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MONGOLIA ECONOMIC UPDATE

Partial Recovery and Lingering Risk

Special Topic - Labor Market Challenges
and a Jobs Strategy
for Mongolia

April, 2023

MONGOLIA ECONOMIC UPDATE

Partial Recovery and Lingering Risks

April 2023

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ABBREVIATIONS

ALMP	Active Labor Market Program
AQR	Asset Quality Review
BOM	Bank of Mongolia
CMP	Child Money Program
CPI	Consumer Price Index
DBM	Development Bank of Mongolia
EAP	East Asia and Pacific region
EMDE	emerging markets and developing economies
ES	Executive Summary
ETT	Erdenes Tavan Tolgoi
FDI	foreign direct investment
FED	U.S. Federal Reserve
FHF	Future Heritage Fund
FSP	Food Stamp Program
GDP	gross domestic product
HEI	higher education institution
HSES	Household Socio-Economic Survey
LATE	Local Average Treatment Effect Estimation
LFP/LFPR	Labor Force Participation Rate
MEU	Mongolia Economic Update
MNT	Mongolian tugrug
MOF	Ministry of Finance, Mongolia
NSO	National Statistics Office, Mongolia
OT	Oyu Tolgoi
RDD	Regression Discontinuity Design
SOE	state-owned enterprise
TVET	Technical and Vocational Education and Training
y-o-y	year-over-year

ACKNOWLEDGEMENTS

The findings, interpretations, and conclusions expressed in this update are those of 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 contents of this publication, please contact Jose Luis Diaz Sanchez (jdiazsanchez@worldbank.org). The cutoff date for this edition of the MEU is March 31, 2023.

EXECUTIVE SUMMARY

Chapter I: Economic Development and Outlook

Recent Economic Developments

Despite global financial tightening, high oil and food prices, and border restrictions with China in the first half of the year, the Mongolian economy recovered in 2022. Economic growth is estimated at 4.7 percent in 2022 (up from 1.6 percent in 2021), with real GDP surpassing its pre-pandemic level (figure ES.1). Nevertheless, it is yet to fully heal from the COVID-19 shock, as economic activity remains below its pre-pandemic trajectory, that is, its expected level of activity in the absence of the pandemic (figure ES.2).

Economic growth was driven by a rapid recovery in exports and robust consumption, while private investment remained subdued. After being dragged down by border restrictions with China in H1 2022, exports (particularly coal) surged in H2 2022 as these restrictions eased. Meanwhile, consumption remained robust due to higher household income and to consumers drawing on savings built during the pandemic. The higher cost of inputs, together with banks' limited risk tolerance and a decrease in foreign direct investment (FDI), explain the slowdown in private investment. In line with the economic recovery and large public investment projects, import demand remained elevated despite high import prices and transportation costs.

From the supply side, growth is explained by the increased number of livestock and a rebound in services, while overall mining sector output contracted, despite higher coal production. Agriculture sector growth reached a seven-year high, supported by favorable weather conditions. Increased livestock slaughter in anticipation of a harsher 2023 winter boosted both agricultural and manufacturing growth (through meat production). A rebound in services was associated with the easing of pandemic-related restrictions. The weak performance in the mining sector was driven by lower gold and copper content extracted from the concentrates mined at the Oyu Tolgoi (OT) mine, leading to reduced mining value added compared to 2021. In contrast, coal mining production increased amid easing border restrictions, catching up partially with its pre-COVID-19 levels.

The economic rebound resulted in robust employment growth and a low unemployment rate, but labor force participation remains below its pre-pandemic level. The reopening of the economy resulted in an expansion of employment and the lowest unemployment rate since mid-2000, despite a gradual withdrawal of the 2021 subsidized lending program to support firms in retaining their employees. The labor force participation rate improved slightly from 2021 but remained below its pre-pandemic level.

Supply bottlenecks and pressures on the prices of imported energy and food, together with a significant exchange rate depreciation, resulted in high inflation rates. The headline inflation rate recorded an average of 15.2 percent in 2022. Increases in import prices such as oil and food (especially during H1 2022) due to supply disruptions caused by Russia's invasion of Ukraine and

the prolonged border disruptions with China, together with a significant weakening of the exchange rate drove domestic price increases, since about half of the consumer basket consists of imported goods (figure ES.3). While the growth of import prices started to moderate in H2 2022, increases in production costs were accentuated during that period, slowing the decrease in inflation rates. In addition, sustained government spending and a strong recovery in private consumption have been pushing up consumer prices from the demand side.

