

# MONGOLIA ECONOMIC UPDATE

Navigating Stronger Headwinds



**Special Topic** – Fiscal Sustainability of the Mongolian Pension Scheme



WORLD BANK GROUP

April 2022





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*Navigating stronger headwinds*

**April 2022**

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# ABBREVIATIONS AND ACRONYMS

## MONGOLIA – GOVERNMENT FISCAL YEAR

January 1 – December 31

## CURRENCY EQUIVALENTS

(Exchange Rate Effective as of March 31, 2022)

Currency Unit = Tugrug (MNT)  
US\$1.00 = MNT 2,949

BoM	Bank of Mongolia	MC	market capitalization
CAPEX	capital expenditure	MoF	Ministry of Finance
CBI	central bank independence	MSE	Mongolia Stock Exchange
COOB	currency outside of banks	MTFF	Medium Term Fiscal Framework
CIT	corporate income tax		
CMP	Child Money Program	NBFI	non-bank financial institutions
CPI	Consumer Price Index	NDC	net domestic credit
DB	Defined Benefit	NDC scheme	Notional Defined Contribution scheme
DBM	Development Bank of Mongolia		
EAP	East Asia and Pacific	NFA	net foreign assets
EMDEs	Emerging Market and Developing Economies	NPLs	nonperforming loans
		NRP	New Recovery Policy
FDC	Funded Defined Contribution scheme	NSO	National Statistics Office
		OECD	Organization of Economic Cooperation and Development
FDI	foreign direct investment	OT	Oyu Tolgoi
FHF	Future Heritage Fund	PAYG	Pay-as-you-go scheme
FRC	Financial Regulatory Commission	PBOC	People's Bank of China
FSF	Fiscal Stabilization Fund	PIT	personal income tax
FX	foreign exchange	PPI	Producer Price Index
GDP	gross domestic product	PROST	Pension Reform Options Simulation Toolkit
GoM	Government of Mongolia		
H1, H2	first and second half of a year	SMEs	Small and Medium Enterprises
HH	household	SOEs	State Owned Enterprises
ICO	initial coin offering	SSC	Social Security Contribution
ICT	information and communication technology	TOR	turnover rate
		VASPs	virtual asset services providers
IPO	initial public offering	VAT	value-added tax
IMF	International Monetary Fund	y/y	year-over-year
LFPR	labor force participation rate		

## ACKNOWLEDGEMENTS

This edition of the Mongolia Economic Update (MEU) was prepared by Jean Pascal Nganou (Senior Economist), Undral Batmunkh (Research Analyst), Ganbaatar Jambal (Extended Term Consultant), Mark Charles Dorfman (Senior Economist), and Ibrahim Saeed Chowdhury (Senior Economist and acting Lead Economist). Mongolmaa Norjinkham (Senior Social Protection Specialist) and Robert J. Palacios (Lead Specialist on Social Protection and Labor) provided constructive comments. Yang Huang (Economist), Anne-Lore Fraikin (Consultant), Mahama Samir Bandaogo (Economist) and Eka Vashakmadze (Senior Country Economist) provided key inputs on labor market developments, analysis on central bank independence and global economic outlook. The MEU was prepared under the direction of Martin Raiser (Country Director), Hassan Zaman (Regional Director), Sebastian Eckardt (Practice Manager) and Andrei Mikhnev (Country Manager). The team is grateful to Sukhchimeg Tumur (Program Assistant) and Indra Baatarkhuu (External Affairs Officer) for their support on administrative and communication affairs.

The findings, interpretations, and conclusions expressed in this update are those of the World Bank staff and do not necessarily reflect the views of the Executive Board of the World Bank or the governments they represent. For information about the World Bank and its activities in Mongolia, please visit <https://www.worldbank.org/en/country/mongolia>. For questions and comments on the content of this publication, please contact Jean Pascal Nganou ([jnganou@worldbank.org](mailto:jnganou@worldbank.org)). The cutoff date for this edition of the MEU is March 31, 2022.

# EXECUTIVE SUMMARY

## Recent Economic Developments

**Mongolia's economic recovery in 2021 was weak.** After a strong economic rebound in early 2021, the recovery stalled in the last three quarters due to trade disruptions. Growth consequently was disappointing, reaching only 1.4 percent following the contraction of 4.4 percent in 2020. Economic growth was mainly supported by a strong rebound of coal mining in Q1 which dissipated during the remainder of the year, significant improvement in copper ore grade, and recovery in the services sector. The services sector (including health, information and communication technology, trade, hotels and restaurants, and financial services) accounted for 1.8 percentage points of GDP growth in 2021, reflecting the gradual relaxation of domestic COVID-19 restrictions in H2 2021. In contrast, the manufacturing sector stagnated, and construction contracted significantly amid supply shortages caused by border disruptions. Agriculture also contracted reflecting an outbreak of animal disease and harsh weather conditions.

**On the demand side, gross capital formation was the key driver of growth, but investment was largely underpinned by a substantial buildup of mineral inventories.** Investment recovered strongly, but this was mainly driven by a build-up of coal inventories, reflecting stalled coal exports due to COVID-19 related border closures that impeded exports to China. The accumulation of inventories reached 13.4 percent of GDP in 2021 from 8.5 percent of GDP in 2019. Foreign direct investment (FDI) and subsidized loans under the government stimulus program also supported private investment in the mining and services sectors.

**Meanwhile, consumption and net exports were negatively affected by the lingering impact of the pandemic on household labor income and border frictions.** Despite continued income support, private consumption remained depressed as COVID-19 restrictions constrained mobility, rising inflation weighed on real incomes, and households increased precautionary saving amid persistent uncertainty. Final consumption is estimated to have contracted by 4 percent in 2021, mainly driven by a 6.6 percent contraction in household consumption. While Mongolia benefited from rising export prices, the improvement in the terms of trade was more than offset by border restrictions, resulting in negative contribution of net exports to GDP.

**The labor market remained weak throughout 2021 amid the prolonged impact of the COVID-19 pandemic.** Total employment declined by 5 percent (y/y) in 2021 as about 60,000 jobs were lost. Employment losses would have been much worse, were it not for the 2021 economic recovery package which is estimated to have protected between 168,000 and 230,000 jobs during the pandemic. Labor force participation improved to 58 percent in the last quarter of 2021 from 55 percent in Q1 2021, as people returned to the labor market following the gradual easing of the COVID-19 restrictions on businesses.

**Monetary policy remained accommodative during 2021, despite rising inflation and deteriorating balance of payments.** Headline inflation accelerated sharply to 14.4 percent (y/y) by March 2022, due to supply bottlenecks amid border closures as well as accelerating credit growth. With nearly half of Mongolia's consumer basket composed of imported goods and services, disruptions in trade and ensuing logistical challenges also led to an increase in imported inflation. Core inflation, excluding volatile food and energy prices, also accelerated rapidly, reaching 12.7 percent (y/y) in December 2021 and 15.1 percent in February 2022. Substantial real exchange rate appreciation and weak exports led to a widening current account deficit and the erosion of gross international reserves from over 7 months (in mid-2021) to 3.7 months of imports as of February 2022.

**The war in Ukraine has exacerbated the pressure on Mongolia's external accounts, prompting the Bank of Mongolia (BoM) to tighten policy.** The erosion of confidence related to the war in Ukraine and the persistent border frictions fueled increasing demand for foreign exchange, prompting banks to ration FX liquidity, and

thus negatively affecting some import payments by domestic and foreign firms. To stem these pressures the central bank raised its policy rate by a cumulative 300 basis points within the last 4 months, but real interest rates nevertheless remain negative.

**Following two years of expansionary fiscal policies, policy space is increasingly constrained with persistent fiscal imbalances threatening long-term sustainability.** Public spending increased in 2021 mostly driven by the generous but poorly targeted Child Money Program (CMP). The headline budget deficit nonetheless narrowed to 3.1 percent of GDP amid a one-off tax arrears collection (2.3 percent of GDP). Meanwhile, the financing of the CMP through the Future Heritage Fund (FHF) has weakened the fiscal framework and long-term sustainability.

**Public debt increased sharply in the past two years, driven by large fiscal support.** Public debt is estimated to have increased to about 81 percent of GDP in 2021 due to various COVID-related fiscal and quasi-fiscal measures to support the economy. The overall debt ratio would be even higher at about 92 percent of GDP at end-2021, including the People's Bank of China (PBOC) swap line in the amount of US\$1.8 billion.

## Outlook and Risks

**Economic growth is projected to remain modest at 2.5 percent in 2022, reflecting lingering border frictions with China and the impact of the war in Ukraine.** Coal exports are expected to recover modestly toward the end of the year when border frictions with China may ease. Mining output growth will be temporarily weakened in 2022, by a drop in the quality of ore from Oyu Tolgoi (OT), Mongolia's largest copper mine. While gradually improving labor market conditions amid a reopening of the economy would support domestic demand, the recovery is expected to be modest as real incomes and household consumption are weighed down by high inflation. Gross fixed capital formation will rise moderately relative to its pre-COVID average largely thanks to the recently concluded agreement with Rio Tinto over OT, which will support steady FDI inflows. These investments will provide some short-term support to the construction and services sectors and expand mining capacity in the long run. Over the medium-term, economic growth is expected to accelerate to above 6 percent in 2023-24, as the underground mining phase of OT becomes operational during H2 2023.

**The fiscal deficit is projected to widen more than envisaged in the government budget.** Even with higher global commodity prices, the path to fiscal consolidation will be difficult if the border frictions remain. We envisage the headline budget deficit to increase to around 5 percent of GDP in 2022 driven by increases in capital spending, the continuation of some COVID-related stimulus measures, and a discretionary pension increase (of around 1.5 percent of GDP), before narrowing to 4.6 percent of GDP in 2023-24. Fiscal consolidation is needed to stabilize public debt which is expected to increase further to 94 percent in 2022 (including the BoM's swap line with the PBOC).

**The monetary policy stance is expected to tighten further amid the sharp rise in inflation and the buildup in external pressures.** External pressures are expected to build as global financing conditions tighten, large external debt payments fall due, and the current account deficit is projected to remain elevated during 2022-23. With inflation running well above the central bank's target, widening external imbalances, and still-negative real interest rates, further monetary policy tightening is warranted to restore price stability in 2022.

**Uncertainties surrounding the baseline forecast remain large and are tilted to the downside.** In a downside scenario, economic growth could fall to 0.7 percent in 2022 if border restrictions with China persist throughout the year and the war in Ukraine leads to persistently higher energy prices and tighter global liquidity. In this case, the fiscal deficit would widen further due to revenue shortfalls. Moreover, tighter global financing conditions could make it more challenging for Mongolia to refinance large external bonds due in 2023.

**Mounting instability and heightened risks call for adjustments in macroeconomic policies.** Monetary policy needs to return to a credible inflation anchor. Further policy rate hikes are needed, but should be accompanied by steps to wind down quasi-fiscal operations and strengthen the operational independence of the central bank. While Mongolia's fear of floating the exchange rate is understandable given its import dependence and high pass-through to inflation, the current rate of intervention and FX restrictions are not sustainable and risk a loss of confidence and growing dollarization. Fiscal consolidation is needed to stabilize debt and ensure external and public debt sustainability. Better targeting fiscal measures to the poor would help contain fiscal imbalances while sustaining support to the most vulnerable households.

**Structural reforms would help lay the foundation for more diversified and hence more resilient growth in the medium term.** Key priorities include measures to reduce trade and transport costs, facilitate foreign investment and domestic entrepreneurship, and encourage private investment in renewable energy through tariff reforms. Finally, financial sector reforms should focus on assessing the underlying capital position of banks for the upcoming IPOs, and mitigate risks associated with new financial instruments (e.g., virtual assets).

### Special topic: Fiscal sustainability of the Mongolian pension scheme

**Mongolia's pension scheme has high levels of coverage but is fiscally unsustainable given current contribution rates and retirement benefits.** The current pay-as-you-go pension scheme already requires substantial state subsidies of 2.8 percent of GDP to pay for current benefits not financed from contributions. Without reforms to key parameters of the system, projections suggest a rapid and unsustainable level of growth in the state subsidy, rising to 6.8 percent of GDP in 2030 and 11.3 percent of GDP in 2050.

**A series of parametric reforms would help improve the financial sustainability of the current pensions system.** These include (i) adopting automatic indexation of regular and minimum pension benefits to inflation, which would make benefits more predictable, increase confidence, and avoid the need for ad hoc discretionary adjustments as in early 2022; (ii) gradually increasing the normal retirement age to 65 de-linked from the vesting period and applying an actuarially fair benefit reduction for early retirement; (iii) gradually increasing the contribution rate to its pre-2008 level of 19 percent of gross wages; and (iv) extending the wage base used to calculate benefits from the current seven years to a worker's lifetime wages. Finally, the proposed Funded Defined Contribution (FDC) scheme should be initiated as voluntary and supplemental, or funded with additional contributions rather than by earmarking funds from the current scheme.

**Table ES.1. Selected macroeconomic indicators**

	2019	2020	2021	2022f	2023f	2024f
Real GDP growth, at constant market prices	5.5	-4.4	1.4	2.5	5.8	6.8
Inflation (CPI, period average)	7.3	3.7	7.1	10.5	7.5	6.8
Current account balance (% of GDP)	-15.2	-4.3	-12.7	-15.6	-13.8	-11.6
Fiscal Balance (% of GDP)	1.4	-9.4	-3.1	-4.8	-4.8	-4.4
Public Debt (% of GDP)	68.4	77.3	79.5	83.6	81.7	80.0

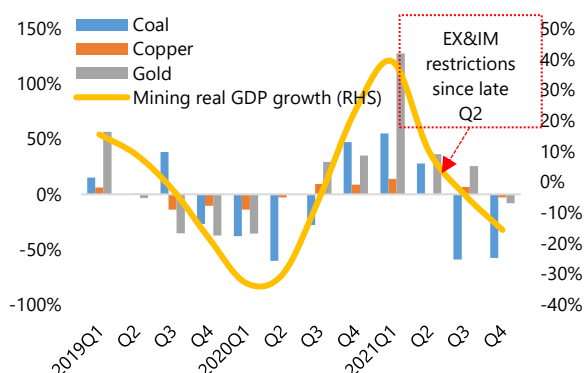
Source: World Bank staff estimates.

Note: Public debt does not include the BoM's swap line with the PBOC (12 percent of GDP in 2021) and the contingent liabilities under the DBM (5 percent of GDP).

Figure ES.1. Key indicators

### Mining sector contracted sharply in H2 as coal inventories built up and ...

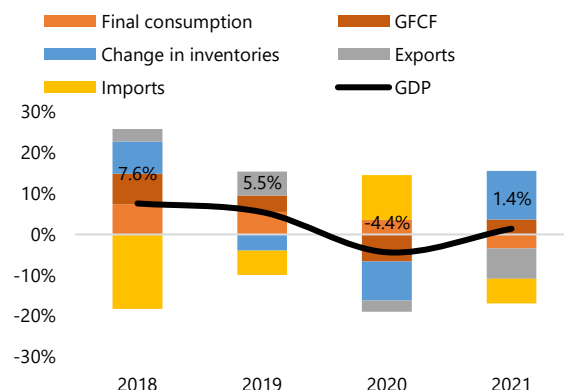
Year-over-year growth of mining sector real GDP and production of key commodities



Sources: NSO; World Bank staff estimates.

### ... aggregate demand was supported by gross capital formation, while border frictions hampered net exports

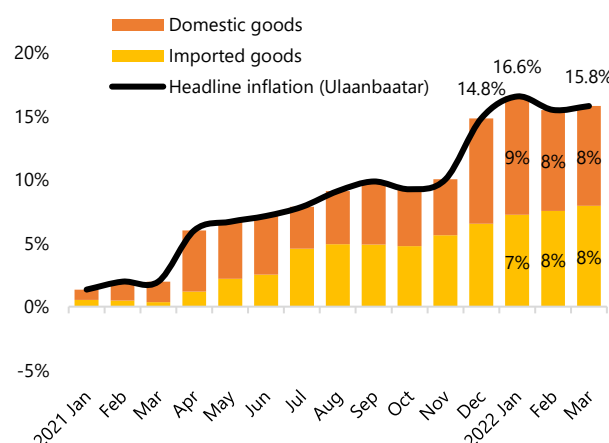
Demand-side contribution to GDP growth (y/y, percentage points)



Sources: NSO; World Bank staff estimates.

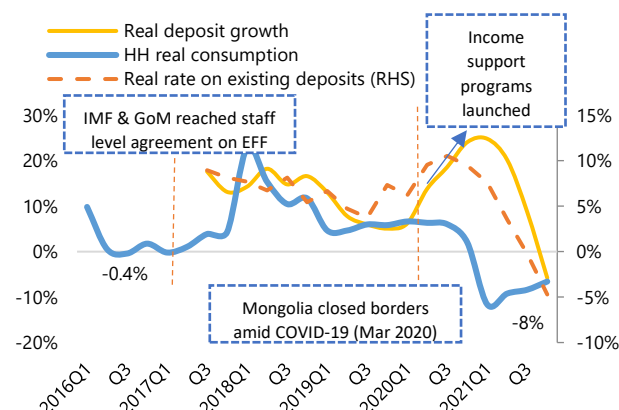
Note: GFCF = gross fixed capital formation.

### Rising inflation weighed on real incomes, and households increased precautionary saving amid persistent uncertainty



Source: NSO; World Bank staff estimates.

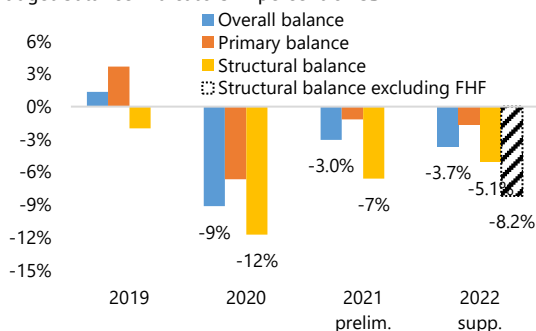
Annual growth of HH deposits and consumption



Sources: NSO; BoM; World Bank staff estimates.

### Fiscal policy will remain expansionary despite eroding fiscal space and ...

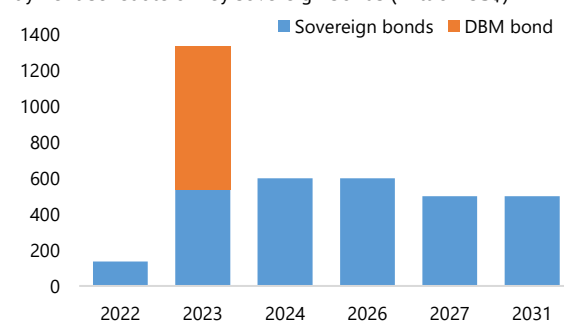
Budget balance indicators in percent of GDP



Source: MoF; World Bank staff estimates.

### ... sizable external bonds maturing during 2023–24

Payment schedule of key sovereign bonds (million US\$)

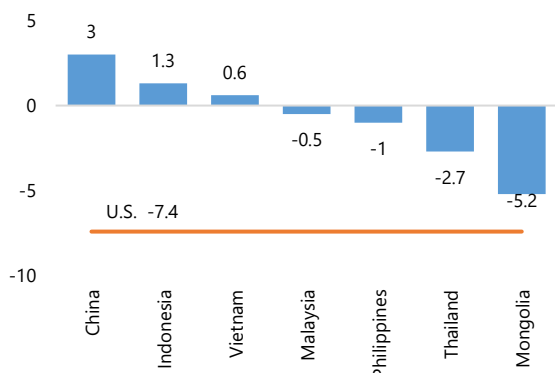


Sources: MoF; BoM; World Bank staff estimates.

Figure ES.2. Key indicators (continued)

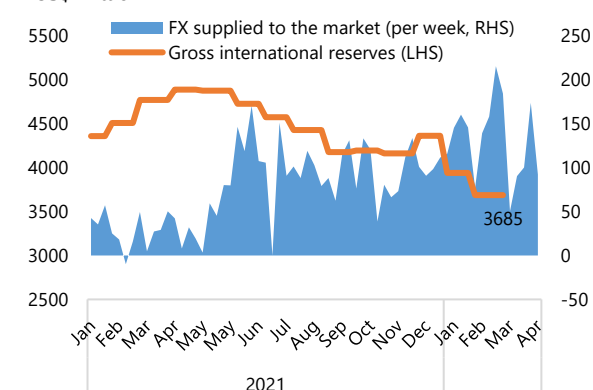
**Negative real interest rate calls for monetary policy to return to a credible inflation anchor, raise interest rates and allow the exchange rate to absorb negative external shock**

Real interest rates, per annum



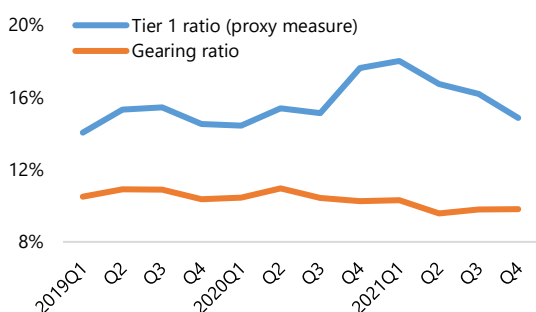
Source: BoM; EAP Economic Update, 2022.

In US\$ million

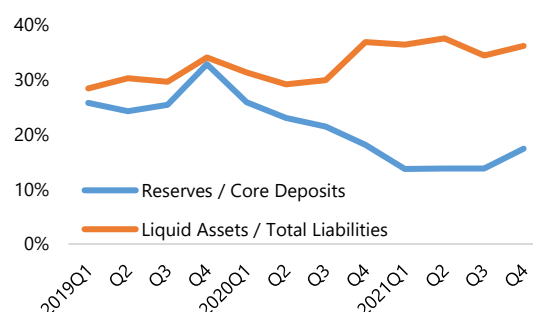


Source: BoM.

**Capital buffers and liquidity of banks appear broadly adequate, but are likely to deteriorate amid rising uncertainties and as forbearance measure expire**



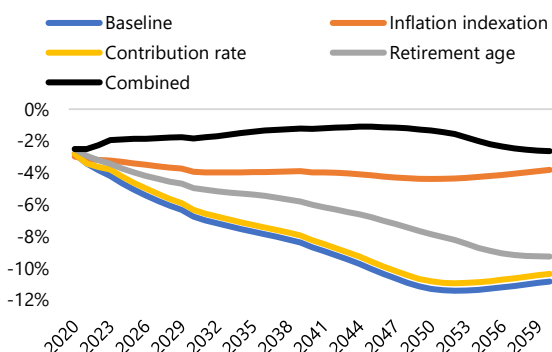
Source: BoM; World Bank staff estimates.



Source: BoM; World Bank staff estimates.

**Parametric reforms will help improve the financial sustainability of the pension system**

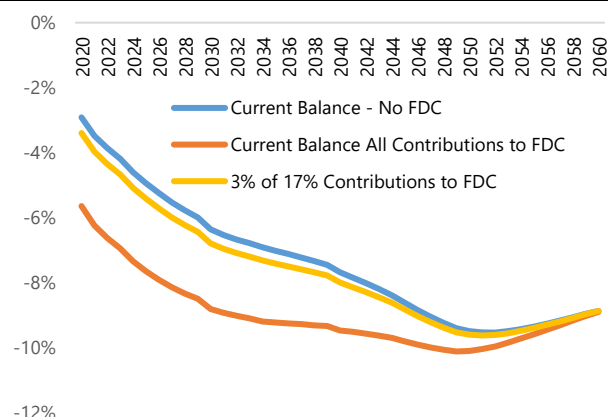
Financing Gap under baseline and reform options  
(PAYG Current Balance as a share of GDP)



Source: PROST Projections, 2019.

Note: Scenarios exclude the implications of the 2022 pension hike (1.5 percent of GDP), which could add to the cost under all scenarios. In an FDC scheme, the funds contributed and accumulated are invested in securities to back up future benefits of members. A hybrid scheme either partly converts the Pay-As-You-Go (PAYG) Defined Benefit (DB) scheme to an FDC scheme or adds an FDC scheme while leaving part of the pension formula through the existing or reformed DB scheme.

