario, we made the following assumptions to calculate the decrease in government expenditure:

- In 2016, the number of government employees was about 189,000, which was 16.4 percent of the total employment: 68.8 percent of it is in public services, 19.6 percent is in state special services, 10 percent is in public administration and 1.6 percent is in political positions.<sup>11</sup>
- The age distribution of government employees is the uniform distribution over 40 age categories, implying that 2.5 percent of its employees retire every year.
- The number of "political positions" does not change in the period from 2017 to 2021. But it increases at the same rate as total government employees after 2022.
- The average salary in 2018 is the same as that in 2017. But it increases at the same rate as that in the baseline scenario after 2019. Thus, the average salary will be 7 percent lower in the IMF scenario than that in the baseline scenario in the period from 2018 to 2030.
- We calculate that total government employees will be about 174,000 in 2021, accounting for 13.3 percent of total employment. We assume that this ratio remains the same in the period from 2022 to 2030.

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## **ACKNOWLEDGEMENTS**

The authors would like to thank Daniel Baksa of Central European University and Balazs Romhanyi of Fiscal Responsibility Institute Budapest for their contribution on the costing of the International Monetary Fund measures.