Banks remained cautious despite improving economic prospects. Credit growth decelerated sharply in 2022, as the government's subsidized credit programs were rolled back. Banks were also prudent ahead of the Asset Quality Review (AQR) conducted before the banks' mandatory initial public offering process and undertook some balance sheet adjustments immediately following the AQR results. The lack of significant improvement in nonperforming loans continues to limit bank lending especially to risky sectors, with banks mainly focusing on less risky loans including retail loans backed by salaries, pensions, and deposits.

Faced with rapidly rising prices and inflation expectations, as well as widening external imbalances, the central bank hiked its policy rate to a seven-year high and adjusted its macroprudential ratios. The policy interest rate was raised five times by a total of 700 basis points to reach 13 percent in December 2022; however, the impact of the policy tightening on domestic demand was weakened by distortions associated with the government's ongoing subsidized loan programs. At the same time, the reserve requirements on foreign currency liabilities were lowered, which, together with the

policy tightening, supported capital inflows and the exchange rate.

Despite persistently high fiscal expenditures, public finances slightly improved owing to a strong rebound in revenue performance (figure ES.4). Budget revenue collection improved in 2022, reflecting the overall economic and labor market recovery and strong international trade-related revenues (figure ES.5). In contrast, fiscal expenditures slightly decreased (in percent of GDP), but they remained substantially higher compared to pre-pandemic levels (figure ES.6). Increases in investment, pensions, salaries, and large spending on the Child Money Program (2.8 percent of GDP in 2022) explain these persistently high expenditure levels. Public debt remains elevated, despite a slight decline in 2022 (in percent of GDP), with large fiscal risks, particularly contingent liabilities related to the Development Bank of Mongolia (DBM)s' fragile financial situation and offtake coal contracts of Erdenes Tavan Tolgoi (a state-owned coal mine) with Chinese state companies.

Rising demand for imports, together with higher import prices, led to a large external imbalance in 2022 despite a significant increase in exports. Owing to elevated commodity prices and the rapid recovery in coal exports associated with the easing of border restrictions, export revenues rose in 2022 (figure ES.7). However, higher exports were more than offset by a larger import bill resulting from elevated prices of imported food and energy due to Russia's invasion of Ukraine, increased cost of transportation amid border restrictions, substantive increases in the demand for imports associated with rising household income, and higher imports of investment goods

linked to public investment projects, including those of state-owned enterprises.

An expanding current account deficit, low capital inflows, and sizable interventions by the central bank to avoid a sharper depreciation led to a loss in foreign reserves. Gross international reserves fell to US$3.4 billion (3.1 months of import coverage) by end-2022 (figure ES.8).

Economic Outlook

In 2023, economic growth is expected to accelerate to 5.2 percent, driven by a rapid recovery in mining production resulting from the removal of border restrictions and the commencement of the OT underground mining stage, and by the continued services sector recovery from the pandemic. From the demand side, higher exports (linked to China's economic rebound), sustained household consumption (on the back of continuous improvements in the labor market), and large public investment (through the budget and quasi-fiscal activities) are expected to support growth (table ES.1). With the rapid recovery in domestic demand, inflation is likely to remain elevated throughout 2023 (an average of 9.5 percent), despite some easing in external and supply-related pressures. Notwithstanding robust government expenditures, solid mining revenue would contain fiscal imbalances in 2023 (with a fiscal deficit of 1.2 percent of GDP expected this year). The balance-of-payments pressure is expected to remain significant, with sustained import growth and sizable external bond payments due.

The medium-term growth outlook remains favorable, with substantial improvements expected in mining output, but the need for further economic diversification persists. The economy is expected to continue to benefit from OT investment in the development of its underground project. With production expected to more than double between 2023 and 2025, the mine would progressively increase government revenues, reduce balance-of-payments pressures, and boost foreign reserves. Nevertheless, the persistent focus on mining activities has led to a loss of competitiveness in non-resource tradable sectors, which are typically a source of productivity growth, and increased vulnerability to commodity price shocks. Also, the macroeconomic volatility emanating from mining price fluctuations (and amplified by often procyclical policies), has discouraged the sustained investment needed for productivity growth.

Risks to the outlook are tilted to the downside. Downside risks include further deterioration of the external and fiscal balances and additional inflationary pressures resulting from a protracted Russia's invasion of Ukraine, a larger-than-expected tightening of monetary policy in advanced economies, risks associated with sizable government contingent liabilities (including those related to DBM), and uncertainty related to existing large (and confidential) offtake coal export agreements. Most recently, the banking sector difficulties in advanced economies could heighten the risk aversion of investors and lead to further tightening of global financial conditions, thereby hindering Mongolia's ability to attract capital while raising financing costs.