**Projected fiscal costs of a full conversion to FDC and one hybrid option**







# I. Economic Performance and Prospects



# I. ECONOMIC PERFORMANCE AND PROSPECTS

## A. Recent Economic Developments

### A1. A sluggish recovery in 2021

#### Mongolia's economic recovery in 2021 was weak.

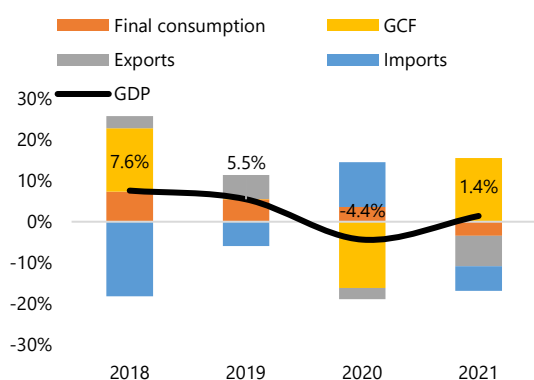
Following a contraction of 4.4 percent in 2020, the economy grew by only 1.4 percent in 2021, supported largely by the recovery of mining-related investment and improvements in the quality of OT (Oyu Tolgoi) mining output. COVID-19 related interruptions in the bilateral trade with China in H2 2021 hampered mining exports and the import of vital inputs for domestic production, preventing Mongolia from reaping the benefits of improved terms of trade. Although a series of fiscal and quasi-fiscal stimulus measures supported employment and incomes, household consumption remained depressed reflecting COVID-related restrictions and higher uncertainty.

**On the demand side, gross capital formation was the key driver of growth, but investment was**

**largely underpinned by a substantial buildup of mineral inventories (figure I.1).** Gross capital fixed investment (mostly private) recovered from a steep contraction in the previous year, reflecting robust FDI (foreign direct investment) inflows and accelerated domestic credit growth, especially in H1 2021.<sup>1,2</sup> In H2 2021, however, gross capital formation was increasingly driven by a large buildup of mining inventories, reflecting weak coal exports following COVID-19 related border disruptions that impeded exports to China (figure I.2). In fact, the accumulation of inventories reached 13.4 percent of GDP in 2021. Meanwhile, consumption and net exports were negatively affected by the lingering impact of the pandemic on household labor income and border frictions.

**Figure I.1. Gross capital formation supported the aggregate demand ...**

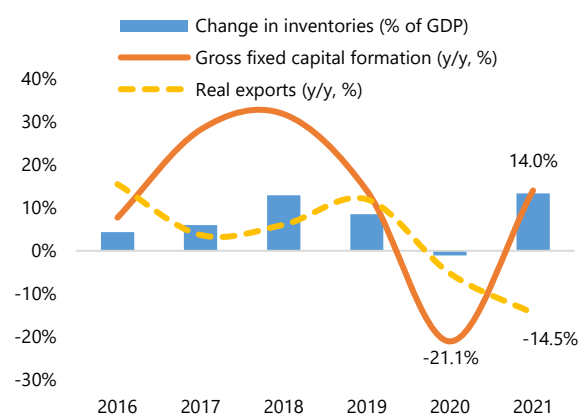
Demand-side contribution to GDP growth (y/y, percentage points)



Sources: NSO; World Bank staff estimates.  
Note: GCF = gross capital formation.

**Figure I.2. ... and was increasingly driven by large coal inventories buildup amid border frictions in H2 2021**

Decomposition of gross capital formation



Sources: NSO; World Bank staff estimates.

<sup>1</sup> The change in inventories accounted for 12 percentage points of GDP growth while GFCF only contributed 3.6 percentage points to growth in 2021. The government's capital expenditure declined in real terms, while private investment increased notably, especially in H1 2021, on the back of a strong rebound in FDI and domestic credit growth under the MNT 10 trillion program.

<sup>2</sup> In particular, gross inflow of FDI reached US\$2 billion (up by 16 percent y/y), close to the level of 2018.

**Private consumption contracted in 2021, reflecting diminishing real income and a higher propensity to save.** Final consumption is estimated to have contracted by 4 percent in 2021, mainly driven by a 6.6 percent contraction in household consumption—the first contraction since the economic crisis in 2009 (figure I.3). A series of factors account for weak private consumption in 2021:

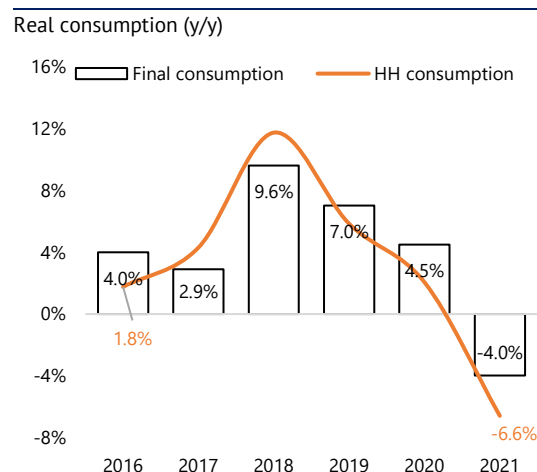
*First*, persistent labor market pressures weakened nominal household incomes despite generous government support. Households' nominal income growth decelerated to 6 percent (y/y) in 2021 from 10 percent (y/y) in 2020 as the contribution of salaries and wages to incomes turned negative and partially offset the impact of larger social transfers (figure I.4).<sup>3</sup>

*Second*, real incomes eroded rapidly as inflation accelerated sharply in 2021, further curtailing consumer spending. With consumer

price inflation averaging 7 percent [last year], real household incomes are estimated to have contracted by 1 percent.<sup>4</sup> Rising food prices—which increased by over 20 percent in 2021—have weighed on consumption, especially of poorer households. Real household expenditure contracted mostly driven by declining expenditure on non-food items (figure I.5).<sup>5</sup>

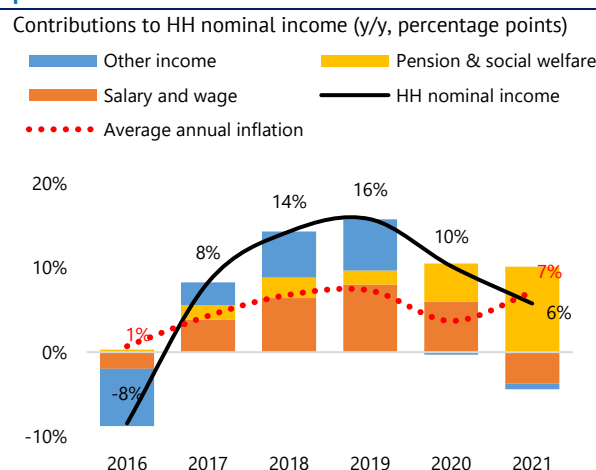
*Third*, despite declining real interest rates the household savings rate increased between Q1 2020 and Q2 2021, amid mobility restrictions and persistent uncertainty related to the pandemic.<sup>6</sup> For example, while the monthly allowance benefit of the Child Money Program (CMP) was raised substantially since mid-2020 as part of the government income stimulus measures, a recent survey revealed that half of the non-poor households saved their allowances (figure I.6) (World Bank, 2021).<sup>6</sup>

**Figure I.3. Household consumption contracted, dragging down final consumption ...**



Sources: NSO; World Bank staff estimates.

**Figure I.4. ... as elevated inflation eroded real incomes despite government income support to compensate pandemic-stricken households' labor income**



Sources: NSO; World Bank staff estimates.

<sup>3</sup> Survey results point to reduced working hours for the majority of surveyed households, lower pay, and temporary and permanent work stoppages (World Bank, 2021).

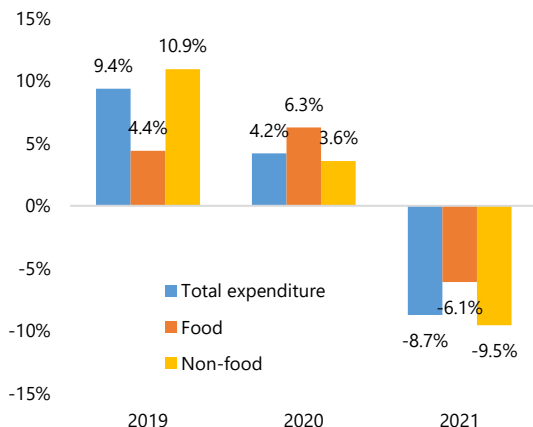
<sup>4</sup> Inflation accelerated in H2 and reached 13.4 percent at the end of the year from 2.4 percent in January 2021 (see section on inflation for more details).

<sup>5</sup> Even so, nearly 3 in 10 of the poor or those with income reductions due to the COVID-19 crisis were continuously worried about not having enough food in the near future.

<sup>6</sup> This story is consistent with accelerating household bank deposits in H1 2021, despite declining deposit interest rates. Historically, a similar trend in individuals' saving-consumption behavior was observed in 2016, when the economy faced nearly a recession and uncertainties were building.

**Figure I.5. Households cut their non-food expenditure to preserve food expenditure**

Household real expenditure (y/y)

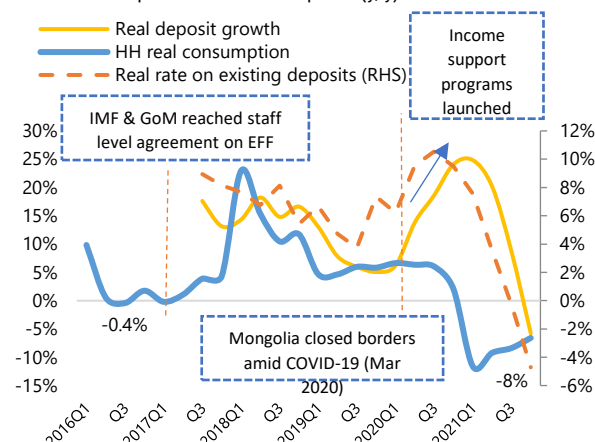


Sources: NSO; World Bank staff estimates.

Note: Nominal expenditures are deflated by respective CPIs.

**Figure I.6. Consumption contracted despite decelerated saving, as saving is concentrated mostly among non-poor HHs with a lower propensity to consume**

Household deposits and consumption (y/y)

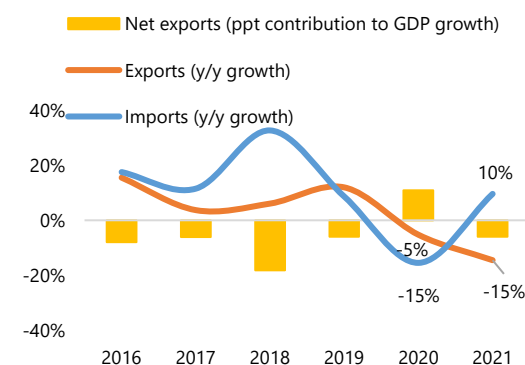


Sources: NSO; BoM; World Bank staff estimates.

**Due to COVID-related border closures and bilateral trade disruptions with China, the contribution of net exports to aggregate demand turned negative.** Net exports pulled down overall growth in 2021 by 6 percentage points as real exports contracted by 15 percent (y/y) relative to a 10 percent (y/y) growth in real imports (figure I.7). While exports grew strongly in the first quarter, the surge in COVID-19 cases in late April 2021 in the main exporting region prompted the Chinese authorities to tighten public health requirements for Mongolian truckers, hampering

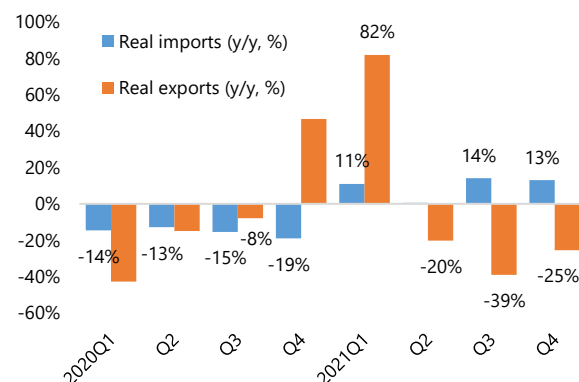
coal exports, which account for about 40 percent of the total. Consequently, coal export volumes contracted by 44 percent (y/y) in 2021 (figure I.8).<sup>7</sup> In addition, while the mining sector recovery and private sector investments boosted imports of fuel and other intermediate goods, COVID outbreaks created logistical problems associated with the delay of cargo clearance and a complete closure of border activities in Q4 2021. Real imports increased by 10 percent in 2021 from a contraction of 15 percent in 2020.

**Figure I.7. Net exports contracted ...**



Source: NSO.

**Figure I.8. ... as exports weakened and imports recovered**



Source: NSO.

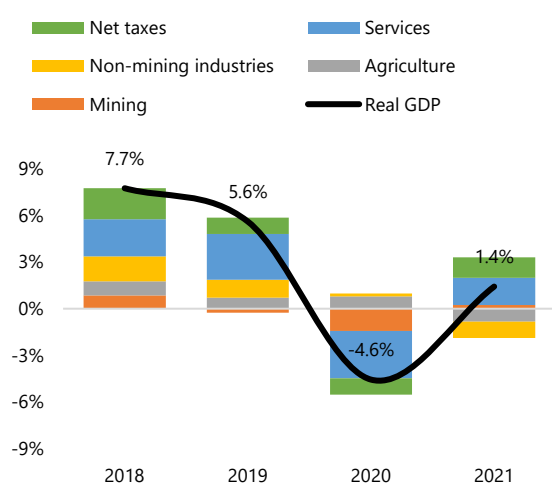
<sup>7</sup> Real exports contracted by 28.4 percent in the last three quarters of 2021 as border frictions severely affected commodity exports, mainly coal and crude oil.

**On the supply side, growth was driven mainly by the services sector (figure I.9).** The services sector accounted for 1.8 percentage points of GDP growth in 2021, reflecting the gradual relaxation of domestic COVID-19 restrictions in H2 2021. Meanwhile, net taxes also contributed 1.3 percentage points to growth following larger tax revenues due to higher commodity prices and a

one-off collection of sizeable tax arrears. After a strong recovery in Q1 2021, output in the mining sector contracted sharply in the remaining quarters of 2021, reflecting trade disruptions with China and COVID-19 related restrictions. As a result, mining sector growth slowed rapidly, from 39 percent (y/y) in Q1 2021 to a contraction of 16 percent in Q4 (figure I.10).

**Figure I.9. On the supply side, growth in 2021 was supported mainly by services and net taxes**

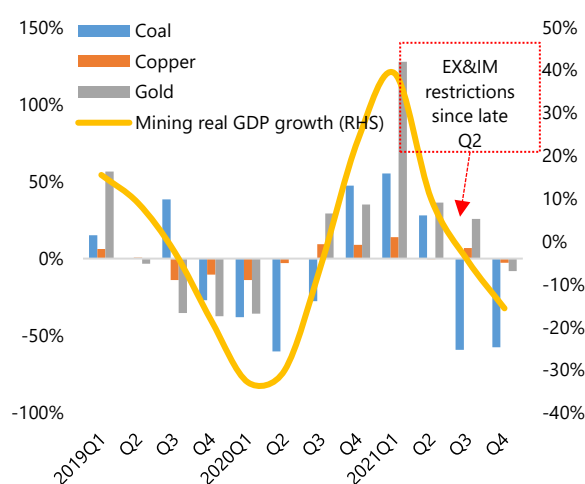
Supply-side contribution to GDP growth, percentage points



Sources: NSO; World Bank staff estimates.

**Figure I.10. Mining sector contracted sharply in H2 as coal inventories built up**

Mining sector real GDP and production of key commodities (y/y)



Sources: NSO; World Bank staff estimates.

**After a strong expansion in Q1 2021, economic activity in non-mining sectors slowed rapidly due to the wider consequences of disruptions in trade.** Despite strong growth of 11 percent (y/y) in Q1 2021, non-mining output increased by only 1.4 percent in 2021 following a contraction of 3.7 percent in 2020 (figure I.11). The slowdown in non-mining output that started in Q2 2021 was broad-based across key sectors. The manufacturing sector stagnated during Q2-Q4 amid disruptions in the import of intermediate and capital goods. Construction also contracted, reflecting import delays, rising costs, and a

shortage of migrant workers due to border closures (figure I.12).<sup>8</sup> In addition, the transportation sector contracted sharply as border frictions limited export and import freight volumes. Lastly, the agricultural sector, which was the key driver of growth in 2020, contracted by 5.5 percent (y/y) due to a greater loss of livestock and weaker survival rates of offspring amid an outbreak of foot and mouth disease and harsh weather conditions. Meanwhile, other services, including e-trade and information and communication technology (ICT), supported non-mining GDP growth in 2021.<sup>9</sup>

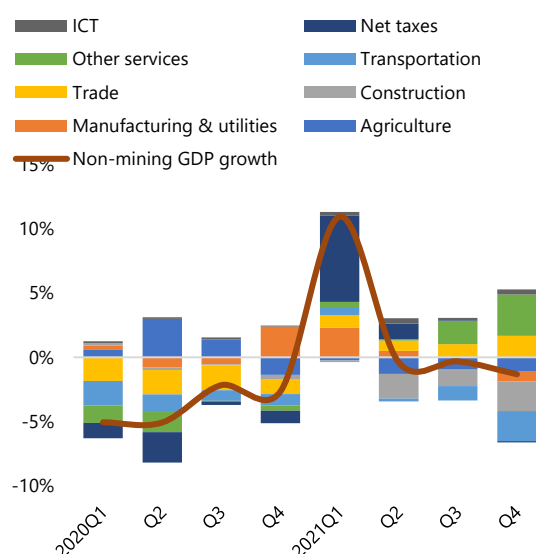
<sup>8</sup> Immigrant workers from China are usually employed at construction sites for residential, non-residential, and road construction activities. The Darkhan-Ulaanbaatar road construction was disrupted when borders were closed; the contractors could not return to Mongolia and one contractor actually defaulted. In 2020, some construction activities related to the Tavantolgoi railroad occurred. But it slowed down in 2021, resulting in weaker construction activities.

<sup>9</sup> Among services, health, ICT, trade and repair services, hotels and restaurants, and financial services were the top contributors to growth.



**Figure I.11. Manufacturing, trade, and services were the main contributors to non-mineral GDP growth in Q1**

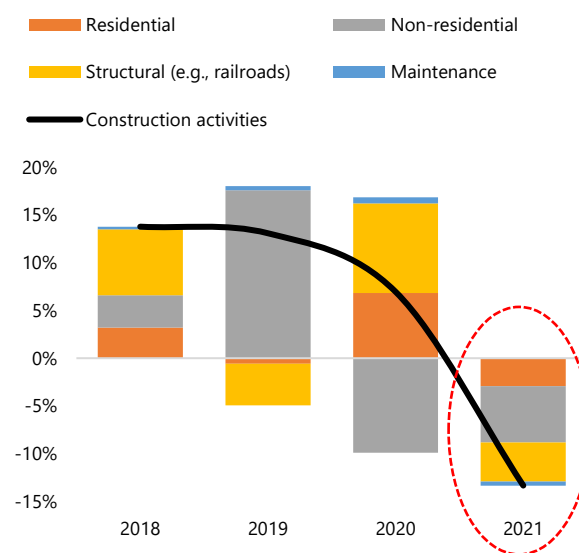
Contributions to non-mineral output (y/y, percentage points)



Sources: NSO; World Bank staff estimates.

**Figure I.12. Broad-based contraction in construction activities in 2021**

Construction activities (nominal y/y change, percentage points)



Sources: NSO; World Bank staff estimates.

## A2. Despite slight improvements, labor market conditions remained weak

**The labor market remained weak throughout 2021.** Total employment declined by 5 percent (y/y) in 2021 as about 60,000 jobs were lost. This is in sharp contrast to the average annual growth in total employment of 1 percent over the past decade. The contraction in total employment was particularly steep in Q1 2021 at about 10 percent (y/y). The hardest-hit sectors, which endured a decline of more than 20 percent (y/y) in Q1 2021, were non-agricultural sectors operating mainly in urban areas, such as transportation, construction, information and communication, real estate, education, health, and social, and entertainment services (figure I.13).<sup>10</sup> Conversely, employment in agriculture, energy, water supply and waste management, and administration went up by more than 10 percent in Q1 2021. The labor market improved throughout 2021, as COVID restrictions were gradually lifted and the government's stimulus measures to secure jobs

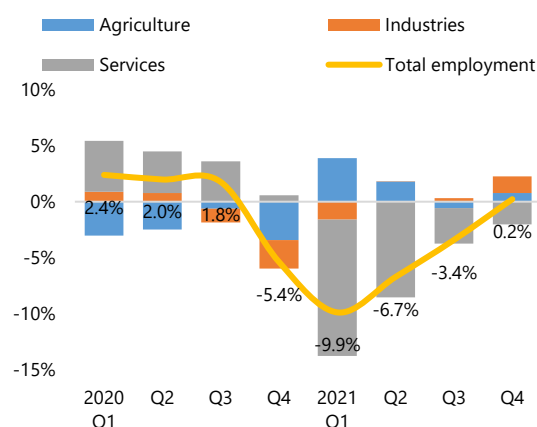
kicked in (figure I.14). The unemployment rate fell from 9 percent in Q1 2021 to 8 percent in Q4, while the labor force participation rate increased from 55 percent to 58 percent over the same period.

<sup>10</sup> ICT sector employment increased by 45 percent (y/y) in 2020 as the demand for ICT services soared due to mobility restrictions. In 2021, employment declined by 18 percent (y/y) but remained higher than in 2019.



**Figure I.13. Job loss was significant in the services sector**

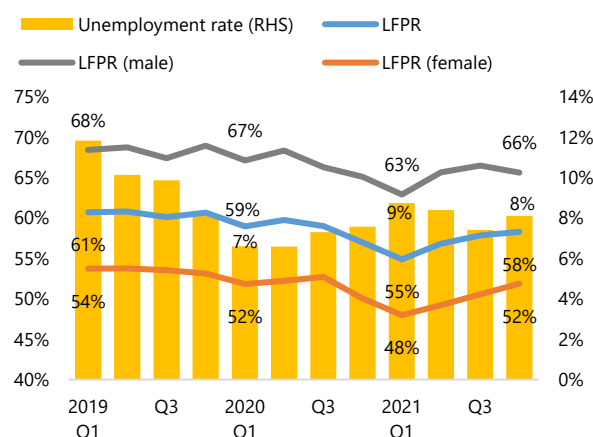
...  
Decomposition of change in employment (y/y, percentage points)



Sources: NSO; World Bank staff estimates.

**Figure I.14. ... however, labor force participation is starting to recover**

Labor force participation rate (LFPR) by gender and unemployment rate

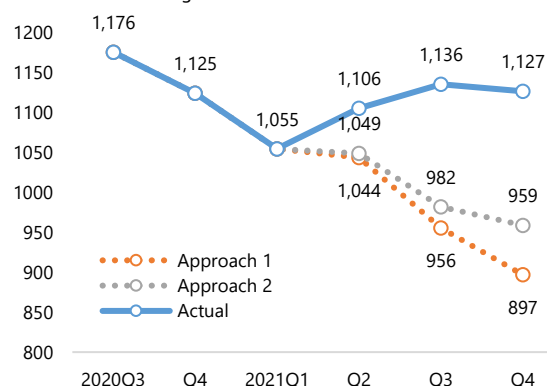


Sources: NSO; World Bank staff estimates.

There is some evidence that the economic recovery package initiated in 2021 has protected jobs during the pandemic. The stimulus package of MNT 10 trillion (US\$3.5 billion), introduced in March 2021, included among other things, a subsidized lending program of MNT 2 trillion to support firms in retaining workers during the pandemic. The Ministry of Finance (MoF) reported that with these programs, about 225,000 jobs (around 20 percent of total employment) were protected as of Q3 2021.<sup>11</sup> Our own analysis confirms that, indeed, between 168,000 and 230,000 jobs were protected in 2021. As shown in figure I.15, counterfactuals constructed for total employment indicate that in the absence of the MNT 10 trillion economic stimulus package, total employment could have dropped by 20.4 percent, to about 900,000 by December 2021 (box I.1 provides details of the analysis).

**Figure I.15. Total employment could have been lower without the economic stimulus**

Total employment in thousand peoples, actual performance vs counterfactuals using different counterfactuals



Sources: NSO; World Bank staff estimation.

Note: Both approaches consider seasonality, while approach 2 considers the stringency of mobility restrictions.

<sup>11</sup> The government's estimate of 225,000 jobs assumes that an employer would have laid off all of the employees had it not been for the subsidized loans as well as the repo loans under the MNT 10 trillion program. Also, subsidized mortgage loans are considered to fully support the construction employment. These three programs represent about 88 percent of the total disbursement (MNT 4.3 trillion) under the MNT 10 trillion program as of end-2021.

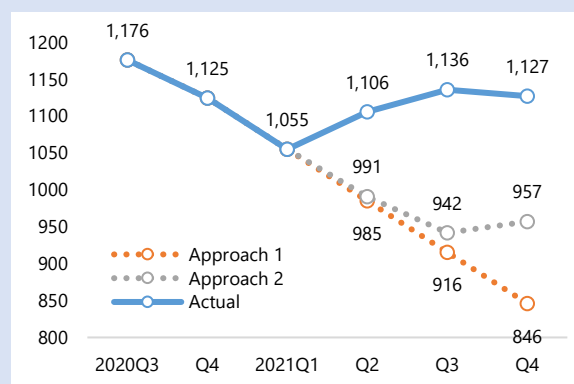
### Box I.1. Assessing the impact of the recovery package on employment

**Simple simulation methodologies are employed to understand the impacts of the MNT 10 trillion recovery package on employment.** Assuming the labor market shock at the sectoral level in Q1 2021 would have continued between Q2 and Q4 in the absence of the authorities' MNT 10 trillion recovery package, two labor market counterfactuals are constructed for Q2, Q3, and Q4 2021: one without seasonal adjustment and another with seasonal adjustment. Both of these counterfactuals are differentiated by incorporating an additional correction for the stringency of COVID-19 related mobility restrictions.<sup>12</sup> The difference between the constructed counterfactuals and actual employment data provides insights into the likely impact of the MNT 10 trillion package on total employment.

The first simulation method indicates that between 170,000 and 281,000 jobs were saved in Q2, Q3, and Q4 of 2021 (panel A of figure I.16). When labor market seasonality is accounted for, the employment counterfactuals are higher than in the first estimation method, particularly in Q2, and therefore the estimation of the number of jobs saved diminishes. The counterfactual with seasonality adjustment indicates that between 168,000 and 230,000 jobs were saved in Q2, Q3, and Q4 of 2021 (panel B of figure I.16).

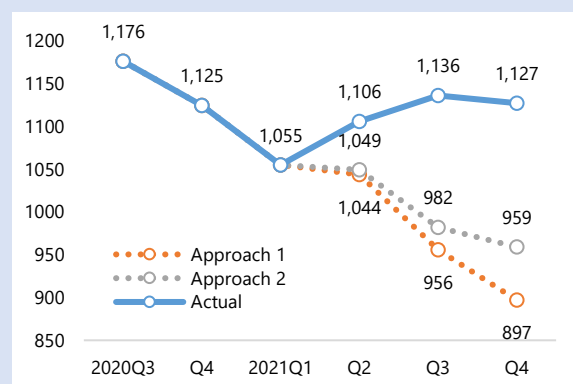
**Figure I.16. Employment counterfactuals using different approaches**

A. Counterfactuals without seasonality adjustments



Sources: NSO; BoM; World Bank staff estimates.

B. Counterfactuals with seasonal adjustment



Sources: NSO; World Bank staff estimates.

Source: World Bank staff estimates.

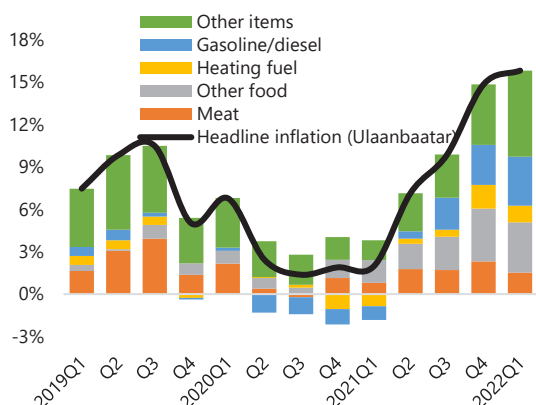
### A3. Rising inflation complicates monetary policy management

**Consumer price inflation (CPI) accelerated sharply in the second half of 2021 amid a surge in food and energy prices.** Headline inflation reached 13.4 percent (y/y) in December 2021 from 5.6 percent in April 2021. This increase was mainly driven by a rapid rise in food and fuel prices.<sup>13</sup> It has since continued to soar to 14.6 percent (y/y) in March 2022, the highest level since 2014 and significantly above the official target of  $6 \pm 2$  percent (y/y). With imported goods

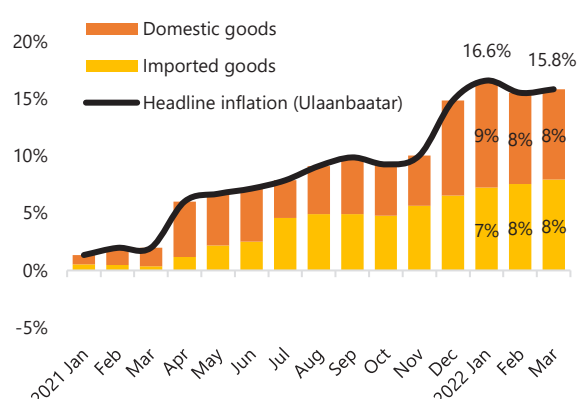
and services carrying about 46 percent of total weight in Mongolia's (CPI) basket, disruptions in goods trade and ensuing logistical challenges also led to an increase in imported price inflation, contributing about 8 percentage points of the Ulaanbaatar inflation (average) in March 2022 (figures I.17 and I.18). Core inflation, excluding volatile food and energy prices, also accelerated rapidly, reaching 12.7 percent (y/y) in December 2021 and 15.4 percent in March 2022.

<sup>12</sup> Mongolia faced a variety of stringent mobility restrictions during 2020-21. In the counterfactual simulations (approach 2), the linear methodology is adjusted to reflect changes in the stringency of mobility restrictions in order to account for its impact on employment. The stringency index published by the Oxford COVID-19 Government Response Tracker is used for this analysis.

<sup>13</sup> Border closures disrupted the supply of key inputs used in the production of coal briquettes, prompting households to switch to wood triggering, higher prices.

**Figure I.17. Food and fuel prices drove headline inflation in Ulaanbaatar ...**

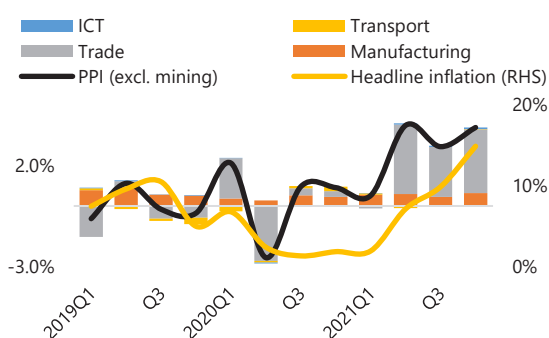
Source: NSO.

**Figure I.18. ... especially imported goods contributed to surging inflation**

Source: NSO.

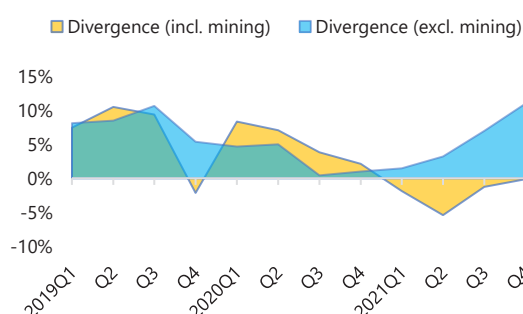
**Producer price inflation also rose sharply, reflecting higher commodity prices.** The producer price index (PPI) inflation, including in the mining sector, rose from -0.2 percent in 2020 to 15 percent in 2021, reflecting the sharp increase in the price of Mongolia's key commodities. Meanwhile, excluding the mining sector, the PPI exhibited a rising trend similar to headline inflation as the PPI of the trade and transportation sectors accelerated from Q3 2021,

reflecting an intensification of border frictions with China (figure I.19).<sup>14</sup> The gap between CPI inflation and PPI (excluding mining), which was shrinking until Q3 2020, increased substantially since Q2 2021, as producers shifted higher costs to end consumers. On the other hand, rising export prices indicate that the mining sector (export-oriented firms) seems to have been able to partially pass along the higher costs to foreign importers (figure I.20).

**Figure I.19. Mining prices, a key driver of PPI inflation, exhibited a limited pass-through to CPI inflation ...**

Source: NSO.

*Note:* Aggregate PPI was computed based on the individual sector PPI provided by NSO, including mining, manufacturing, trade, transportation, and ICT. Sectoral GDP shares of these sectors were used as weights.

**Figure I.20. ... meanwhile, non-mining producers shifted the higher costs to the end consumers**

Source: NSO.

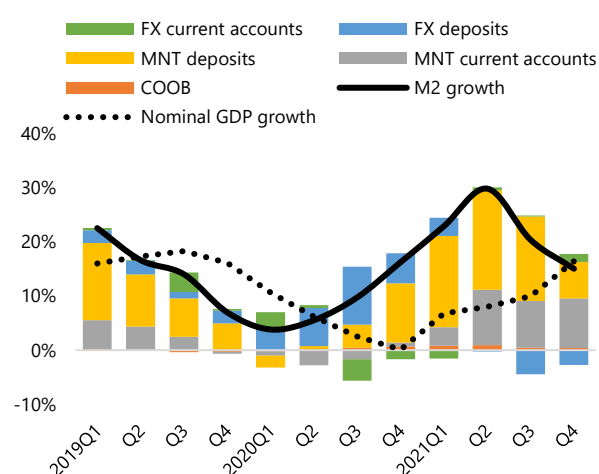
*Note:* Divergence = CPI growth (y/y) – PPI growth (y/y).

<sup>14</sup> The producer prices in the mining sector surged by 41.8 percent (y/y) in 2021. The cost increases in road transportation, reflecting rising prices of fuel and car spare parts in addition to border frictions, prompted an increase in the PPI for transportation, affecting wholesale prices in the trade sector.

**Accelerated credit growth and the central bank's quasi-fiscal activities have added to already high inflationary pressures.** On the liability side, broad money (M2) increased by 15 percent (y/y) in 2021, as fiscal stimulus and recovery of the mining sector in early 2021 fueled growth in MNT current accounts and deposits (figure I.21). On the assets side, broad money growth in 2021 was initially driven by Net Foreign Asset (NFA) accumulation, the inception of the MNT 10-

trillion-program led to a sharp rise in net domestic credit (NDC) during the second half of the year. Quasi-fiscal activities under this program sparked demand for imports, causing NFA to decrease in Q4 of 2021.<sup>15</sup> As a result, monetary policy became sharply expansionary, further exacerbating inflation risks stemming from imbalances caused by stoking demand and constrained supply (figure I.22).

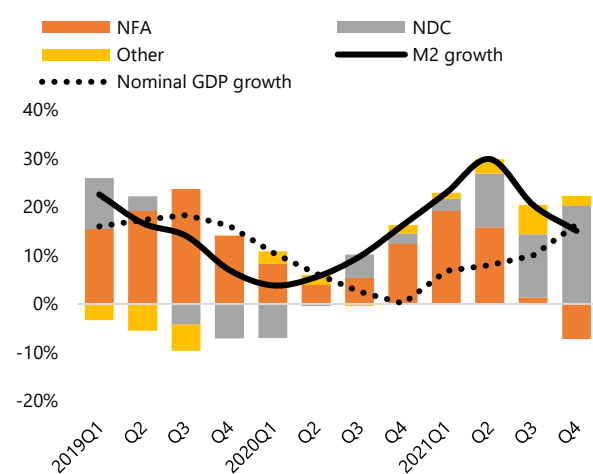
**Figure I.21. MNT liabilities support M2 growth ...**



Source: BoM.

Note. COOB – currency outside of banks.

**Figure I.22. ... while NDC is driving on the asset side**



Source: BoM.

**To counteract persistent inflationary pressure the central bank started to tighten its policy stance at the end of 2021.** While initially keeping its policy rate at a historic low of 6 percent throughout 2021 (figure I.23), the central bank increased repo rates initially by 50 basis points (bps) to 6.5 percent in December 2021, and the policy rate by 50 bps to 6.5 percent in January 2022. Subsequently, the Bank of Mongolia (BoM) raised its policy rate by a further 250 basis points to 9 percent in March 2022, as inflation continued to rise in the first two months of 2022 and the war

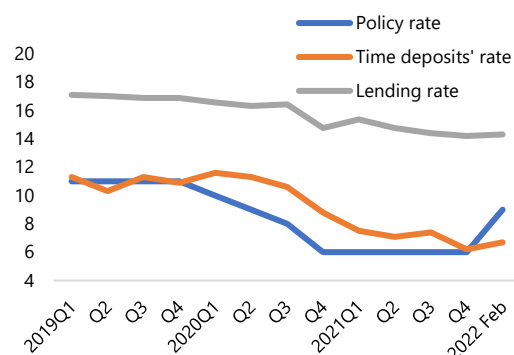
in Ukraine led to eroding confidence, fueling an increasing demand for foreign exchange, prompting banks to ration FX liquidity and affecting some import payments. The central bank also raised the reserve requirement on USD denominated current accounts and deposits from 15 percent to 18 percent in December 2021, and on MNT current accounts and deposits from 6 percent to 8 percent in January 2022. Despite the recent hike, Mongolia's real interest rates are among the lowest in the East Asia region and remain in deep negative territory (figure I.24).<sup>16</sup>

<sup>15</sup> Total disbursement of these activities reached MNT 4.3 trillion (43 percent of initial allocation) by end-2021, which includes (i) MNT 2 trillion program to protect jobs; (ii) MNT 1 trillion to support a subsidized mortgage program; (iii) MNT 464 billion to provide soft loans to the agricultural sector; (iv) MNT 826 billion extended-term repo facility that is intended to facilitate lending activities by banks, and (v) MNT 67 billion to support mega projects.

<sup>16</sup> A draft law recently submitted to the Parliament includes provision of soft loans to producers of meat and flour, and FX loans to fuel importers where the interest rate subsidies and the BoM's potential loss will be covered by the budget until end-2022.

**Figure I.23. The BoM belatedly embarked on a tightening cycle but ...**

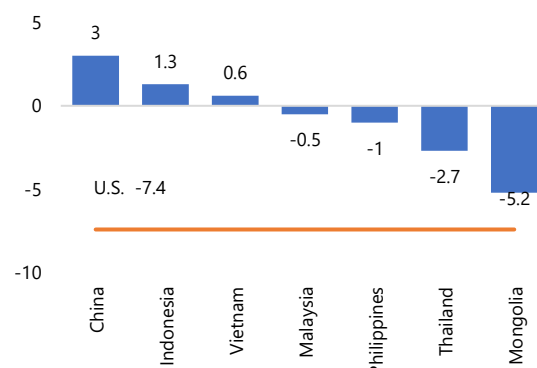
Annualized rates



Source: BoM.

**Figure I.24. ... despite the recent hike, Mongolia's real interest rates remain negative and lowest in the region**

In percent (annual)



Sources: EAP Economic Update April 2022; BoM.

Note: Values as of Jan 2022, except Mongolia (March 2022).

#### A4. The fiscal deficit narrowed notably in 2021 amid a one-off tax arrears collection but is expected to widen in 2022

**Total budget expenditure remained high, driven by higher social welfare spending.** The consolidated budget expenditure increased by 12 percent (y/y) in 2021 to reach 32 percent of GDP, mainly due to higher spending on social protection and welfare (figure I.25). Social welfare spending reached 7 percent of GDP in 2021, up from 2.4 percent on average during 2017-19, reflecting generous but poorly targeted government income support measures (box I.2).<sup>17</sup> Moreover, health expenditure increased to 5.3 percent of GDP in 2021 from 3.7 percent in 2020, following the surge in domestic COVID cases in 2021. While recurrent spending increased to 29 percent of GDP in 2021, capital expenditure dropped to 6.9 percent of GDP in 2021 from 8 percent in 2020, but remained above its average during pre-COVID years.<sup>18</sup>

**Government revenue increased, reflecting the one-off collection of tax arrears from OT and improved tax revenues driven by higher commodity prices and roll back of some COVID-related tax exemptions.** Nominally, the consolidated budget revenue increased by 36 percent (y/y) in 2021, up from a contraction of 13 percent (y/y) in 2020 (figure I.26). Much of this reflected a strong rebound in tax revenues of 25 percent (y/y), which was supported by collection of OT's tax arrears, the expiry of the COVID-19 tax relief measures in mid-2021, higher mineral sector revenue due to stronger commodity prices,<sup>19</sup> modest economic recovery and rising inflation.<sup>20,21</sup> In addition, higher commodity prices helped Mongolia increase buffers in the Fiscal Stabilization Fund (FSF).<sup>22</sup>

<sup>17</sup> These programs include a top-up on allowances under the Child Money Program (3.1 percent of GDP), a one-time welfare check provided to each citizen (2.3 percent of GDP) during a month-long quarantine, and a one-time cash transfer incentive to boost COVID-19 vaccination program (for details see box I.2).

<sup>18</sup> Capital spending averaged 6.5 percent of GDP in 2018-19.

<sup>19</sup> Copper price was up by about 80 percent (y/y) while coal price more than doubled to US\$176 per ton from US\$74 in 2021.

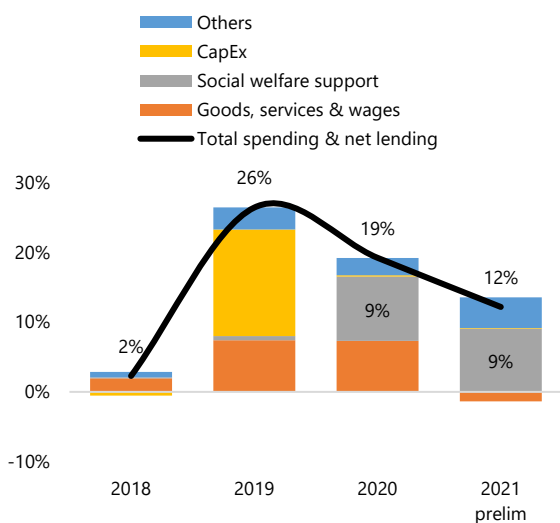
<sup>20</sup> High inflation may have also contributed to VAT and CIT revenues.

<sup>21</sup> It could also be argued that the sizable income support provided in 2021 would not have been feasible if the government had not collected tax arrears from Oyu Tolgoi. Although one-off, the tax arrears amounted to about 2.3 percent of GDP and was the top contributor to budget revenue growth in 2021.

<sup>22</sup> Accumulation in FSF increased to 1.4 percent of GDP in 2021, up from 0.2 percent in 2020 and an average of 0.7 percent during 2017-19.

**Figure I.25. Social welfare spending dominated government expenditure**

Budget spending and decomposition (y/y, percentage points)

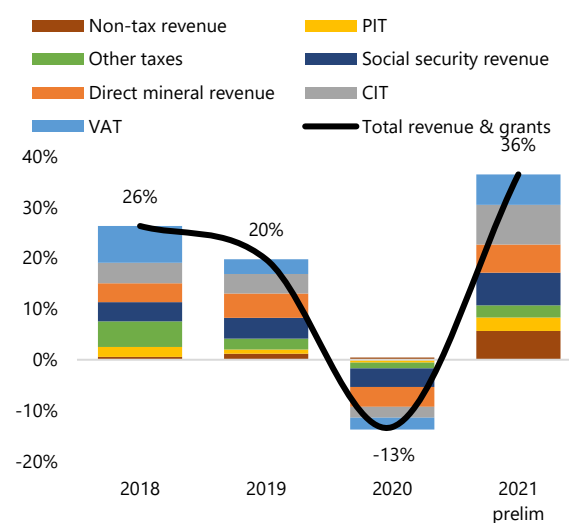


Sources: MoF; World Bank staff estimates.

Note: Social welfare support includes welfare pension.

**Figure I.26. Revenue performance was supported by OT tax arrears collection and robust tax revenue intake, reflecting expiry of COVID-related exemptions and higher commodity prices**

Budget revenue and contributions (y/y, percentage points)



Sources: MoF; World Bank staff estimates.

Note: Tax arrears from OT contributed 10 ppts to revenue growth. Of which, 6.2 ppts are reflected in the CIT, and 3.7 ppts in non-tax revenues.

**After recording a large budget deficit in 2020, the deficit narrowed visibly in 2021.** The headline budget deficit fell sharply in 2021 to 3.1 percent of GDP, down from 9 percent in 2020, amid a one-off tax arrears collection and larger tax revenues. Similarly, the structural fiscal balance (defined as overall fiscal balance net of fiscal saving funds) also improved, as its deficit narrowed substantially to 7 percent of GDP in 2021 from 12 percent in 2020 (figure I.27).<sup>23</sup>

**The 2022 budget envisages the deficit to widen again.** Under the 2022 budget, the fiscal deficit is set to widen to 3.7 percent of GDP, driven by increases in capital spending, the continuation of

some COVID-related stimulus measures (including the CMP), and a discretionary pension increase (estimated to add around 1.5 percent of GDP to pension outlays in 2022).<sup>24</sup> Total spending is planned to increase by almost 3.5 percentage points of GDP, reflecting large increases in capital spending (table I.1). Although the overall deficit is set to widen, the planned structural deficit is expected to narrow, owing to a funding adjustment of a key welfare program (figure I.27).<sup>25</sup> The structural deficit would have widened to over 8 percent of GDP in 2022 without such an arrangement, and therefore would violate the threshold set in Mongolia's fiscal rules.<sup>26</sup>

<sup>23</sup> The structural fiscal deficit is the fiscal anchor under Mongolia's fiscal rule articulated in the Fiscal Stability Law.

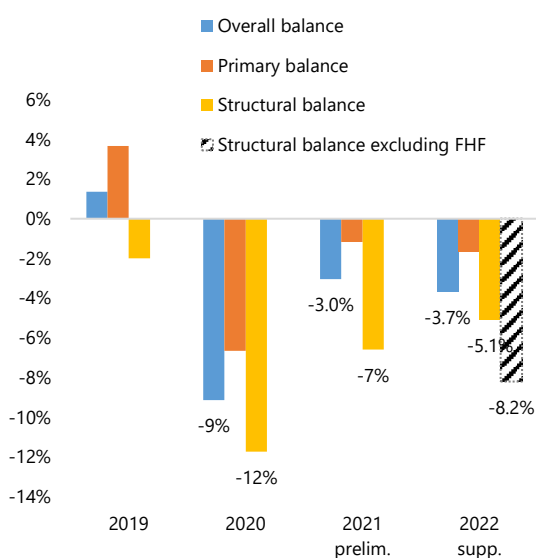
<sup>24</sup> The 2022 supplementary budget assumes that the pension outlays increase (1.5 percent of GDP) is offset by a reduction in capital spending (0.6 percent of GDP) and some reduction in other recurrent expenditures relative to the original budget, resulting in no change in the planned fiscal deficit. Meanwhile, revenues of the social security fund in 2021 were boosted by the liquidation of non-pension related social insurance reserves. The resulting cash surplus of 0.7 percent of GDP is also counted against additional spending in 2022, but it is important to realize that these revenues are one off.

<sup>25</sup> The authorities decided to make a temporary top-up on the Child Money allowance (worth 3.1 percent of GDP) permanent and finance it from the Future Heritage Fund (FHF), an intergenerational fund that was previously excluded from the structural revenue.

<sup>26</sup> The financing of the CMP through the Future Heritage Fund has weakened the fiscal framework and long-term sustainability.

**Figure I.27. Budget deficit narrowed in 2021, but is expected to widen in 2022**

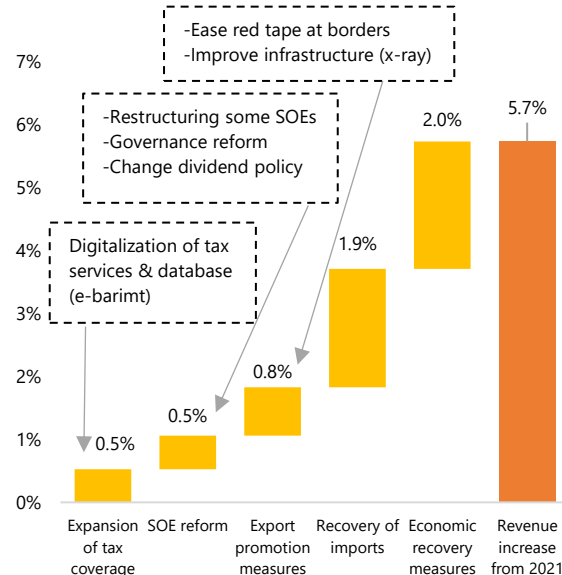
Budget balance indicators, in percent of GDP



Sources: MoF; World Bank staff estimates.

**Figure I.28. The revenue projections in the 2022 budget are optimistic**

Planned increase in budget revenue, in percent of GDP



Sources: MoF; World Bank staff estimates.

Note: Increase in budget revenue relative to the planned revenue in 2021.

**Against the background of modest GDP growth in 2022, the revenue projections under the 2022 budget seem overly optimistic.** Total revenue planned under the 2022 budget is expected to increase by 3 pts of GDP relative to actual revenue of 2021. The budget assumes a strong economic recovery (5 percent growth rate), an acceleration of mega projects, expansion of foreign trade amid buoyant commodity prices, resolution of border frictions in early 2022, and reforms to expand the tax base (figure I.28).<sup>27</sup> While the assumptions on commodity prices are broadly in line with the projections of international institutions, the revenue projections are unlikely to materialize.<sup>28</sup> Coal exports are expected to only recover toward the end of the year and only if border frictions with China ease (see Outlook and Risks section).

Furthermore, the expected deterioration in the quality of OT mining output in 2022 is likely to further weigh on export revenues. While the 2022 budget assumes a continued recovery of the labor market, an increase of 32 percent (y/y) in the social security revenues seems ambitious. In fact, social security revenues increased by 24 percent (y/y) in 2019, due to higher contribution rates, but these were permanently reduced in 2021.<sup>29</sup> The 2022 budget also assumes the health insurance revenue component of the social security revenue to nearly double, contributing about 10 pts to the social security revenue increase. Again, this seems overly ambitious, considering the modest increase of 17 percent (y/y) in 2021.

<sup>27</sup> Total revenue and grants are planned to increase by 15 percent and 19.5 percent relative to the 2021 actual and planned revenue.

<sup>28</sup> Planned budget for 2022 assumes economic growth of 5 percent and inflation of 6.7 percent by end of year.

<sup>29</sup> Contribution rate of SSC was reduced by 2 pts starting July 2021 to 17 percent of nominal wage. Nevertheless, social security revenue increased by 42 percent (y/y) in 2021, supported by a 5 percent increase in average wages, buyback offered to herders, and some grants (10.4 pts). The buyback option was ended in end-2021.



**Table I.2. Selected indicators of the consolidated budget**

		2018	2019	2020	2021 preliminary	2022 suppl.
<b>A</b>	<b>Total revenue &amp; grants</b>	30.9	31.8	27.6	32.3	35.1
	Structural revenue	28.3	28.8	25.0	28.8	33.7
	Tax revenue	25.2	25.9	22.5	25.5	29.8
<b>B</b>	<b>Total expenditure &amp; net lending</b>	28.3	30.8	36.7	35.4	38.8
	Recurrent expenditure	22.6	21.7	28.6	28.9	29.1
	Social welfare support	2.3	2.1	5.0	7.1	5.2
	Capital expenditure	4.9	8.0	8.0	6.9	10.3
<b>C</b>	<b>Overall balance</b>	2.5	1.0	-9.1	-3.0	-3.7
<b>D</b>	<b>Structural balance</b>	0.0	-2.0	-11.7	-6.6	-5.1
<b>E</b>	<b>Primary balance</b>	5.8	3.3	-6.7	-1.2	-1.6

Sources: MoF; World Bank staff estimates.

Note: Values are in percent of GDP estimated by the MoF. The repurposed accumulation of FHF is included in the structural and tax revenues starting 2022.

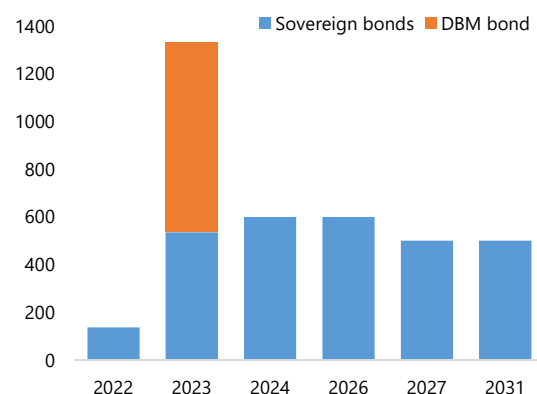
### Public debt increased sharply in the past two years, driven by large fiscal support.

Following a drop by almost 20 ppts between 2016 and 2019, public debt rose by 10 ppts to 79.5 percent of GDP in 2020, and is estimated to have further increased to about 81 percent of GDP in 2021 due to various COVID-related fiscal and quasi-fiscal measures to support the economy. The overall debt ratio would be even higher at about 92 percent of GDP at end-2021, including the People's Bank of China (PBOC) swap line in the

amount of US\$1.8 billion. With the headline deficit expected to widen, public debt is projected to increase further in 2022. Public debt risks are further aggravated by sizable contingent liabilities, including the Development Bank of Mongolia's external bond (US\$800 million maturing in 2023) (figure I.29). Moreover, Mongolia's borrowing costs in international debt markets have increased over the past six months, as evidenced by the pickup in Mongolia's sovereign bond spreads (figure I.30).

**Figure I.29. The size of external bonds maturing during 2023–24 period is significant**

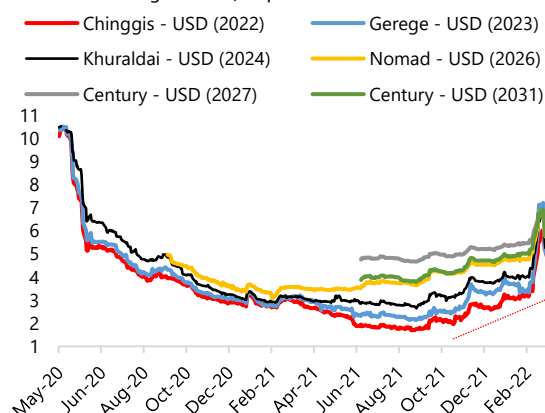
Payment schedule of key sovereign bonds (million US\$)



Sources: MoF; BoM; World Bank staff estimates.

**Figure I.30. Mongolian sovereign bond yields are on an increasing trend**

Yields of sovereign bonds, in percent



Source: Bloomberg.

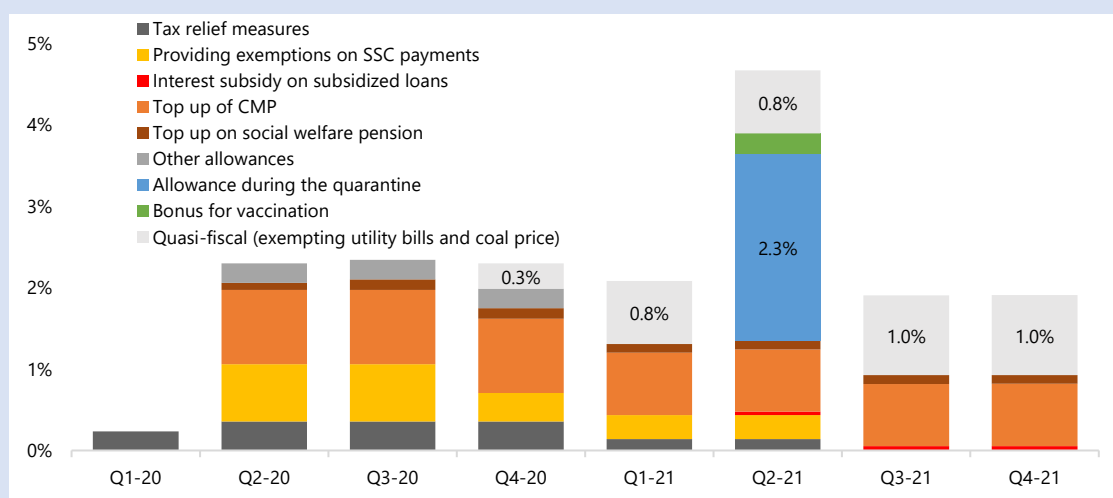
**Box I.2. Fiscal Relief Measures**

**The government's COVID-19 relief package, supported by fiscal and quasi-fiscal measures, increased in 2021.** To cushion the impact of the COVID-19 crisis on households and firms and prevent job losses, relief measures were introduced. These include tax and non-tax relief, support to direct income, waiver of payments of monthly utility bills, and issuance of subsidized loans. While the relief on tax and social security contributions expired in mid-2021, the total cost of these measures reached 11 percent of GDP (MNT 4.7 trillion) in 2021, up from 7 percent in 2020, mainly dominated by the one-time check provided in May 2021 during the month-long quarantine (figure I.31). More specifically, the government program included:

- A top-up on the allowance under the Child Money Program for all children, introduced in April 2020, accounted for 3.1 percent of GDP in 2021, on the budget. The temporary top-up was made permanent starting 2022.
- A waiver on income taxes and social security contributions during April 2020–June 2021 (representing about 1 percent of GDP in 2021, on the budget).
- A one-time allowance of MNT 300,000 to each citizen during the month-long quarantine of May 2021 (representing about 2.3 percent of GDP, on the budget).
- A one-time cash incentive to reward those who received two doses of the COVID-19 vaccine starting May 2021 (about 0.2 percent of GDP, on the budget).
- A waiver of monthly payments of housing utility bills combined with subsidizing the price of coal briquettes for households and firms during December 2020–December 2021 (accounting for 3.8 percent of GDP in 2020-21, but financed by state owned enterprises) (quasi-fiscal activity). The waiver on household electricity bill payments and a discount on the price of coal briquettes have not yet expired.

**The income support measures were considered effective and timely for households.** The National Statistics Office (NSO) and the World Bank jointly conducted a series of household surveys, which revealed that the income support measures (e.g., the CMP), were timely and effective in supporting the households during the crisis. In fact, based on surveys conducted in April and June 2021, about 20 percent of the poor respondents reported that the CMP was effective in fully mitigating the impact of the COVID-19 crisis on household income. Meanwhile, 80 percent of these households reported that the CMP was somewhat effective. Furthermore, 73 percent of the poor households indicated their CMP allowance was used for immediate consumption, while 50 percent of the non-poor respondents saved it for the future (World Bank, 2021).

**Figure I.31. COVID-19 Fiscal relief measures**



Source: MoF; World Bank staff estimates.

Note: Values are in percent of GDP.

Sources: Summarized from budget documents published at <http://forum.parliament.mn/projects/11228>.

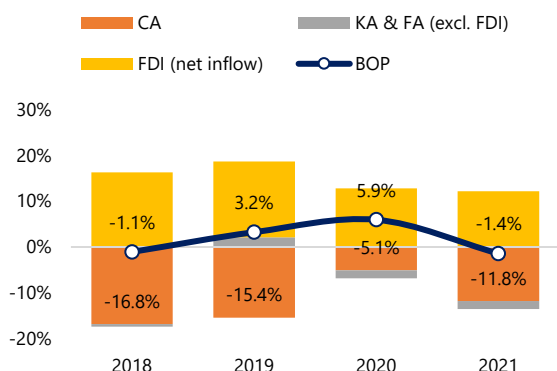
### A5. Rising external pressures amid widening current account deficit

**External pressures have intensified in 2021 due to a widening current account deficit.** Following a surplus of US\$787 million in 2020, the balance of payments (BOP) recorded a deficit of US\$222 million (1.4 percent of GDP) in 2021—Mongolia’s first BOP deficit since 2018 (figure I.32). Despite

higher FDI inflows, which increased to US\$2 billion in 2021, up from US\$1.7 billion in 2020, the balance of payments position weakened, reflecting a widening current account deficit (figure I.33).

**Figure I.32. Widening current account deficit led to a BOP deficit ...**

Balance of payments and its components, in percent of GDP

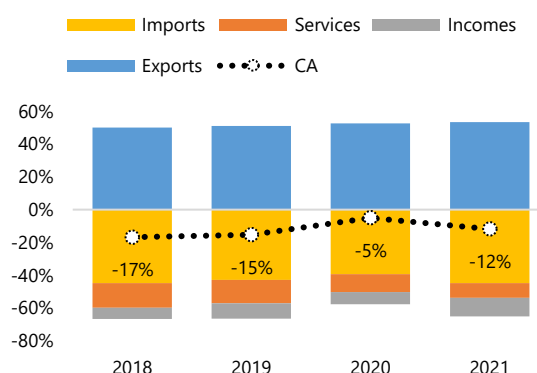


Source: BoM.

Note: CA, KA, & FA = current, capital, and financial account of the balance of payments respectively.

**Figure I.33. ... as the import bill and profit repatriation increased**

Current account and its components, in percent of GDP



Source: BoM.

**The current account deficit increased in 2021, driven by a deterioration in the trade balance and higher profit repatriation.** The current account deficit widened to US\$1959 million (12.7 percent of GDP) in 2021 from US\$675 million (4.3 percent of GDP) in 2020. Merchandise imports expanded by 32 percent (y/y) (figure I.34), supported by stronger domestic demand, higher global oil prices, import leakage from the government’s stimulus program and rising transportation cost associated with the border frictions.<sup>30</sup> Larger FDI inflows also supported the import of intermediate and capital goods (figure I.34). Meanwhile, although key export commodity prices almost doubled, nominal exports grew by only 18 percent (y/y) in 2021 due to the border frictions (figure I.35). Overall, the merchandise trade balance decreased to US\$1.3 billion in 2021 from US\$1.8 billion in 2020. Moreover,

higher profit repatriation led to a deterioration in the primary income account, which, together with large service payments due to higher transport costs, also weighed on the current account.

**To avoid a sharp depreciation of the tugrug, the central bank conducted foreign exchange (FX) interventions, which led to a gradual loss of FX reserves.** As the external position deteriorated due to border closures, especially in H2 2021, the central bank sold foreign exchange on the domestic market and tightened macroprudential measures to prevent a sharp depreciation of the tugrug. As a result, gross international reserves fell from US\$4.9 billion in April 2021 (about seven months of imports) to US\$3.7 billion (fewer than four months of import coverage) in February 2022 (figure I.36). The nominal exchange rate remained relatively stable against the US dollar

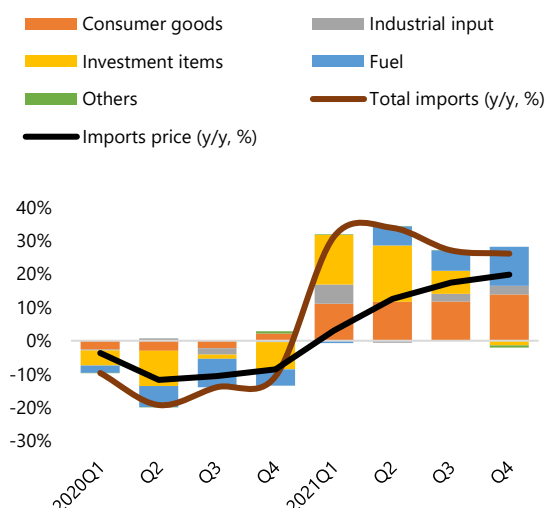
<sup>30</sup> Using interlinkages of the input-output table, we estimated that about 20 percent of the excess liquidity provided through a repo facility, agricultural soft loans, and subsidized loans to support jobs, leaked to finance imports (compounded by rising transportation costs).

and depreciated by only 1.3 percent in 2021, while the tugrug weakened by about 8 percent against the RMB. Meanwhile, the rapid acceleration in domestic inflation led to a

substantial appreciation in the real effective exchange rate by about 5 percent in H2 2021 (figure I.37).

**Figure I.34. Investment, consumption and fuel dominated the imports bill ...**

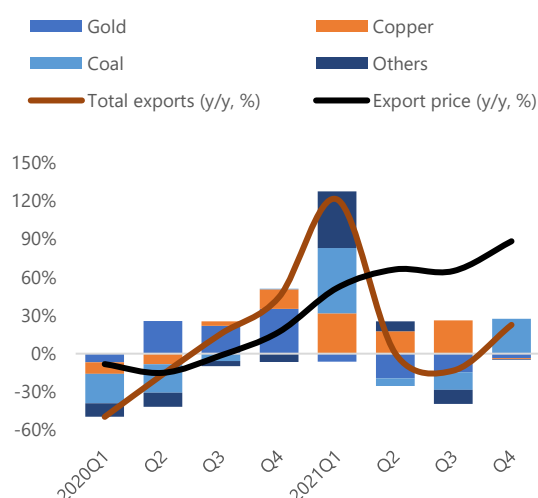
Imports bill growth and percentage contributions of key items



Sources: Mongolian Customs; World Bank staff estimates.

**Figure I.35 ... while high commodity prices mainly supported nominal exports**

Export revenue growth and percentage contributions of key commodities

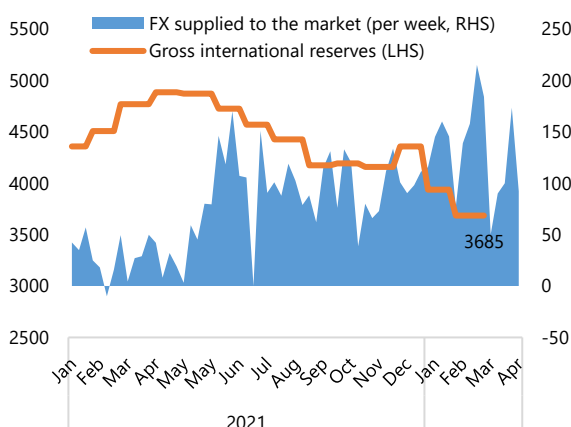


Sources: Mongolian Customs; World Bank staff estimates.

Note: Copper also covers gold content within Oyu Tolgoi's copper concentrate.

**Figure I.36. BoM's supply of FX intensified in the second half of 2021**

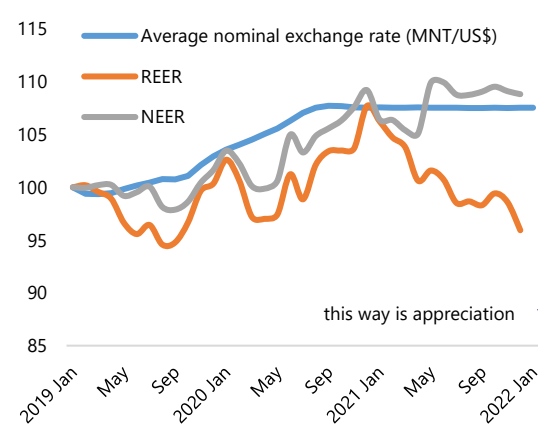
Gross FX supplied to the market, in US\$ million



Source: BoM.

**Figure I.37. Real effective exchange rate (REER) has been appreciating**

Exchange rates (Jan 2019 = 100)



Source: BoM.

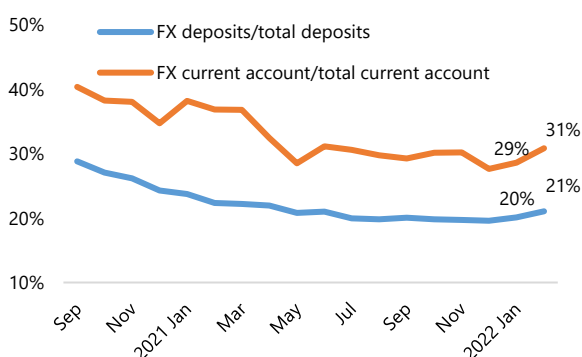
Note: NEER=Nominal effective exchange rate.

**Deteriorating market expectations led to some dollarization of domestic assets resulting in a weaker tugrug, FX rationing, and a widening gap between the parallel and official exchange rate in early 2022.** As external imbalances widened and market expectations shifted in early 2022 amid the war in Ukraine, dollarization increased to 31 percent of total current deposits by end of February 2022, up from 29 percent in January (figure I.38). Amid accelerating demand for foreign exchange, the BoM was challenged to maintain a stable nominal exchange rate

(MNT/US\$) which depreciated by 5.5 percent as of April 6, 2022 (relative to end-2021), despite the central bank's gross intervention of US\$1.8 billion since January 1, 2022.<sup>31</sup> Banks started rationing FX to customers since end of February and the government recently submitted to Parliament a draft law aimed to limit the amount of FX and precious metals that can be carried across the border to no more than MNT 20 million (about US\$6700) per individual. This has resulted in significant gap between the non-bank and the interbank nominal exchange rates (figure I.39).

**Figure I.38. Dollarization of current account jumped in February 2022**

Estimated dollarization of deposits and current account

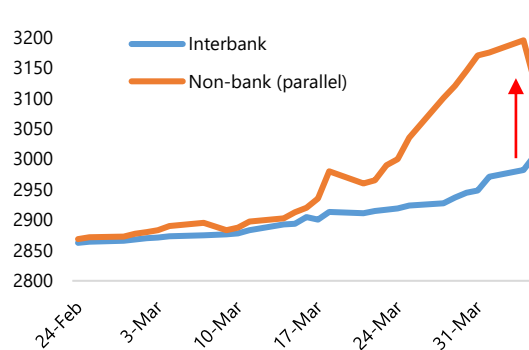


Sources: BoM; World Bank staff estimate.

Note: To avoid the effect of nominal depreciation, a fixed exchange rate is used to estimate the dollarization.

**Figure I.39. FX Rationing amid deteriorating market expectations widened the spread between non-bank and interbank exchange rates**

Mid-point of nominal exchange rate of MNT/US\$



Source: BoM.

Note: The central bank reports the mid-point of the daily nominal exchange rate announced by banks (interbank exchange rate).

#### A6. Conditions in the banking sector have improved but challenges remain

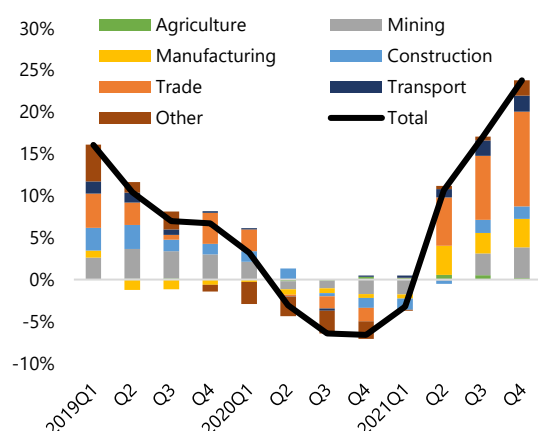
**Supported by the government's stimulus measures, banks resumed their lending activity in 2021.** After contracting in 2020, outstanding loans of banks started to increase rapidly from Q2 2021, and credit growth accelerated to 22 percent (y/y) at end-2021, reflecting increased lending to trade, manufacturing, and mining sectors (figure I.40). The amount of past-due loans decreased by 26 percent (y/y) and the non-

performing loan (NPL) ratio (nonperforming loans to total outstanding loans) moderated from its peak at the end of 2020. While this reflects some progress on NPL resolution, it is largely explained by a moratorium on loan classification and provisioning. NPLs are expected to increase again, as the moratorium on asset classification and provisioning expired on March 31, 2022 (figure I.41).

<sup>31</sup> Prior to the start of the war in Ukraine on February 24, 2022, the tugrug depreciated by 0.5 percent (relative to the end of 2021) against the US dollar. Meanwhile, the depreciation accelerated after the start of the Russian invasion. The central bank's intervention has amounted to US\$700 million since then.

**Figure I.40. Income relief and stimulus program supported resumption of bank lending**

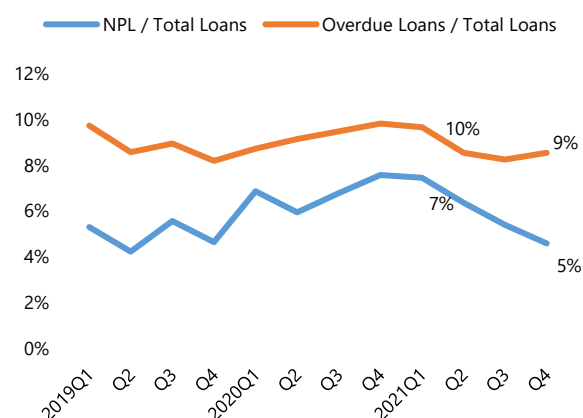
Bank lending (y/y, percentage points)



Source: BoM.

**Figure I.41. Problematic loan ratios are converging back to their pre-pandemic levels**

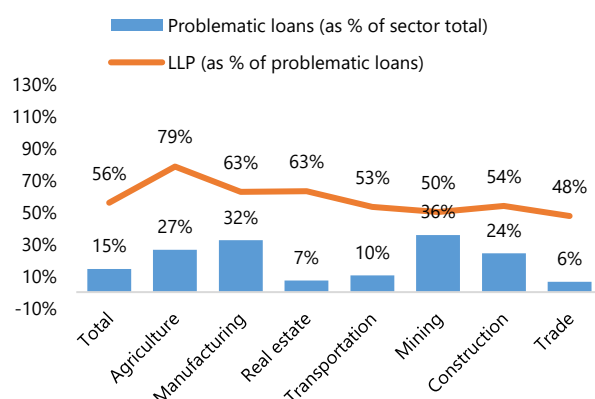
Ratio of problematic loans to total loans, in percent



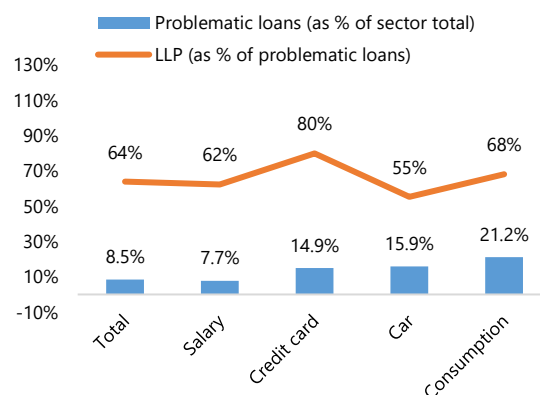
Source: BoM.

**Provisioning of loans to risky sectors continues to be low.** Loan loss provisions for problematic loans for the mining, construction, and manufacturing sectors ranged between 50 and 63 percent (figure I.42). Combined, these sectors account for about 56 percent of total problematic

loans in December 2021. Meanwhile, 64 percent of the value of problematic loans issued to individuals is currently covered by provisions (figure I.43). The erosion in real incomes could pose challenges to households in meeting their debt servicing obligations.

**Figure I.42. Ratio of problematic loans and provisioning rate (SME & Corporate Loans)**

Source: BoM.

**Figure I.43. Ratio of problematic loans and provisioning rate (Household Loans)**

Source: BoM.

**The reported system-wide capital and liquidity position appears broadly adequate.** The gearing ratio of banks has remained stable throughout the pandemic, and although the Tier 1 capital ratio (proxied by the balance sheet items) has

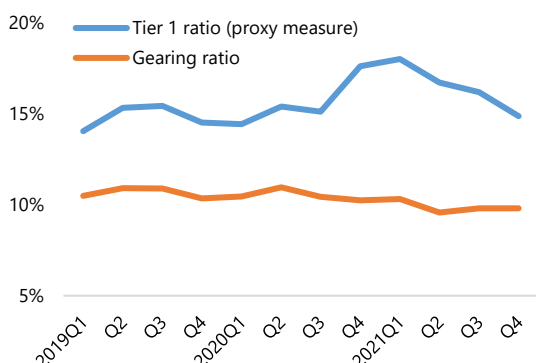
decreased by 3 percentage points from 15 percent in 2021, it remains above the 9 percent minimum requirement imposed by the central bank (figure I.44).<sup>32</sup> The banking sector also displays ample liquidity, as evidenced by a

<sup>32</sup> In general, the gearing ratio shows the share of total assets funded by owners' equity. Based on the BoM's capital adequacy requirement, Tier 1 capital includes only core equity items such as common shares and retained earnings.

further improvement in the liquidity ratio, suggesting adequate buffers to withstand adverse shocks and support the revival of the

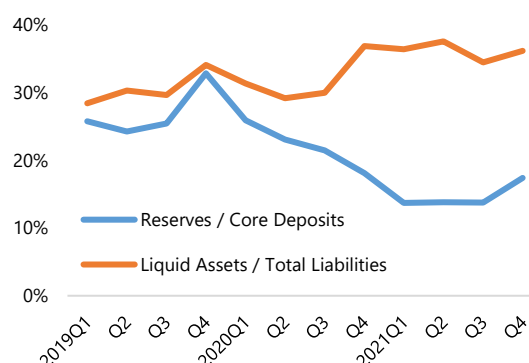
economy from the COVID-19 pandemic (figure I.45).

**Figure I.44. Banks appear adequately capitalized ...**



Source: BoM.

**Figure I.45. ... while overall liquidity remains high**



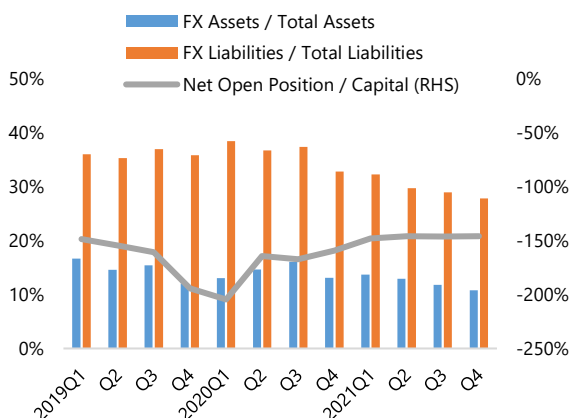
Source: BoM.

**With large foreign currency denominated liabilities, bank balance sheets continue to be exposed to currency mismatches.** Although the share of foreign currency denominated liabilities in total liabilities has fallen from about 33 percent at end-2020 to around 28 percent at end-2021, the share of foreign liabilities in the banking system is almost triple the size of foreign

assets (figure I.46). The large gap between foreign assets and foreign liabilities could expose bank balance sheets to currency risk, especially in an uncertain external environment. This risk is partially mitigated through off-balance sheet contingent assets and liabilities (e.g., letters of credit, stand-by facilities, tender guarantees, and hedging instruments) (figure I.47).

**Figure I.46. Net open position-to-capital ratio improved, indicating mitigation of FX risk**

Net Open Position (balance sheet items only)



Source: BoM.

**Figure I.47. Balance sheet FX risk is partially-hedged by off-balance sheet contingent assets**

Net Open Position (including off-balance sheet items)



Source: Websites of systemically important banks.

**The financial intermediation of the non-banking financial sector has significantly increased recently.** Activities of non-bank financial institutions (NBFI) expanded despite the

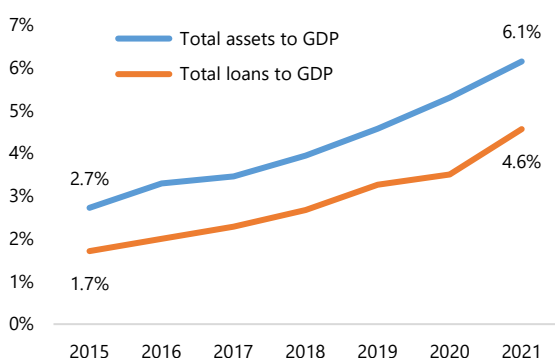
economic turbulence, as their loans reached 4.6 percent of GDP by December 2021 (figure I.48). Driven by Mongolia's blue-chip companies benchmark stock index, the MSE Top 20 gained



more than 130 percent in 2021 and reached a market capitalization of more than 14 percent of GDP for the first time (figure I.49). Mongolia also

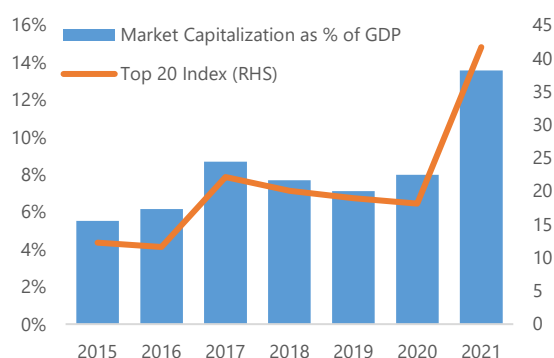
has seen a surge in virtual coins issuance, adding to financial sector risks (box I.3).

**Figure I.48. Role of NBFIs increased in recent years**



Source: Financial Regulatory Commission (FRC).

**Figure I.49. The stock market is also booming**

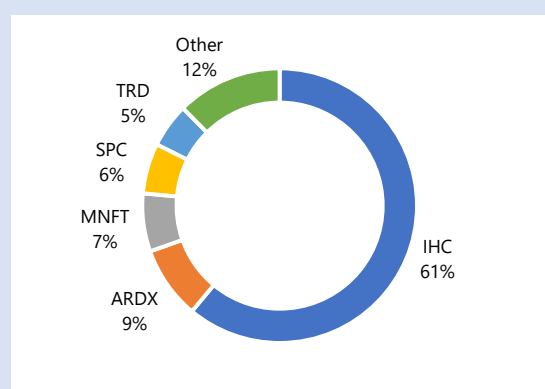


Source: Mongolian Stock Exchange (MSE).

### Box I.3. Mongolia's Market for Coins and Other Virtual Assets

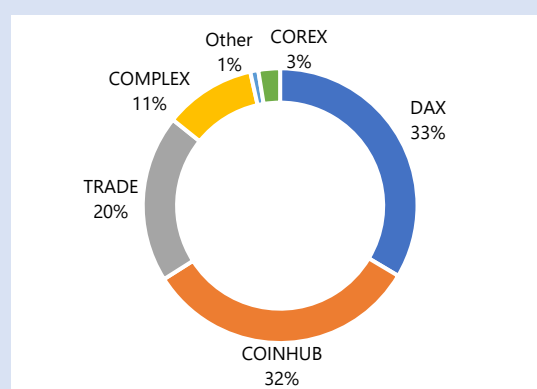
The foundations of the Mongolian market for coins and other virtual assets were established in 2017. While the number of market participants was limited initially, the number of Initial Coin Offerings (ICO) and Virtual Asset Services Providers (VASPs) increased sharply in 2021. The Financial Regulatory Commission (FRC) indicates that 18 coins/tokens are traded, six coins/tokens are going through the ICO stage, while four coins/tokens are in the preparation stage. In December 2021, the total market capitalization (MC) of traded coins/tokens reached MNT 1.23 trillion (close to 3 percent of GDP). Comparatively, equity trade on the Mongolian Stock Exchange (MSE) also improved, as market capitalization increased by 97 percent in 2021, representing more than 14 percent of GDP. The breakdown of the market capitalization by coins/tokens and VASPs is presented in figures I.50 and I.51 below:

**Figure I.50. Market capitalization (Coins)**



Source: FRC.

**Figure I.51. Market capitalization (VASPs)**



Source: FRC.

Several factors may have contributed to the fast expansion of the Mongolian market for virtual assets. First, a loose monetary policy stance prompted banks to reduce their deposit rates rapidly. In fact, with the real return on MNT deposits already negative by August 2021, investors were nudged to search for alternatives, including virtual assets. Second, several coins/tokens demonstrated extraordinary performance with high capital gains and returns. For example, IHC, currently the largest coin in terms of MC, was trading around MNT 0.3 on September 13, 2021, but the price reached MNT 28.76 within a few days. However, in December 2021, the IHC coin experienced significant adjustments and corrections as its price dropped to about MNT 4.3, bringing an unrealized gain to 1,333 percent for

buyers who invested at the early stage. ARDX, the second largest coin in terms of MC, also exhibited a trajectory with substantial volatility. Its current capital gain is still above 300 percent for early investors.

FRC indicates that close to 550,000 investors, of which around 75 percent are active participants, have registered with the VASPs. The number of investors is likely to be overestimated due to double counting, as the possibility of an individual or firm registering on more than one VASP is not excluded. Considering the potential risks associated with highly volatile coins, the authorities have recently established two working groups, led by the Parliament and FRC, to develop the legal and regulatory frameworks necessary for investor protection on Mongolia's market for coins and other virtual assets. Joint efforts of the two working groups facilitated approval of the Law on Virtual Asset Service Providers in December 2021.

*Source:* Summarized by World Bank staff based on FRC presentation.

## B. Outlook and Risks

**Economic growth in 2022 is projected to remain modest at 2.5 percent.** This forecast reflects the impact of the war in Ukraine on Mongolia's economy through higher prices of imported food, fuel, and fertilizers, coupled with lingering border frictions with China (see also box I.4).<sup>33</sup> Coal exports are expected to recover modestly toward the end of the year, assuming border frictions with China ease toward the end of the year. Although labor market conditions will gradually improve with the reopening of the economy, the recovery of domestic demand is expected to be modest as household consumption growth is weighed down by high inflation and a slow improvement of real incomes.<sup>34</sup> In addition, gross fixed capital formation will rise only moderately relative to its pre-COVID average. The recent agreement with Rio Tinto over Mongolia's largest copper mine, OT, will continue to support investment amid steady FDI inflows. While an anticipated drop in the quality of OT mining output—following last year's improvement—will weigh on mining output this year, the acceleration of investments

will provide short-term support to the construction and services sectors and expand mining capacity in the long run. Lastly, our baseline forecast assumes a strong recovery of the agricultural sector in 2022, after a contraction in 2021 supported by relatively favorable weather conditions and an ensuing higher survival rate of livestock (table I.2).<sup>35</sup>

**Over the medium-term, economic growth is expected to accelerate to above 6 percent in 2023-25, as the underground mining phase of OT becomes operational during H2 2023.** The recently approved New Recovery Policy (NRP) targets improvements in private investment in 2023-25, although the extent to which this is realized will depend on improvements in the macro environment and on the consistent implementation of key legislative reforms, for example the new PPP law (box I.5).<sup>36</sup> Private consumption will also support growth in the medium term.

<sup>33</sup> Infrastructure projects are expected to help Mongolian exports fulfill the hygiene requirements at the border. Under this scenario, coal exports will accelerate in late 2022 and could reach 18 million tons in 2022 relative to the target of 37 million tons.

<sup>34</sup> Although real private consumption is projected to grow by 8.9 percent, its recovery is actually modest considering the base effects following a substantial contraction of 6.6 percent in 2021. The average growth of private consumption was 7.3 percent in 2017-19.

<sup>35</sup> In 2021, agricultural output contracted significantly, by 5.5 percent (y/y), as 2020 rough weather conditions affected the survival rate of offspring hit by animal disease in 2021. However, preliminary estimates suggest that the stock of animal forage remains sufficient as of mid-February, indicating less severe winter months relative to previous years.

<sup>36</sup> A draft PPP law prepared by Ministry of Finance was recently submitted to Parliament aims to establish a legal environment that: (i) provides a clear, predictable investment environment in infrastructure assets; (ii) gives the private sector assurance that the public sector will honor its commitments; (iii) clarifies roles and responsibilities across different public entities; and (iv) provides adequate checks and balances to ensure fiscal and fiduciary governance.

**Table I.3. Key macroeconomic indicators**

	2019	2020	2021	2022f	2023f	2024f
<b>Real GDP growth, at constant market prices</b>	5.5	-4.4	1.4	2.5	5.8	6.8
Private Consumption	5.8	2.1	-6.5	8.9	7.6	7.0
Government Consumption	12.3	14.6	5.3	5.3	5.8	6.1
Gross Fixed Capital Formation	14.0	-21.1	14.0	16.3	17.5	16.2
Exports, Goods and Services	12.0	-5.3	-14.5	4.0	18.0	17.1
Imports, Goods and Services	8.6	-15.5	9.6	5.7	17.5	17.8
<b>Real GDP growth, at constant factor prices</b>	5.1	-3.9	0.0	2.5	5.8	6.8
Agriculture	5.2	5.8	-5.5	3.0	4.1	5.5
Industry (incl mining)	3.1	-4.4	-2.8	1.2	7.9	6.1
Services	6.4	-6.5	3.6	3.0	5.1	7.6
<b>Inflation (CPI, period average)</b>	7.3	3.7	7.1	10.5	7.5	6.8
<b>Current account balance (% of GDP)</b>	-15.2	-4.3	-12.7	-15.6	-13.8	-11.6
<b>Financial and Capital account (% of GDP)</b>	19.7	10.3	11.9	11.6	8.6	7.6
<b>Fiscal Balance (% of GDP)</b>	1.4	-9.4	-3.1	-4.8	-4.8	-4.4
<b>Primary Balance (% of GDP)</b>	3.6	-6.9	-1.1	-2.8	-1.9	-1.1
<b>Public Debt (% of GDP)</b>	68.4	77.3	79.5	83.6	81.7	80.0

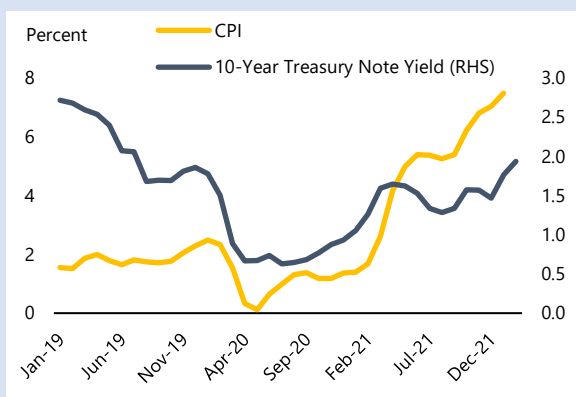
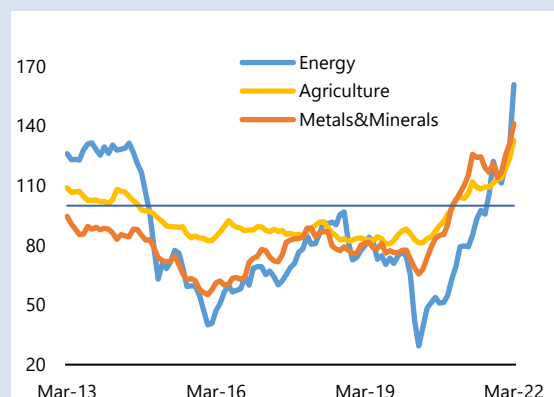
Source: World Bank staff estimates.

Note: Public debt does not include the BoM's swap line with the PBOC (12 percent of GDP in 2021) and the contingent liabilities under the Development Bank of Mongolia (DBM) (5 percent of GDP).

#### Box I.4. Global and Regional Outlook and Risks

According to the January 2022 edition of the World Bank Global Economic Prospects report, global growth is expected to decelerate markedly, from 5.5 percent last year to 4.1 percent this year. The war in Ukraine is expected to accelerate this slowdown and contribute to higher global inflation. The OECD, for example, estimates more than 1 percentage point lower global growth and at least 2.5 percentage point higher global inflation than pre-conflict projections. Financial market volatility has also increased, contributing to a sharp tightening of global financial conditions, as the war in Ukraine soured risk appetite. Meanwhile, citing a tight labor market and elevated inflation, the Federal Reserve increased policy rates by 25 basis points and signaled another six rate hikes for 2022 at its Federal Open Market Committee meeting in March (figure I.52.A). The dollar strengthened more than 2 percent against a basket of major currencies from mid-February to mid-March amid elevated geopolitical risk.

The war and associated severe economic sanctions imposed on Russia contributed to a further increase in commodity prices, especially commodities for which Russia and Ukraine are key exporters, including fertilizers, fuels, metals, and wheat. Natural gas prices in Europe more than doubled in the aftermath of the invasion, amid supply uncertainty, as Europe remains heavily reliant on Russian imports of natural gas. Gas prices have fallen back lately but remain 40 percent higher than in mid-February. Coal prices also rose sharply as several European countries announced plans to increase coal-powered electricity generation and build stockpiles. Several metal prices reached all-time highs in March, including aluminum, nickel, and palladium, due to concerns over the metal supply. Wheat prices increased by 40 percent, reaching record highs (figure I.52.B). The war in Ukraine is having a large negative impact on the Europe and Central Asia region due to tight regional economic and financial linkages; Russia alone accounts for about 40 percent of regional GDP. The war is also expected to adversely affect other EMDEs (Emerging Market and Developing Economies), particularly commodity-importing economies, which have experienced a rapid increase in sovereign spreads since the war started. As central banks in advanced economies begin to reduce monetary accommodation, capital flow volatility and currency depreciation may pose additional challenges to EMDE policy makers. Higher prices could weigh on consumer confidence and erode real earnings. Protracted high inflation could lead inflation expectations to rise above central bank objectives and require sharper-than-expected tightening of monetary policy, aimed at re-anchoring expectations.

**Figure I.52. Global developments****A. CPI and 10-year treasury note yield in US****B. Commodity prices (nominal index, 2010=100)**

Sources: Haver Analytics; World Bank.

Rising borrowing costs, combined with high debt levels and the rapid rise in non-concessional debt across many EMDEs increase the risk of financial stress. The pandemic has exacerbated an unprecedented debt boom across EMDEs, with debt of all types rising to multi-decade highs. The composition of debt compounds the challenges this will pose, with many EMDEs borrowing externally or at short maturities. Looking forward, EMDE policy makers will need to balance macroeconomic support with bolstering fiscal sustainability. As EMDEs have limited policy space to provide additional support if needed, these downside risks heighten the possibility of a hard landing—a much sharper slowdown in growth than currently envisioned.

Source: Summarized from Global Economic Prospects January 2022 and EAP economic update April 2022.

**Box I.5. The New Recovery Policy**

The Parliament of Mongolia approved on December 30, 2021, an action plan for the New Recovery Policy (NRP), which is a 10-year strategy aimed to reduce the negative impacts of the COVID-19 pandemic, create enabling environment for effective implementation of Mongolian long-term Vision 2050, and address binding constraints to medium-term economic development. The NRP envisages 94 projects worth MNT 100 trillion (US\$33 billion) to strengthen six major pillars: (i) recovery of operations of border ports; (ii) energy sector recovery; (iii) industrial sector recovery; (iv) urban and rural development; (v) green development; (vi) improving public sector productivity. The NRP indicates that the government will reduce the fiscal burden by mobilizing and financing significant portions of these projects through private sector funding (e.g., PPP).

While aiming to support Mongolia's path to economic revival, the NPR still lacks critical details. There is large uncertainty as to whether private sector financing as envisaged by the government will materialize to carry out the planned investments. In the absence of private sector participation, drawing on state resources might not be viable given Mongolia's limited fiscal headroom and could further undermine efforts to reduce public debt. The NRP could also set measurable outcomes before engaging in expensive PPP schemes, especially considering the size and implications of the existing Build-Operate-Transfer (BOT) arrangements on fiscal sustainability. Lastly, the NRP could be clearer on the prioritization and selection of projects and the role and responsibilities of different government agencies in implementing the NRP.

Source: Summarized from <https://legalinfo.mn/mn/detail?lawId=16390082532431&type=3>

**We project the fiscal deficit to widen more than envisaged in government budget.** Against the background of modest growth and rising pension

outlays, the government's fiscal projections are overly optimistic. Even with higher global commodity prices, the path to fiscal

consolidation will be difficult as long as the border frictions remain. In the absence of further spending cuts, including on capital expenditure, and further revenue-enhancing measures (including restoring social security contribution rates), the structural deficit would worsen by at least 1.5 percent of GDP in 2023 and onward, preventing Mongolia from reaching the statutory limit on structural deficit until 2026.<sup>37</sup> Considering the pressure on budget revenue and the pattern of expenditure consistent with election cycles, we envisage the headline budget deficit to increase to around 5 percent of GDP in 2022, before narrowing to 4.6 percent of GDP in 2023-2024. Moreover, the government debt-to-GDP ratio (excluding the BoM's swap line with the PBOC) is expected to reach 84 percent in 2022, and gradually decline to 80 percent in 2024, amid a narrowing primary deficit and the use of Future Heritage Fund to finance the CMP. Fiscal consolidation is needed to stabilize debt consistent with the requirements in the Fiscal Stability Law.

**External sector pressures are expected to build further as global financing conditions tighten, large external debt payments fall due, and the current account deficit is projected to remain elevated until end-2023.** The current account deficit is projected to widen to 15.6 percent of GDP in 2022, as exports are only expected to recover toward the end of 2022 when border frictions with China are expected to ease. External sector pressures are further compounded by tighter global financing conditions, which could make it more challenging for Mongolia to refinance large external bond payments of around US\$1.5 billion

that are due in 2022-23.<sup>38</sup> Similarly, the BoM's swap line of US\$1.8 billion with the People's Bank of China maturing in 2023 could also add more pressure to the external sector unless it is extended.

**From 2024, however, the external balance may improve rapidly as exports rise.** By the end of 2024, the current account deficit is projected to narrow to 11.6 percent of GDP as the development and expansion of mining will increase production and exports. The investment drive in the mining sector will generate higher demand for capital goods and other intermediate goods and, as a result, also increase imports.

**The monetary policy stance is expected to tighten further amid the sharp rise in inflation and the buildup in external sector pressures.**<sup>39</sup> With inflation running well above the central bank's target band of  $6 \pm 2$  percent, widening external imbalances and still-negative real interest rates, further monetary policy tightening is likely required to restore price stability in 2022.<sup>40</sup> While additional policy rate hikes would help lower inflationary expectations, they should be accompanied by steps to wind down quasi-fiscal operations and strengthen the operational independence of the central bank (see box I.6). While Mongolia's fear of a floating exchange rate is understandable given its import dependence and high pass through to inflation, the current rate of intervention and FX restrictions are not sustainable and will likely exacerbate a loss of confidence and dollarization. Instead, monetary policy needs to return to a credible inflation anchor, raise rates and allow the exchange rate to absorb negative external shock.

<sup>37</sup> The MTFF, approved by the Parliament by June 1 of each year, is a three-year budget document that specifies the targeted budget structural revenue, ceilings on budget expenditure, structural deficit, and net present value of sovereign debt in the upcoming three calendar years.

<sup>38</sup> Recently, it was revealed that 58 percent of the DBM's loans were classified as non-performing and another 25 percent as past due. While its external debt obligations do not have a sovereign guarantee, it is highly likely that the government would assume the bank's debt obligations in 2023 to avoid its default. Default of a major SOE in the international market would be detrimental to Mongolia's reputation and could hurt the successful refinancing of a sovereign bond (Khuraldai bond worth US\$600 million) maturing in 2024.

<sup>39</sup> Section A.3 provides a detailed discussion of the inflation dynamic of the last 14 months.

<sup>40</sup> The approved monetary policy guideline indicates that BoM's inflation target rate for 2021-23 is 6 percent with  $\pm 2$  percentage points band.

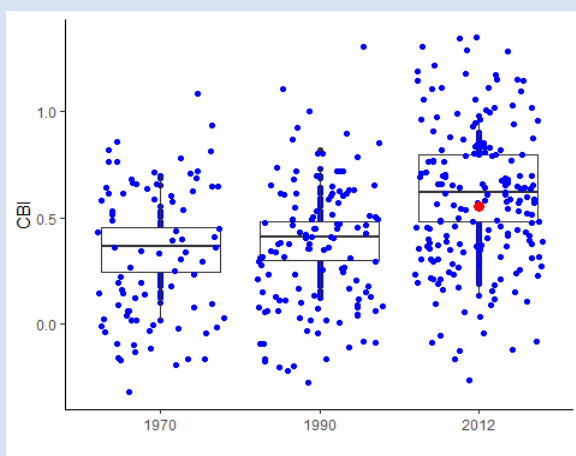
**Box I.6. Why Central Bank Independence Matters**

**Numerous studies have validated the importance of central banks' independence.** Indeed, central bank legislation in many countries contains “anchors” in one form or another, for central bank independence (CBI). Generally, the laws tend to recognize that political interference could undermine central banks' goals—such as stable inflation over time, and, in some countries, maximum employment—and potentially create long-term risks to economic and financial stability.

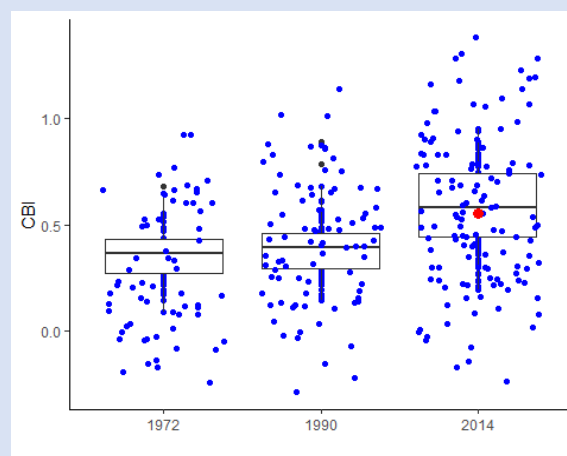
**Since the global financial crisis, many central banks pursued strategies that significantly expanded their balance sheets.** In some cases, governments tasked them with new or additional financial stability functions on top of their mandate of price stability. In some quarters, concerns about the expanded activities of central banks led to skepticism about the necessity or appropriate degree of central bank independence. Regardless of the type of reform enacted, operational independence in monetary policy must be safeguarded, in light of all the evidence.

**However, CBI in many countries remains limited, including in Mongolia.** The extent of Mongolia's legal (de jure) CBI is marginally lower than the average among all countries included in the sample (figures I.53 and I.54). Furthermore, Mongolia's measure of legal CBI is lower than the average among lower-middle income countries in the sample. Since legal measures of CBI do not indicate the degree of actual independence. Cukierman, Webb, and Neyapti (1992) argue that the turnover rate (TOR) of central bank governors is a better proxy for actual (or de facto) central bank independence. By that standard, Mongolia's de facto measure of CBI is also limited. Since 1991, BoM has seen a succession of nine central bank governors, implying that most governors were replaced before the end of their six-year terms. In contrast, based on central bank TOR from Dreher, Sturm, and De Haan (2010), a five-year average TOR around one implies that central bank governors in most countries are able to complete a full term.

**Figure I.53. Mongolia's CBI in 2012 was below average in terms of legal measure**



**Figure I.54. Similarly, the measure for Mongolia in 2014 was below the average**



Source: World Bank staff illustration based on measure of legal central bank independence from Garriga C. (2016) and Bodea and Hicks (2014).

Note: The data coverage from Garriga C. (2016) expands to 182 countries between 1970 and 2012. Data from Bodea and Hicks (2014) covers 144 countries between 1972 and 2014.

The importance and benefits of central bank independence from political interference are undeniable. For one, more independent central banks tend to deliver and maintain a lower level of inflation compared to less independent ones (Bade and Parkin, 1988; Garriga and Rodriguez 2020; Brumm, 2002, 2011; Klomp and de Haan, 2010; and Berger, De Haan, and Eijffinger, 2001). Second, more independent central banks are less subject to political pressure and interference and are less prone to finance the government's fiscal deficit, thus contributing to debt sustainability (Masciandaro and Tabellini, 1988; Sikken and De Haan, 1998; Lucotte, 2009). They also tend to accumulate more international reserves (Samano, 2021). Fixed-effect model estimations indicate that an improvement in Mongolia's



CBI index from 0.55 to the average among lower-middle-income countries (0.6), could be associated with a 3.3 ppts decline in the inflation rate and a marginal decline of 0.1 ppt in the budget deficit.

*Sources:* Compiled by World Bank staff.

## Risks

**Uncertainties surrounding the baseline forecast remain large, mostly on the downside.** In a downside scenario, economic growth could fall to 0.7 percent in 2022 if border restrictions with China persist throughout the year and the war in Ukraine leads to persistently higher energy prices and tighter global liquidity. In this case, the fiscal deficit would widen further due to revenue shortfalls. While border disruptions would limit imports as well, the current account deficit would nonetheless increase, exacerbating external financing pressures.

**The Russia-Ukraine conflict poses a significant downside risk for Mongolia.** Given Mongolia's large dependence on fuel imports from Russia—about 90 percent of total fuel imports originate from Russia—the ongoing conflict and ensuing economic sanctions against Russia are likely to complicate Mongolia's fuel supply (for details see box I.7).

**Downside risks also stem from Mongolia's large off-budget liabilities, which could further undermine fiscal sustainability.** These include the commercial debts of the DBM, which is facing an external bond payment of US\$800 million in 2023. Risks associated with the DBM's solvency could affect Mongolia's sovereign credit rating, increase financing costs, and threaten fiscal sustainability. Similarly, given Mongolia's high level of government debt and the erosion of existing fiscal space, failure to gradually restore fiscal discipline could weigh on investor and consumer confidence and derail the recovery in growth.

**Although conditions in the banking sector improved, vulnerabilities remain.** End-2021 financial disclosures by systemically important banks indicate high levels of capital adequacy and liquidity. However, a moratorium on loan classification and provisioning masks the true

financial conditions of banks. A potential rise in NPLs following the expiration on March 31, 2022, of the moratorium on loan classification and provisioning could reduce bank lending and weigh on investment and consumption. If unaddressed, undercapitalization in some banks could trigger instability through the erosion of public confidence in banks, especially in the face of the upcoming initial public offerings (IPOs). Indeed, there is a risk that rushing forward with the IPOs without adequate preparation could worsen financial sector risks, as investors lack information and hence confidence on the underlying capital position of banks.

**Rising food price inflation could prompt poverty to remain above the pre-COVID level as urban poor households spend nearly 40 percent of their consumption on food.** Additionally, weather-related shocks could adversely impact the income of poor and vulnerable herders. Risks to growth could also stem from new severe COVID-19 variants that could further prolong the border closures, suppress exports, and stall the envisaged recovery in consumption.

**Mounting instability and heightened risks call for adjustments in macroeconomic policies.** Monetary policy needs to return to a credible inflation anchor, raise rates, curtail quasi-fiscal activity, and allow the exchange rate to absorb negative external shocks. Fiscal consolidation is needed to stabilize debt and ensure external and public debt sustainability. Better targeting fiscal measures to the poor would help contain fiscal imbalances while sustaining support to the most vulnerable households. Restoring long-term fiscal sustainability and building buffers to manage commodity price volatility is critical. In this regard, pension reforms could help stabilize the medium-term fiscal outlook (see the next chapter).



**Structural reforms would help lay the foundation for diversified and hence more resilient growth in the medium term.** These reforms include measures to prioritize transport investments along critical corridors while improving customs and logistics to reduce trade costs, and improve the business climate and economic governance to attract investment. Moreover, enacting electricity tariff reforms and transparent power purchase agreements will encourage private

investment, including in renewable energy. Meanwhile, Mongolia will also need to mitigate the risk of climate change associated to its coal heavy energy sectors.<sup>41</sup> In addition, the authorities should scale down quasi-fiscal activities under the MNT 10 trillion program and accelerate monetary policy tightening. Finally, financial sector reforms should focus on assessing the underlying capital position of banks for the upcoming IPOs.

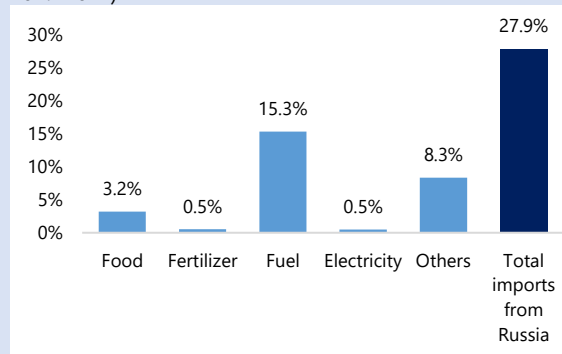
#### Box I.7. Preliminary assessment of the impact of the war in Ukraine on Mongolia

The war in Ukraine could not have come at a worse time for the Mongolian economy. The recovery from COVID-19 has been weak amid prolonged border closures with China. Inflation has surged substantially, to almost twice the central bank target, while sizable contingent liabilities, including the DBM's external bond (US\$800 million), have further exacerbated large public debt risks. This note analyses the preliminary impact of the war in Ukraine on Mongolia's economy through trade, cost of production and inflation, and financial channels.

**Trade channel.** Mongolia has some direct exposure to Russia through trade channels, especially energy imports. While about 1 percent of Mongolia's exports is directed to Russia, about 28 percent of imports originate directly from Russia, of which more than half are fuel and energy imports (figure I.55). About 90 percent of Mongolia's fuel imports originate from Russia (figure I.56). In addition, it is estimated that about 10 percent of Mongolia's imports from European countries transit through Russia. The significance of the Russian border for external trade increased in 2021, amid the prolonged border frictions with China, which caused delays in imports and increased transport costs through the main border with China. Since frictions on the border with China are unlikely to ease before the end of 2022, trade disruptions with Russia would have significant implications on the supply of imported food, fuel, and fertilizers, compounding already elevated inflationary pressures. So far, there is no indication of physical barriers to imports from Russia, however.

**Figure I.55. Fuel imports constitute more than half of imports from Russia**

Imports from Russia as a share of total imports (average of 2019-2021)

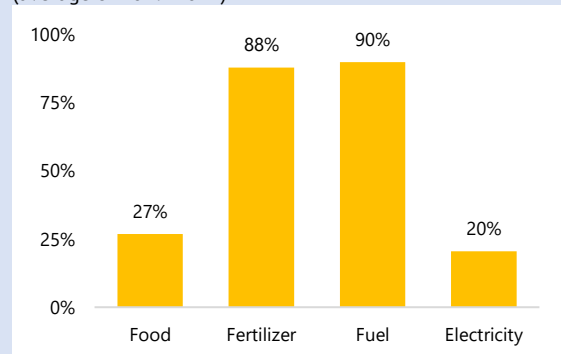


Source: Mongolian Customs.

Note: Wheat import is included in food imports.

**Figure I.56. Mongolia relies mainly on imports of fuel and fertilizers from Russia**

Imports of selected goods from Russia within each category (average of 2019-2021)



Source: Mongolian Customs.

Note: Wheat import is included in food imports.

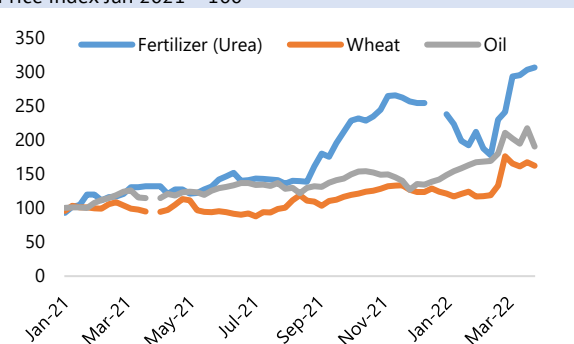
**Cost of production and inflation.** Rising fuel and food prices negatively affect Mongolia's current account balance, economic growth, and inflation through rising costs of production and consumption. Mongolia is a net importer of

<sup>41</sup> Encouraging sustainable herding practices through for example livestock tax will help mitigate Mongolia's climate change risk associated with overgrazing by its large size of livestock.

oil, as its import bill averaged US\$1 billion during 2019-21. A surge in global oil prices would have significant implications for the current account balance, which already recorded a deficit of 12.7 percent of GDP in 2021. In addition, rising global fuel prices could quickly translate into higher domestic consumer prices and substantially raise the cost of production (figure I.57). Our estimates indicate that a 10 percent change in fuel prices could push food prices up by 1.2-1.4 percent (see box A.1 in annex).<sup>a</sup> Furthermore, with 24-28 percent of its wheat supply (100 percent of wheat imports) and 88 percent of fertilizers originating from Russia, war-driven supply constraints in Russia could add to already high food price inflation, and further weaken growth and the livelihood of the population.

**Figure I.57. Global prices of key imported goods spiked**

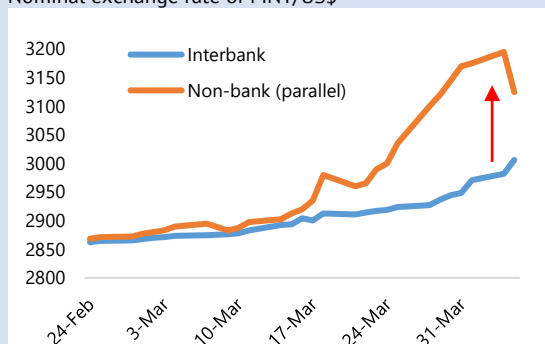
Price index Jan 2021 = 100



Sources: Markets Insider; Bloomberg

**Figure I.58. BoP pressure led to a shortage of FX and banks' FX rationing**

Nominal exchange rate of MNT/US\$



Source: BoM.

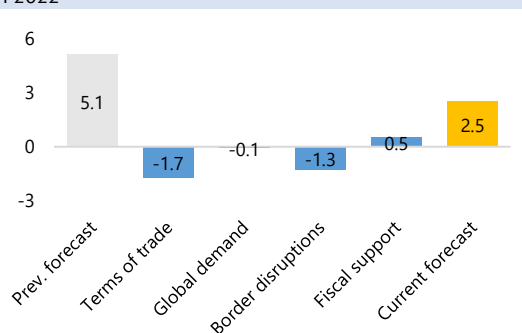
**The impact of the war on domestic confidence adds to pressure on the balance of payments.** The war in Ukraine has eroded confidence and added to uncertainties, fuelling an increase in the demand for foreign exchange (FX). Given declining gross international reserves, commercial banks are rationing FX liquidity, further weakening growth as firms will limit their purchase of key imported capital and intermediate goods. The divergence between official and parallel market exchange rates has recently increased (figure I.58).

**Finally, the war in Ukraine and ensuing sanctions on Russia could put at risk a joint project between Russia and Mongolia, with significant economic and environmental implications.** Mongolia has been trying for at least a decade to serve as a transit territory for the gas pipeline connecting Russia with China. The project is expected to have significant positive economic and environmental implications for Mongolia, such as easing air pollution in Ulaanbaatar. Significant progress was made on deals at the higher levels, and Mongolia recently signed an agreement with Gazprom (Russian SOE) to initiate the preparatory work. While construction is slated to start in 2023, if sanctions are expanded to energy-related activities, Mongolia could see a delay of an important source of growth and opportunity for cleaner energy.

We downgraded our initial 2022 growth forecast for Mongolia from 5.1 percent to 2.5 percent. The downgrade takes into account the impact of rising prices of food, fuel, and fertilizers on Mongolia's terms of trade, lowering growth by 1.7 ppts. Continued border disruptions with China also reduce growth by 1.3 ppts compared to our October 2021 assumptions. Moreover, a 0.1 percent downgrade in China's economy could translate into a 0.09 ppt reduction in Mongolia's GDP, given strong trade and investment

**Figure I.59. The growth forecast in 2022 was downgraded due to several factors**

Percentage contributions to change in GDP growth forecast in 2022



Source: World Bank staff estimate.

flows with China. Some additional fiscal support, specifically to the agricultural sector will partially offset these negative shocks (0.5 ppt) (figure I.59).

*Source:* World Bank staff.

*Note.* a. Estimates vary with the estimation method (ordinary least square or simultaneous equations). However, the effect on food prices can be as high as 8.23 percent if extreme fluctuations are considered.

## II. Fiscal Sustainability of the Mongolian Pension Scheme



## II. FISCAL SUSTAINABILITY OF THE MONGOLIAN PENSION SCHEME

**This chapter assesses key challenges facing the Pension Insurance Scheme and suggests options to enhance its financial sustainability.** The following key challenges were identified:

- **Substantial real increases in minimum pension benefits including the February 2022 increase** has resulted in more than three quarters of retirees receiving the minimum resulting in weak links between contributions and benefits.
- **Without reform, the Pension Insurance Scheme is unsustainable, given that fiscal costs are projected to escalate.** Costs are projected to increase from 2.8 percent of GDP in 2020 to 6.8 percent in 2030 and to grow further thereafter.
- **The Notional Defined Contribution scheme (NDC)** will result in substantial reductions in replacement rates for cohorts born after 1978. This abrupt reduction in benefits will shortly affect some new retirees.
- **Proposals to establish a Funded Defined Contribution (FDC) scheme would require additional fiscal transition costs of up to 2.5 percent of GDP per year for about 30 years in addition to challenging institutional requirements.** From a worker's perspective, replacement of the current scheme with an FDC scheme under most scenarios would reduce, rather than increase, retiree benefits.

**The following reform options are suggested:**

- **Parametric reforms can reduce the anticipated growth in fiscal costs.** Adoption of automatic indexation of pension benefits, including the minimum, linked to the growth of the consumer price index, can both protect retirees and reduce costs. Similarly, increases in the contribution rate and the retirement age can reduce costs without affecting benefits. It is also possible to reduce the level of benefits accrued for service after a reform date.
- **A smoother transition in the implementation of an NDC scheme could be achieved by applying the scheme to contributory service after a reform date rather than retroactively applying it to all retirees born after a specific date.**
- **The fiscal and institutional challenges in establishing an FDC scheme appear to outweigh the limited benefits.** One means of beginning to address the institutional challenges while limiting fiscal costs is to adopt a national framework for voluntary, supplementary FDC contributions.

## A. Mongolia has a relatively generous pension scheme with high levels of coverage and unsustainable fiscal costs

### A1. The Pension Insurance Scheme is effectively universal for retirees with generous replacement rates and modest contribution rates

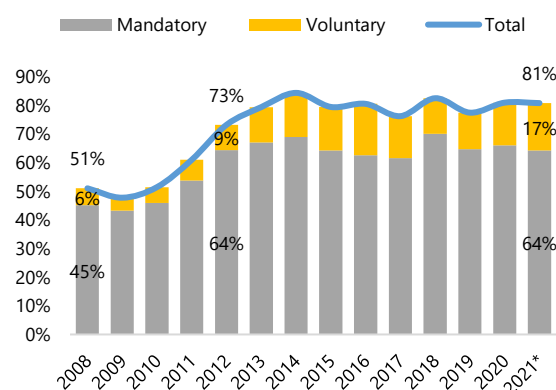
#### The Pension Insurance Scheme has very high levels of both labor force and elderly coverage.

Coverage of workers has been high in Mongolia, owing to some growth in payroll-based employment during 2008-12 and increased participation in the voluntary scheme following buyback facilities offered in 2012 and 2017.<sup>42</sup> The

data suggests that more than 80 percent of the labor force contributed to the scheme during 2020-21 (figure II.1). Moreover, coverage of the elderly is effectively universal for men ages 60 and older and women who are 55+, which is close to coverage in former Soviet countries (figure II.2).

**Figure II.1. Coverage of the labor force by pension contributors has been high**

Share of contributing workers within the labor force

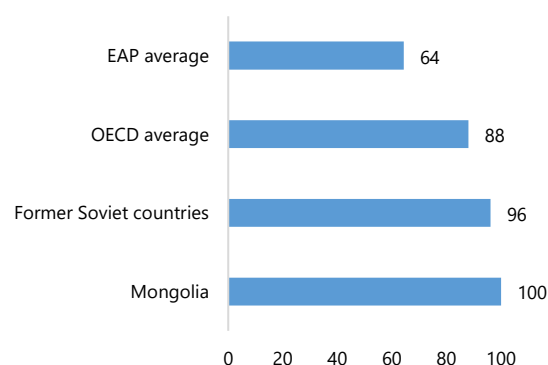


Source: NSO.

Note: Value in 2021 is estimated based on monthly indicators.

**Figure II.2. Mongolia's coverage of elderly is effectively universal as in former Soviet countries**

Share of population above statutory pensionable age receiving a pension in 2020



Source: OECD: Pensions at a Glance 2021: OECD and G20 Indicators.

Note: Social welfare pensions are included.

**The benefits provided by the Pension Insurance Scheme are relatively generous by regional and international standards, especially considering the relatively low retirement age and modest contribution rate.** Relative to OECD countries, Mongolians enjoy higher replacement rates (figure II.3). Under the current scheme, a worker with an average number of years of service at retirement would receive a benefit equal to over

half of their wage, assuming that the benefit was larger than the minimum pension.<sup>43</sup> For instance, a full-term worker who works for 35 years would receive a benefit of about 68 percent of their individual wage (see box II.1 for details of current pension scheme). Similarly, the gross replacement rate for Mongolia remains high considering the effective contribution rates (figure II.4).

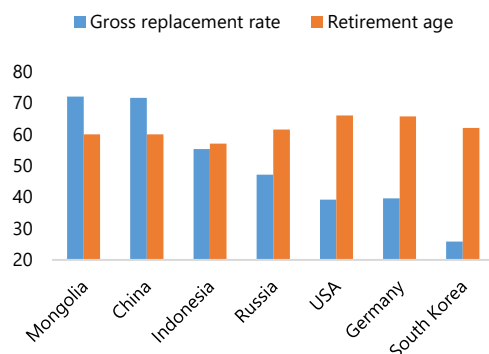
<sup>42</sup> The discounted service credit offered was heavier in 2012 relative to 2017.

<sup>43</sup> As of end-2018, the average contribution density (defined as the average number of pensionable years of service) at retirement was 26 years for men and 24.6 years for women, with a total contribution density for all workers at retirement of about 25.3 years. A worker with either a low contribution density and/or lower applicable wage base from which to determine benefits may receive the minimum pension and therefore have a higher individual replacement rate.



**Figure II.3. Replacement rates in Mongolia are among the highest relative to comparators ...**

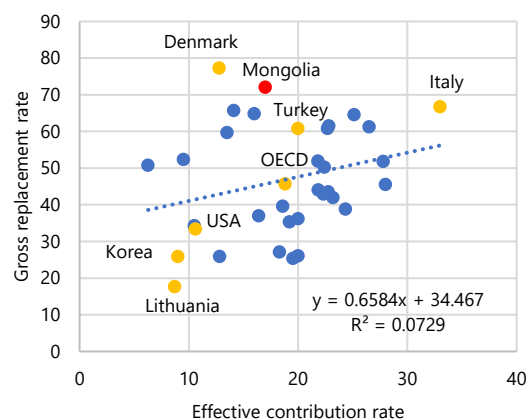
Gross replacement rate and retirement ages in select countries<sup>44</sup>



Source: OECD: Pensions at a Glance 2021: OECD and G20 Indicators.

**Figure II.4. ... characterized by lower contribution rates**

Gross replacement rate and contribution rates in 2020



Source: OECD: Pensions at a Glance 2021: OECD and G20 Indicators.

### Box II.1. Description of the Pension Insurance Scheme of Mongolia

**The state-mandated and managed defined benefit scheme hinges on a variety of parameters.** Under this scheme, introduced in 1994, workers and employers with labor contracts are mandated to contribute 17 percent of covered wages, while workers without contracts, including herders and the self-employed, can voluntarily participate with a 13.5 percent contribution rate. Old-age benefits can be received at age 60 for men and 55 for women, with workers in specified professions or conditions entitled to benefits as early as 10 years prior to regular retirement age.<sup>45</sup> A benefit equal to 45 percent of the pensionable wage base is provided after the first 20-25 years of service. The accrual rate thereafter is 1.5 percent per year. Workers meeting the vesting requirement of 20-25 years are entitled to a full pension for which the minimum is set at no less than 75 percent of the minimum wage. A lower “partial” minimum benefit, of no less than 50 percent of the minimum wage is provided for workers with 10-20 years of contributory service. The scheme also provides permanent disability and survivorship benefits (see table II.1 for a detailed description of the nexus between vesting requirements, the retirement age and the minimum pension as well as table A.II.1 for a detailed description of all of the parameters of the scheme).

**A Notional Defined Contribution (NDC) scheme was established in 1999 to reduce the fiscal burden and better align contributions and benefits.** While the scheme was applied to cohorts born after 1960, the 2015 State Policy on Pension Reform changed its coverage to cohorts born after 1978. Cohorts born between 1960 and 1978 receive the better of either the defined-benefit (DB) pension or the NDC pension, which is almost always the DB pension. Despite being widely perceived as offering better benefits, the NDC scheme has substantial design flaws, including:

- Due to the lack of a transition mechanism policy between cohorts, an abrupt reduction in benefits is expected for cohorts born after 1978. For example, workers retiring in 2039 (when men born in 1979 reach the retirement age of 60) would see average benefits decline from about 55 percent of the projected average covered wage in that year to about 42 percent, a decline of 13 percentage points or a reduction in the pension by almost a

<sup>44</sup> Gross replacement rate refers to the individual replacement rate at retirement for an average wage worker who works continuously from age 22 to retirement age. The retirement age refers to the higher of men or women for countries that have distinct ages for each gender.

<sup>45</sup> See Table II.1. for a more detailed explanation. In 2018, the retirement age and vesting requirements were changed as follows: Workers were required to complete a total of 20-25 years of service to receive a full pension and full minimum pension at the regular retirement age of 55 for women and 60 for men. The required years of service was legislated to increase at a rate of three months for each year. However, for workers with only 20 years of contributory service, the retirement eligibility age increases at a rate of three months per year until it reaches age 65 for both men and women. Workers in special professions, herders, and mothers with four or more children have earlier retirement ages, which are five to 10 years below the normal retirement ages.



quarter (figure II.5). Not only it is inequitable, the abrupt decline in the replacement rate would also increase the already high proportion of retirees entitled to the minimum pension.

- There are technical issues over the valuation of accrued rights and calculations of notional interest rates and annuity factors. Notional balances may be underestimated, particularly since wage data was not available for work prior to 1994.
- The scheme does not set aside a sufficient proportion of contributions for disability and survivorship benefits.
- The Mongolian NDC scheme has no provisions for the separate accounting and state financing of the minimum benefit. Benefits provided by NDC or FDC schemes are a function of contributions, so any minimum needs to separately finance the difference between the pension derived from an individual account accumulation and the minimum. There also is a contradiction in the legislation between the NDC pay-as-you-go financing and aspirational funding targets in the legislation. In neither the PAYG DB scheme nor the NDC scheme will there be surpluses generated to somehow fund or fill individual accounts.
- There is ongoing confusion between the objectives of the NDC scheme and the concept of a Funded Defined Contribution (FDC) scheme (see part B).

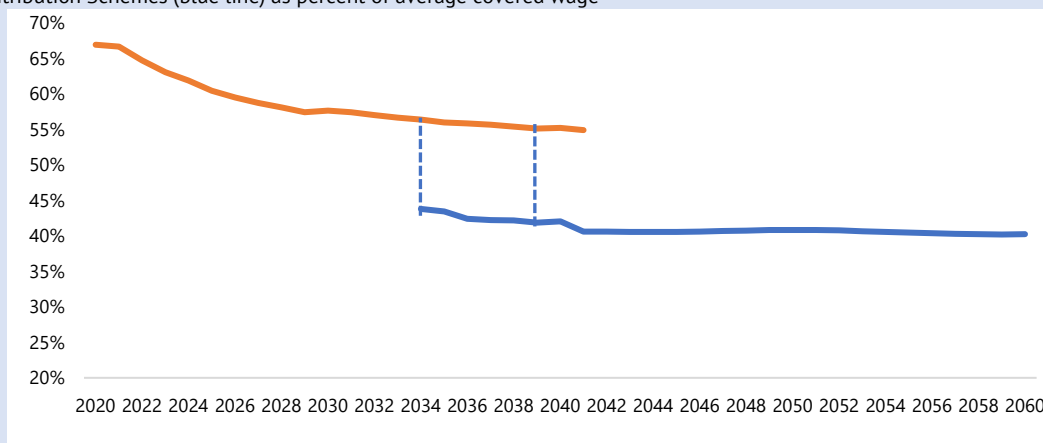
**Table II.1. Parameters of the minimum pension**

Years of Qualifying Service	Age of Qualification for Benefit	Benefit
< 10	55 (women), 60 (men)	<i>Social Welfare Pension</i> (Non-contributory social assistance)
10 - < 20	55 (women), 60 (men)	<i>Calculated partial pension or partial minimum pension</i> (>50% of minimum wage)
20 +	55 (women), 60 (men) gradually increasing to age 65 at a rate of 3 months per year, for those retirees who do not meet the rising vesting requirements or lower ages for herders, women with 4 or more children, hazardous and special professions	<i>Calculated full pension or full minimum pension</i> (>75% of minimum wage)
20 rising to 25 years at phased-in at a rate of 3 months per year	55 (women), 60 (men)	<i>Calculated pension or full minimum pension</i> (>75% of minimum wage)

Source: World Bank staff assessment.

**Figure II.5. Replacement rate is expected to be significantly lower for the cohort born after 1978**

Replacement rates between Pay-As-You-Go Defined Benefit (orange line) and Notional Defined Contribution Schemes (blue line) as percent of average covered wage



Source: PROST Projections, 2019.

Note: The vertical lines are the projected drops in the replacement rates for men and women, respectively. For purposes of presentation, we have eliminated the small number of pre-1979 cohorts retiring after 2042 and the small number of early retiree post-1979 cohorts retiring before 2032.

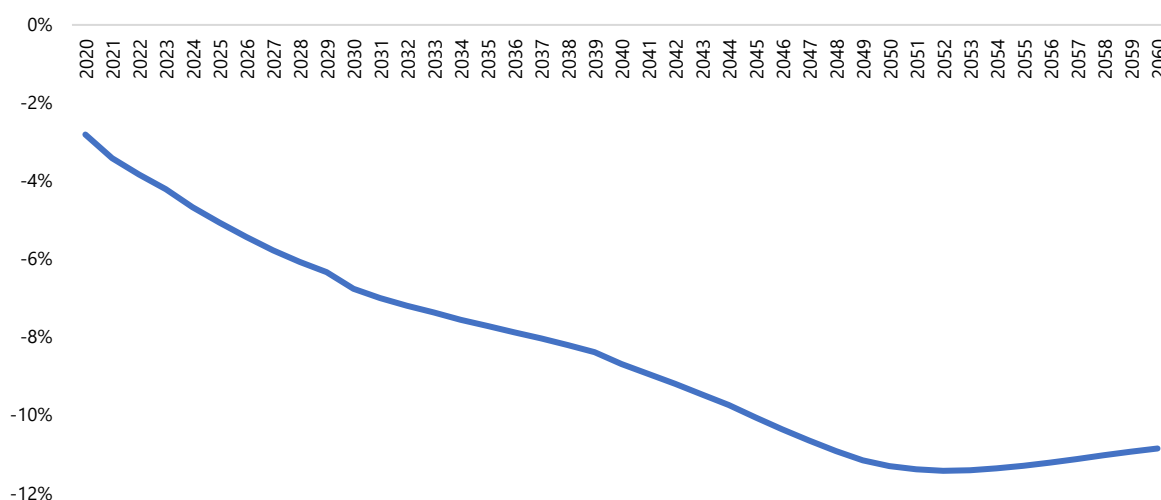
## *A2. The current pension scheme requires substantial state subsidies and faces escalating projected fiscal costs*

**The pension insurance scheme is projected to absorb an increasing proportion of fiscal revenues unless there are reforms to key parameters.** The *Scheme* in 2020 required a state subsidy of 2.8 percent of GDP to pay for about 45 percent of benefits that were not financed from contributions. Projections in 2019 suggested a rapid and unsustainable level of growth in the state subsidy, rising from about 2.8 percent of

GDP in 2020 to 6.8 percent of GDP in 2030 and 11.3 percent of GDP in 2050 (figure II.6). Assuming that fiscal revenues as a share of GDP remain constant, the projections suggest that the state subsidy to pensions would grow four-fold, from 9.2 percent of total revenues and grants in 2019 to 37.2 percent by 2050, crowding out other essential public expenditures.

**Figure II.6. Financing gap is expected to increase under the current system**

Financing gap under PAYG Current Balance as a share of GDP



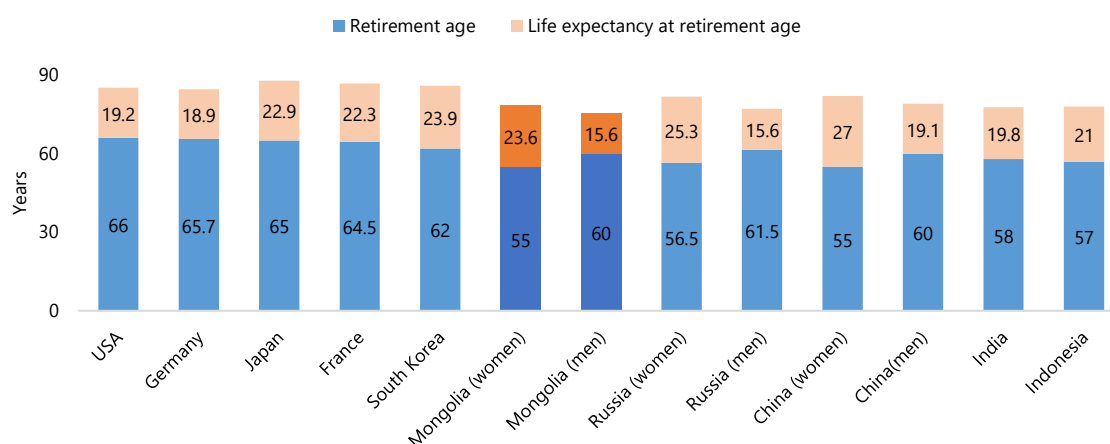
Source: PROST Projections, 2019.

Note: Under current system (baseline), growth of minimum and regular pension are indexed to growth in average covered wage; the Defined Benefit scheme applies to all cohorts including cohorts born after 1978. The simulated results were close under NDC.

### **A series of reasons explain the escalating projected fiscal costs of pensions:**

- The contribution rate of 17 percent (13.5 percent for self-employed) is far from sufficient to support the promised benefits.<sup>46</sup>
- The authorities have enacted multiple increases in benefits, in minimum benefits, and two buyback arrangements which heavily subsidized future pensions for a large number of participating workers.
- The retirement age is relatively low and has not increased in Mongolia even though life expectancy at retirement age has been increasing. Furthermore, in 2017 the authorities reduced the retirement age for herders and have retained early retirement ages for workers in hazardous and dangerous professions as well as for women with four or more children (figure II.7).

<sup>46</sup> As a part of COVID-19 relief measures, the authorities subsidized employer and employee contributions during 2020 and 2021, which is unlikely to have a long-term impact on pension costs. From April 1, 2020 to September 30, 2020, all contributions for social insurance for private sector workers in the mandatory scheme were paid by the state. Between October 1, 2020 and June 30, 2021, there was a partial relief, with the state paying for all non-pension social insurance contributions and 7 percent of the contribution rate of 17 percent (for voluntary participants from 3 percent to 6.5 percent from contribution rate of 11.5 percent).

**Figure II.7. Retirement age in Mongolia remained unchanged despite increasing life expectancy**

Source: OECD: Pensions at a Glance 2021: OECD and G20 Indicators.

### *A3. Recent increases in minimum pensions further erode the contributions-benefits nexus as well as fiscal sustainability*

**Recent increases in the minimum pension have reduced the linkage between contributions and benefits.** As a result of the ad hoc changes in pension benefits, introduced in February 2022, the proportion of retirees receiving the full minimum pension is estimated to have increased from 52 percent to 78 percent of those qualifying and the partial minimum pension from 85 percent to 98 percent. This suggests that most retirees will receive the minimum, regardless of their contributions based on reported wages. Ad hoc adjustments have in effect resulted in a flat pension for about three-quarters of workers, irrespective of their contributions based on varying levels of salaries.

**Ad-hoc adjustments in indexation and the minimum pension create unprogrammed and abrupt fiscal costs along with uncertainty for workers and retirees.** The 2022 increase in the minimum pension and the 15 percent increase in total pensions are estimated to have a budgetary cost of about 1.5 percent of GDP in 2022, resulting in a further increase in costs in the future. These costs exacerbate the already unsustainable pension costs illustrated in figure

II.6 under the baseline scenario. Such abrupt increases have become the norm in Mongolia, instead of a relatively steady and predictable cost adjustment associated with automatic indexation, which could be linked to a commonly accepted index. For instance, the minimum pension was raised by over 70 percent and the partial pension by over 100 percent in 2012. In several developed countries, indexation of pensions, including the minimum, are often automatically adjusted by inflation or wage growth or some combination thereof. This reduces uncertainty related to pension benefits, maintains the purchasing power of benefits, eliminates the need for annual review, and de-politicizes the adjustment process.

Moreover, retiring workers can qualify for one of the three minimum benefits according to the years of qualifying service.<sup>47</sup> The full minimum and partial minimum are adjusted on an ad-hoc basis. Moreover, full retirement benefits (including a full minimum) are linked both to the years of qualifying service and the age of retirement. This multiplicity of vesting periods, retirement ages and minimum pensions creates

<sup>47</sup> These benefits include: (i) social welfare pension (non-contributory social assistance) with less than 10 years of service; (ii) calculated partial pension or partial minimum pension (>50% of minimum wage) with 10-20 years of service; and (iii) calculated full pension or full minimum pension (>75% of minimum wage) with 20+ years of service. For details see table A.II.1 in annex.

fragmented incentives to work and contribute toward Mongolia's pension insurance scheme.

#### A4. Fiscal costs could be reduced by changes in parameters

**A series of parametric reforms would help improve the financial sustainability of the current pensions system** (figure II.8). The following reforms are projected to reduce the growth of public expenditures while also making the pensions system more equitable and benefits more predictable:

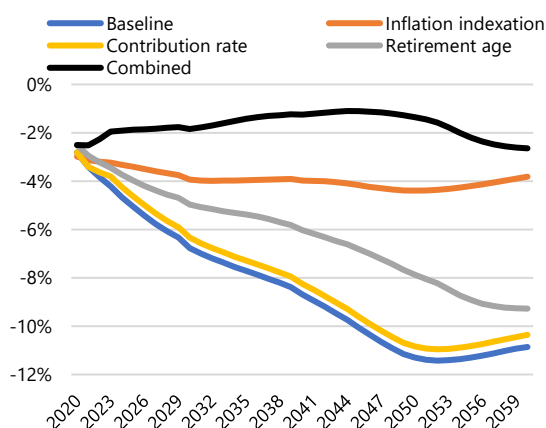
**First, the adoption of an automatic indexation for regular and minimum pension benefits consistent with inflation** is projected to reduce costs by almost 6 percent of GDP by 2050 when compared with a baseline projection based on indexation to

wages. Although automatic inflation indexation would make benefits more predictable, inflation indexation would lead to reduced replacement rates over time, explaining the reduction in the overall deficit.

**Second, gradually increasing the normal retirement eligibility age to 65**, applying an actuarially fair benefit reduction for early retirement, and eliminating the linkage between the retirement age on the one hand and the vesting period on the other could reduce fiscal costs by over 3 percent of GDP by 2050.

**Figure II.8. Parametric reforms will help improve the financial sustainability**

Financing Gap under baseline and reform options  
(PAYG Current Balance as a share of GDP)



Source: PROST Projections, 2019.

Note: Scenarios exclude the implications of recent pension hike (1.5 percent of GDP), which could actually add to the cost under all scenarios starting 2022.

##### Details of scenarios:

**Baseline** – Growth of minimum and regular pensions are indexed to growth in average covered wages. The DB formula was applied to cohorts born after 1978 as the simulated results were close to those under the NDC.

**Inflation indexation** – The minimum and regular pension is adjusted by CPI inflation in the previous year.

**Retirement Age** – The retirement eligibility age is increased at a rate of three months per year until age 65 for men and women and an actuarially fair penalty applied to those retirees retiring prior to the prevailing eligibility age.

**Contribution rate** – The contribution rate is increased by 2 percent for the mandatory scheme over a period of 2 years starting 2022. Same is assumed for the voluntary scheme.

**Combined** – This is a composite scenario of all the reforms above, as well as an extension of the period for determination of benefits extended from seven to 10 years, according to the same parameters and transition periods.

**Third, gradual increases in the contribution rate could also reduce fiscal costs.** Returning to a combined contribution rate of 19 percent, as it was between 1994 and 2008 could also somewhat reduce costs once Mongolia's economy stabilizes and returns to pre-COVID growth.

**Fourth, gradual extension of the wage base for determining benefits from seven years to lifetime and indexation of the wage base** would improve fairness, though have almost no effect on costs.

This would improve incentives, equity between workers, and reduce the tendency of some workers to increase their wages seven years before retirement, especially in the voluntary scheme.

**Fifth, establishment of a linear accrual rate could improve incentives.** The current parameters provide for a higher accrual rate for earlier service; the first 20-25 years of service yield a replacement rate of 45 percent (about 2.25 percent per year accrual rate) while subsequent

service is at a rate of 1.5 percent per year. A more continuous set of incentives could be established by adopting a linear accrual rate of perhaps 2 percent/year of service.

**The authorities have introduced reforms to pensions and other social insurance legislation submitted to Parliament** (see box II.2). Automatic price indexation in the draft bill would help to mitigate some of the projected increase in costs. However, the draft bill fails to offer sufficient

parametric reforms such as to the retirement age and contribution rate to address the challenge to fiscal sustainability. The legislation also introduces substantial discretionary provisions, including the notional interest rate, the rate of return on funded pension assets, and the parameters for an additional “Basic Benefit.” The legislation also fails to address the abrupt reduction in replacement rates for post-1979 cohorts under the NDC scheme.

#### **Box II.2. Draft Pensions Legislation Submitted to Parliament**

The draft legislation submitted to Parliament includes the following:

- The contribution rate remains unchanged and is specified in the proposed General Law on Social Insurance.
- Automatic price indexation is provided for pension benefits, although the minimum remains ad hoc.
- The current dual criteria for retirement age and vesting is maintained. There is no change in the retirement age for those who meet the gradually increasing vesting period.
- The retirement age for some special and hardship professions, which had been 10 years earlier than the normal retirement age, is to be gradually increased to five years early. No changes are proposed to the criteria for professions subject to early retirement.
- The wage base for determining benefits would gradually increase from the current seven years to 10 years.
- A linear accrual rate of 2 percent/year would replace the current non-linear benefit formula (for cohorts born prior to 1979).
- A “Basic Benefit” is introduced in the legislation though there are no parameters indicated for determining the benefit.
- The abrupt reduction in replacement rates for post-1979 cohorts to which the NDC scheme would be applied is not addressed (figure II.5).
- The interest rate on notional accounts is removed and replaced by a rate determined on an ad hoc basis. The current notional interest rate is the average rate of covered wage growth over the past three years.
- The draft legislation introduces the funding of individual accounts with 1 percent of contributions yet fails to articulate the framework for funding, linking benefits to funding.

## **B. Benefits and pitfalls of the new proposed scheme: A Funded Defined Contribution Scheme**

### *B1. Potential Objectives of an FDC scheme – lessons for Mongolia*

**A Funded Defined-Contribution scheme (FDC) is a retirement savings scheme whereby contributions go into a fund that accumulates until retirement (box II.3).** Enactment of an FDC scheme is a complex and important public policy decision with important fiscal dimensions, which can materially impact the adequacy of pension benefits.<sup>48</sup> It is important to have clear objectives

for establishing an FDC scheme, bearing in mind the fiscal costs, risks, and institutional requirements.

**Several countries that have migrated their pension system from PAYG DB schemes to either FDC or hybrid schemes have since modified the FDC pillar or have reverted entirely to a PAYG DB**

<sup>48</sup> The authorities are exploring options for establishing a National Provident Fund, including using such a fund as the basis for an FDC design (see box A.2).

**scheme.** In Eastern Europe and Central Asia, most countries adopted a “hybrid” approach whereby they either converted part of the existing PAYG DB scheme to an FDC scheme or added on an additional FDC scheme while leaving part of the pension formula through the existing or reformed DB scheme. Before and during the global recession of 2008-11, while several countries had full or partial reversals of their FDC schemes, others substantially modified the rules. Notably, Hungary and Argentina closed their FDC schemes, Poland has largely removed the Funded pillar, and seven countries in Central and Eastern Europe have made substantial changes to their FDC schemes (see table A.II.2).

**A key challenge for maximizing individual returns (and thus pensions adequacy) is to find a diversified portfolio for FDC investments.** This will be challenging for a country like Mongolia, considering its small domestic market for debt and equity securities.

**Transitioning from a PAYG Defined Benefit scheme to an FDC scheme will result in an increase in fiscal costs.** In fact, the government will need to continue paying benefits to current pensioners and older workers while suffering a loss of revenues related to the diversion of contributions to FDC accounts.<sup>49</sup> Such *transition costs* could last for over three decades as the government tries to offset forgone contributions. Using these assumptions, the fiscal costs of the funded scheme would be higher than those of the PAYG DB scheme and only be less than the PAYG DB scheme when it begins to fund itself in about 2055. Transition costs are often financed through (i) earmarking anticipated fiscal surpluses, (ii) a tax-financed transition, offsetting the fiscal losses through tax increases or expenditure cuts (parametric reforms to the PAYG DB scheme can offset some of such transition costs), and/or (iii) a debt-financed transition.<sup>50</sup>

### Box II.3. Principles of an FDC Scheme and its Applicability to Mongolia

**What are key features of an FDC design?** In an FDC scheme, the funds are invested in securities either by a single agency or by fund managers. Although there can be many variants, generally all of funds contributed and accumulated in an FDC fund are invested to back up future benefits of members. Individuals often bear the risk and receive the return on pension fund assets during the accumulation phase (net of management and administrative costs).<sup>51</sup> There are several different arrangements for the payout phase, such as phased withdrawals or annuities.

**What determines an individual's benefits in an FDC scheme?** An individual's replacement rate depends upon the history of contributions, the return their pension assets (net of costs) as well as their retirement age. If the net rate of return on an individual's pension assets are less than the growth of wages, the replacement rate will be lower than the replacement rate under an equivalent DB scheme, assuming the contribution rate fully finances the DB benefits. In addition, in Mongolia the contribution rate under the DB scheme is substantially less than the sustainable PAYG contribution rate, so that the replacement rate under an FDC scheme would be lower for this reason. Countries with thin, small, and/or poorly developed financial markets often find it difficult to achieve strong real rates of return by investing domestically. However, placing investments abroad requires a capacity to manage the pension flows in investments overseas. Also, minimizing administrative costs has been challenging in many countries.

**Is it desirable for Mongolia to establish an FDC scheme?** When compared with the current PAYG DB scheme in Mongolia, an FDC offers the opportunity to link benefits to the rate of return on investments, pre-fund some of the future pension obligations, and offer workers a more diversified set of risks associated with their pension benefit. When viewed from a worker's perspective, however, an FDC scheme will most likely lead to a reduction in an individual's income replacement rate when compared with the PAYG DB scheme.

<sup>49</sup> Several countries facing steep transition costs have, instead, established FDC schemes by requiring *additional* contributions to funded schemes over and above the contributions to the existing PAYG DB and NDC schemes. This, therefore, results in no additional transition costs.

<sup>50</sup> An option of earmarking resources from the FHF had been proposed earlier by the authorities and requires separate study. It is important to note that the authorities have earmarked resources from the FHF to finance the Child Money Program.

<sup>51</sup> Some FDC schemes establish minimum return guarantees and/or risk limits.

**Is it sensible for Mongolia to establish an FDC scheme?** An FDC scheme involves substantial additional fiscal transition costs that the Mongolian Treasury will need to finance continuously for over 30 years. The benefit from the FDC scheme of being self-financing will be realized only after several decades. Although it is possible that assets under management may earn rates of return after fees that exceed wage growth (and thus partially finance benefits through market instruments), this is particularly challenging in small countries with imperfect and shallow financial markets, as is the case in Mongolia.

**Is it feasible for Mongolia to establish an FDC scheme?** The scheme's feasibility depends, among other things, on its design and financing strategy. Feasibility could be improved by meeting certain institutional conditions before introduction. For example, the scheme could be initiated as voluntary and supplemental, or funded with contributions in addition to current contributions rather than by earmarking funds from the current scheme. Another possibility would be to establish a hybrid scheme that is limited to a small proportion of current contributions, restricts participation to younger cohorts, and, possibly, builds on the existing infrastructure for collections, data management, and disbursement.

**It is therefore essential to have a sound strategy for financing transition costs regardless of the size and design of the FDC pillar.** Projections of an FDC scheme in Mongolia suggest that the additional fiscal costs (state subsidy) would average about 2.5 percent of GDP if the entire PAYG DB scheme were replaced with an FDC scheme for all cohorts. This is in addition to the projected fiscal costs for the PAYG DB scheme.

**A well-considered strategy of public debt management is integral to introducing an FDC**

**pension scheme.** This includes a strategy for the development of the government debt market, including the development of a yield curve that provides the necessary benchmark for private instruments, including mortgage-related securities (mortgage bonds, mortgage-backed securities) and corporate bonds. Supplementary FDC schemes, such as proposed in draft legislation in Mongolia, can provide important experience before launching mandatory FDC schemes (see box II.4).

#### **Box II.4. Mongolia needs a regulatory framework for private, voluntary supplementary pensions**

Regulated, supplementary pension arrangements can play an important role in old age income protection but are not in place in Mongolia, which lacks a regulatory framework for these instruments. Supplemental arrangements can provide an important means for workers to set aside additional savings for retirement as well as a voluntary arrangement which can have more lenient withdrawal conditions. Supplementary pensions need to be well-regulated and supervised to sustain the public trust while their savings are illiquid, which can be for decades. Many countries provide some tax exemptions either for contributions or benefits up to a cap, in part as an incentive to overcome the illiquidity.

Regulated, supplementary pensions can also support regulatory and institutional framework for funded defined-contribution (FDC) schemes and can provide important experience before launching mandatory FDC schemes. Legislation is now pending before the Mongolian Parliament which would establish a regulatory framework for supplementary pensions.

**A pensions financing strategy also needs to finance the projected sharp increase in public expenditures for the existing PAYG DB scheme while also financing projected transition costs associated with the introduction of an FDC scheme.** Adopting a hybrid scheme would require smaller incremental fiscal transition costs. For example, earmarking 3 percent of the 17 percent

contributions to an FDC scheme would reduce the projected transition costs in 2022 from about 2.8 percent of GDP to 0.5 percent. For example as illustrated in Figure II.9 below, suppose that 3 percent of the 17 percent contribution rate was earmarked for FDC accounts, meant to be used entirely for old age, and the remaining 14 percent contribution to the PAYG scheme, including

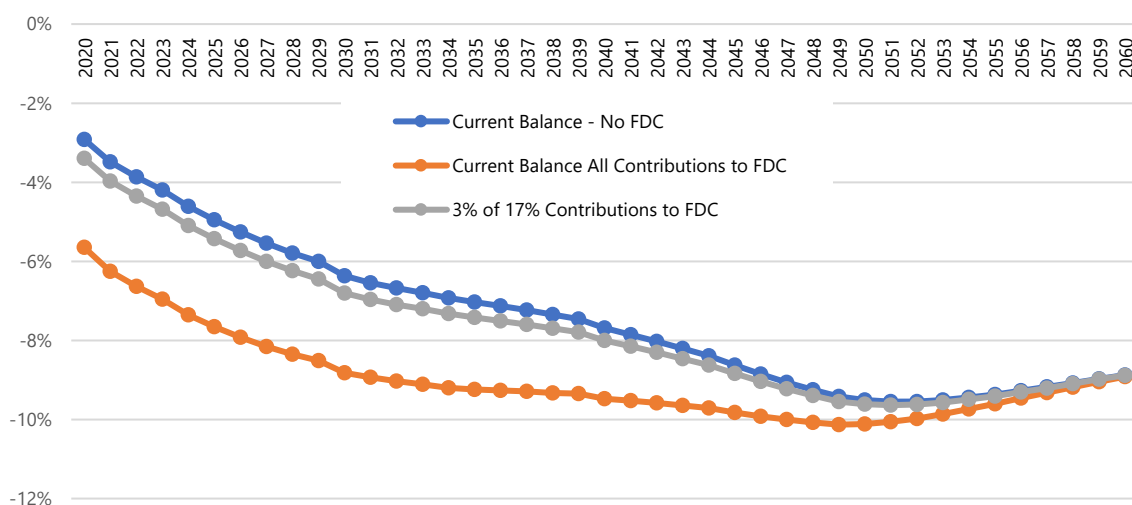


disability and survivorship benefits. In such case, the accrual rate should be reduced from the currently proposed 2 percent/year of service to 1.6 percent per year, proportional to the reduction in the contribution rate to the DB scheme. This option would have the benefit of only subjecting the government in the short term to additional transition costs of about 0.5 percent of GDP per year, as compared to up to 2.8 percent of GDP per year if all contributions were

earmarked to fund individual accounts (figure II.9).

**The gap between contribution revenues on the one hand and promised benefits under the existing scheme means that contributions under the current parameters will not generate any surpluses to finance FDC accounts.** On the contrary, the gap between contributions and benefits is projected to keep increasing, requiring an escalation of the size of the state subsidy.

**Figure II.9. FDC Scheme - Projected fiscal costs of a full conversion to FDC and one hybrid option**



Source: PROST projections in World Bank (2020). It is worth noting that the projected baseline deficit for 2020 was based on 2018 data.

## *B2. An optimal pensions scheme should balance risks and benefits and curb escalating fiscal costs*

**The authorities will need to weigh the risk and benefits of different design choices and parameters while addressing the pressing challenge of escalating fiscal costs in the current scheme.** A comprehensive program of reforms should include:

- **Parametric reforms to the Pension Insurance (DB) scheme.** One key reform would be to automatically link the minimum pension and pension indexation to the growth in the consumer price index (CPI).<sup>52</sup> In addition, the authorities should consider increasing the retirement age (both for regular retirees and special professions), increasing the

contribution rate, and reducing the accrual rate for benefits accrued after the reform.

- **Amendments to the NDC scheme.** One means of addressing the sharp reduction in replacement rates is to replace the current design based on birth dates and instead apply the scheme to service histories after the reform date. So, for example, a future retiree with service both before and after the reform date would receive a benefit based on the accrued DB rights before the reform date, and possibly a benefit based on their notional balance accumulated after the reform date. This will seamlessly make

<sup>52</sup> In this regard, effective monetary policy would be critical in maintaining a sustainable pension system.

for a more feasible transition in replacement rates over time.

- **Any establishment of an FDC scheme, even if by earmarking a nominal proportion of contributions, needs to have in place the institutions and fiscal resources to support it.**
- **Establishment of a regulatory framework for private voluntary supplementary pensions is**

**important** to supplement those from the Pension Insurance Scheme. Such a scheme could be organized on a defined-contribution basis and would need to be regulated and supervised by the Financial Regulatory Commission. At the same time, a strengthened regulatory and supervisory framework is needed for all pensions.

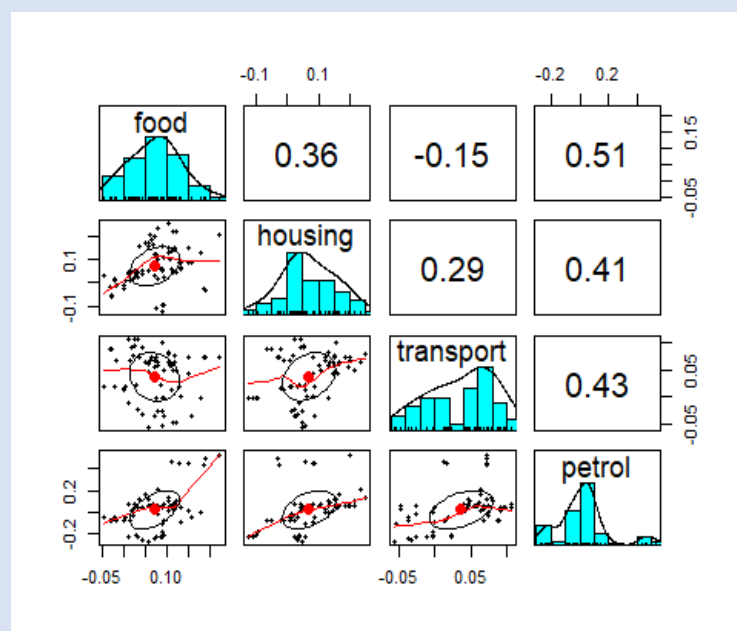
## ANNEX

### Box A.1. Preliminary impact assessment of petrol price changes on food, housing, and transport prices

Mongolia produces limited quantities of oil, but it imports all petroleum products from abroad because of the lack of a refinery plant. Recently, COVID-19 related border frictions combined with adverse effects of the war in Ukraine led to substantial increases in the prices of petroleum products. Therefore, the main goals of this box are to (i) investigate the effect of petroleum price increases on the prices of major items in the consumption basket, including food, housing, and transport; (ii) calculate respective pass-throughs on headline inflation; (iii) check whether the traditional methods might be underestimating the effect of extreme prices movements (esp. the ones caused by the war).

The figure below indicates that petrol prices have relatively high and positive [Pearson type] correlations with food, housing, and transport prices.

Figure A.1. Scatterplots, histograms, and Pearson correlations



Source: World Bank staff estimates.

Moreover, the left-bottom scatterplots suggest a nonlinear relation between food prices and petrol. In fact, the data indicate positive and statistically significant rank correlation between the two indicators (e.g., Spearman rho = 0.4362, with a p-value = 0.0001).

A histogram on the bottom-right of the figure also suggests that petrol prices tend to exhibit heavy-tail phenomena with extreme price fluctuations. In fact, descriptive statistics suggest that annual changes in petrol prices fluctuate in a wide range [-27.75, 53.33] percent. Therefore, to properly quantify the effect of large price movements, we utilise the Generalized Pareto Distribution (GPD) which is commonly used in statistical analysis of extreme and rare events.

$$F(x) = 1 - \left[ 1 + \xi \frac{x - \mu}{\sigma} \right]^{-1/\xi}$$

where  $u$  is the threshold to capture extreme observations;  $\sigma > 0$  and  $\xi \in R$  are the scale and shape parameters of GPD. We also assume that the scale parameter is dependent on changes in petrol prices.

$$\sigma = g(\Delta P_{petrol}) = \beta_0 + \beta_1 \Delta P_{petrol}$$

We compare marginal effects of the GPD model with estimates provided by traditional methods, including Ordinary Least Squares (OLS) and Seemingly Unrelated Regressions (SUR).

Estimation results					
	OLS		SUR		GPD
Food	1.19	***	1.43	***	8.43 *
Housing	2.06	***	2.06	***	NA
Transport	1.09	***	1.09	***	NA

Note: \*\*\* - p.value <=0.001; \* - p.value <=0.1

The Table shows that a 10 percent increase in petrol prices leads to 1.19 (OLS) and 1.43 (SUR) percent increase in food items. However, if extreme fluctuations are properly taken into account, the effect on food prices can be as high as 8.23 percent.

Changes in housing and transport prices do not exhibit heavy-tail phenomena (NAs in the Table). Therefore, we utilized the SUR estimates to calculate the final effect on headline inflation for these items of the consumption basket. As a result, the pass-through of a 10 percent increase in petrol prices on headline inflation is 0.61 percent under the linear model, and 2.35 percent under the GPD model.

Source: World Bank staff estimation.

#### Box A.2. Characteristics of Government Managed National Provident Funds

There is considerable variation in the design and parameters of Government-managed national provident funds though they do tend to share the following characteristics:

1. They are mandatory, contributory funds that centralize collections, account management, fund management and disbursement.
2. They have a defined-contribution design.
3. They are fully-funded.
4. They have centrally-managed investment management, even though they may contract with 3rd party investment managers. Many provident funds are heavily invested in government debt.

The following characteristics of many government sponsored provident funds:

1. Many provident funds do not mark-to-market some or all of assets held. Capital gains may be held in reserve accounts so that there is a loose relationship between administered returns and the market-based returns on assets under management. The smoothing of returns between years can be employed as a means of avoiding negative returns.
2. There are different forms of payouts including lump sums and phased withdrawals.
3. Provident funds may focus resources on national development objectives though this may conflict with maximizing risk-adjusted returns.
4. They may provide for savings needs beyond retirement such as for financing home purchases or education although these savings objectives may compete with those of financing retirement.

Source: Richard Jackson and Evan Inglis, 2020. Asian Provident Funds: Meeting Tomorrow's Challenges, World Bank.

Table A.II.1. Parameters of Mongolia's pension insurance scheme

	Defined-Benefit (DB) Scheme (pre-1979 Cohorts)	Notional Defined Contribution (NDC) Scheme
Old age insurance	Law on Social Insurance and Law on Pensions and Benefits Provided by the Fund of Social Insurance 1994 (as amended).	Individual Pension Insurance Contribution Accounts Law of 1999.
Applicability	All contract employees born before Jan. 1, 1979.	All contract employees born after Jan. 1, 1979. <sup>53</sup>
Contribution rate	17 percent of wages (8.5 percent employer and 8.5 percent employee) for workers with labor contracts and 13.5 percent of wages for the voluntary scheme.	Same.
Minimum wage subject to contribution	National Minimum Wage (revised periodically).	Same.
Maximum covered wage	10 times the minimum wage.	None.
Benefits - Accrual rate	45 percent for the first 20-25 years of eligible service (according to transition) + 1.5 percent/year for each year of eligible service after that.	Based on the Notional Account balance and annuity factor.
Wage base for benefit determination	Best wages for seven consecutive years of all service years wages. There is no automatic indexation or "valorization" of the wage base. Valorization is on an ad-hoc basis.	Not applicable.
Minimum Pension	Provided to retirees meeting vesting requirement (20-25 years of qualified service) for a full pension. Benefit is at least 75 percent of the minimum wage, adjusted on an ad hoc basis.	20 percent of the national average wage, + 0.5 percent of the average wage for each additional year beyond the minimum of 15 years of contributory service.
Partial Pension	Partial pension available after 10 to 20 years of eligible service. Benefit level should be at least 50 percent of the minimum wage, adjusted on an ad hoc basis.	Not applicable.
Indexation	On an ad-hoc basis. Law states that pensions should be increased in "relation to changes in the cost of living."	"in direct relation to the inflation rate" as determined by the Social Insurance National Council based on the suggestion of the National Statistics Office.
Taxation of benefits	Contributions and benefits are tax exempt.	Contributions, accumulations, and benefits are all tax exempt.
<b>Qualifying Conditions</b>		
Vesting requirements	<ul style="list-style-type: none"> <li>at least 20 years with full pension and full minimum pension (rising to 25 years at a rate of three months/year as legislated in 2018).</li> <li>10 to 20 years for partial pension and partial minimum pension.</li> </ul>	<ul style="list-style-type: none"> <li>15 years of service and contributions.</li> </ul>
Retirement age (no benefit reduction for early retirement)	<ul style="list-style-type: none"> <li>60 for men and 55 for women, not subject to special early retirement rules.<sup>54</sup></li> <li>55 for men w/at least 20 years of service, at least 12 o/w in hazardous conditions.</li> <li>50 for women w/ at least 20 years of service, at least 10 o/w hazardous conditions.</li> <li>50 for men with at least 20 years of service, at least 10 o/w underground or in high heat.</li> <li>45 for women with at least 20 years of service, at least seven o/w underground or high heat.</li> <li>50 for women who have brought up four or more children.</li> <li>55 for qualifying herder men and 50 for qualifying herder women, beginning in 2018.</li> </ul>	

Source: Social Insurance laws currently in effect.

<sup>53</sup> The law specifies that cohorts born between 1960 and 1979 have two calculations, one for the Pay-As-You-Go (PAYG) DB scheme and one for the NDC scheme for which the retiree receives the better of the calculation according to each. However, the PAYG DB benefits are sufficiently greater than the NDC calculation, therefore, in effect, it is not applicable.

<sup>54</sup> The retirement age increases to age 65 for those retirees who do not meet the vesting requirements which increase from 20 to 25 years by three months each year beginning in 2018.

Table A.II.2. Establishment, parameters, and reversals of FDC schemes in Central and Eastern Europe

	Public Pension Scheme (PAYG)	Enact. Date	Initial Cont.	Who Participates	Revision or Reversals
Hungary	DB	1998	6%-8%	Mandatory for new entrants, voluntary for all employed	<b>Permanent reversal.</b> Contributions to FDC eliminated (2011).
Poland	NDC	1999	7.3%	Mandatory for new entrants and workers < 30; voluntary for 30-50	<b>Permanent reduction and partial reversal.</b> 7.3% CR => 2.3% CR (5/2011) => 2.9% CR (2/2014). Assets in govt. bonds transferred to PAYG scheme (2014); 2019 govt. announced that FDC scheme would be eliminated, and assets transferred to PAYG or NDC scheme.
Latvia	NDC (1998)	2001	2%-8%	Mandatory for new entrants and workers < 30; voluntary for 30-50	<b>Partial reduction.</b> 8% CR => 2% CR (5/2009) => 4% CR (2013)
Bulgaria	DB	2002	2%-5%	Mandatory for all workers < 42.	
Croatia	Points	2002	5%	Mandatory for new entrants and workers < 40; voluntary for 40-50	
Estonia	DB	2002	6%	Mandatory for new entrants; voluntary for 19-60	<b>Temp. reduction w/off-set.</b> 6% CR shifted to PAYG scheme (6/2009-1/2009). CR 3% (1/2011), 6% (1/2012). 2014-2017 CR 8% to offset missed contributions.
Lithuania	DB	2004	2.5%-5.5%	Voluntary for current and new workers but no opt-out.	<b>Partial reduction.</b> 5.5% CR => 2% CR (7/2009) => 1.5% CR (1/2012) => 2.5% (2013) => 3% (2014), voluntary participation; additional CR 2% 2016-2019.
Slovakia	Points	2005	9%	Mandatory for those born after 1983; voluntary for those in Social Insurance before 2005	<b>Permanent reduction.</b> 9% CR => 4% CR (2013). Since 2017, schedule of gradual increase to 6% CR (2024). FDC opt-out and opt-in system since 2009 (window every 2 years). New workers voluntary membership in funded component to age 35.
Romania	DB	2008	2%-3%	Mandatory for new entrants and workers < 35; voluntary for 36-45	<b>Temporary reduction.</b> Reduction in growth path of CR from 2% to 6%. Increase (2% to 5%) from 2010-2015. 2016 and 2018 CR 5.1%; CR 3.75% 2019 and made voluntary. From 2020 CR increased to 5%.

Source: Bielawska et al. (2017) and Schwarz et al. (2014).

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Address: Floor 5, MCS Plaza, 4 Seoul Street, 14250 Ulaanbaatar, Mongolia  
Tel: +(976)7007 8200 • Web: [www.worldbank.org/mongolia](http://www.worldbank.org/mongolia)  
Facebook: World Bank Mongolia