This context emphasizes the importance of fiscal discipline and reforms to enhance

governance to build macro-fiscal resilience and improve fiscal sustainability. Exchange rate flexibility, project prioritization, and boosting export revenues and capital inflows are key to rebuilding Mongolia's foreign exchange reserves and easing balance-of-

payments pressure. In the medium term, the effectiveness of government reform policies on diversification will be critical in ensuring growth sustainability and resilience to domestic, external, and climate shocks.

Chapter II: Labor Market Challenges and a Jobs Strategy for Mongolia

Job creation is fundamental to support the ongoing economic recovery (after the large employment shock experienced during the pandemic), but also for more sustained economic development. The government has produced a long-term development framework, Mongolia Vision 2050, and more recently a blueprint for economic recovery and diversification in the New Recovery Policy. Employment should be a key consideration in implementing these plans, as the capacity to create good jobs and promote a productive labor force are essential to improving the living standards and eradicating poverty. Indeed, a more dynamic labor market will lead to higher productivity and to a more diversified and sustainable economy, as more productive jobs replace less productive ones.

In Chapter 2, we present a jobs strategy to address major labor market challenges in Mongolia. Mongolia faces two main labor market challenges: (i) to create more and better jobs that are also more diversified across sectors than in the recent past (figure ES.9); and (ii) to develop a more inclusive labor market where more women, youth, and urban residents are encouraged to participate in the workforce (figure ES.10). To address these labor market challenges, the chapter proposes a multidimensional jobs strategy from three different perspectives:

(i)   *Labor demand:* Make labor demand more dynamic by strengthening macroeconomic and fiscal management, creating a more favorable business environment, and diversifying exports beyond the resource sector

(ii)   *Labor supply:* Upgrade the workforce by improving the quality and relevance of the education and skills and enabling social assistance beneficiaries to work

(iii) *Labor market functioning:* Improve labor market functioning by building a comprehensive labor market information system, transforming active labor market programs into effective employment, and reforming unemployment insurance to better protect workers.

Figure ES.1. Real GDP in Mongolia reached its pre-pandemic level in 2022, in line with most East Asia and Pacific countries

Local currency real GDP, index 2019 = 100
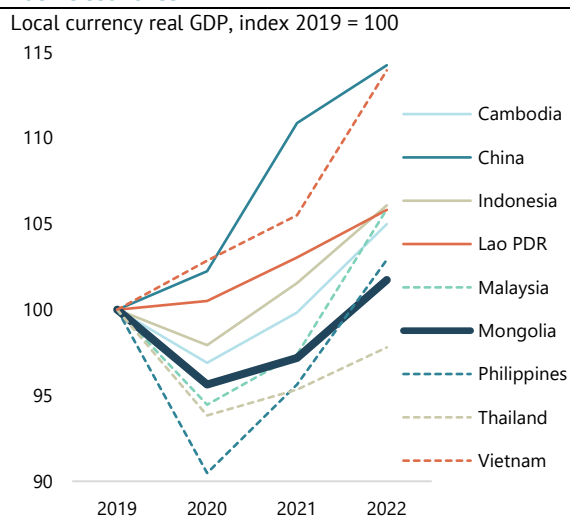
Source: World Bank.

Figure ES.2. However, output is yet to catch up to its pre-pandemic trend

Real GDP of Mongolia, constant prices
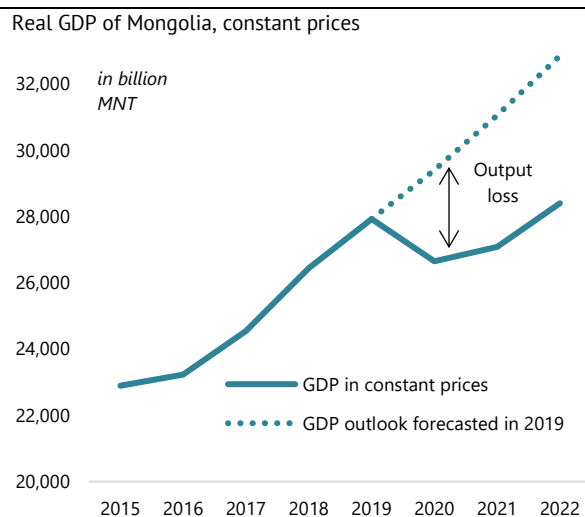
Sources: NSO and World Bank staff estimates.

Figure ES.3. Inflation accelerated in H1 2022, driven by the rising prices of imported goods

Headline inflation and contributions, percent
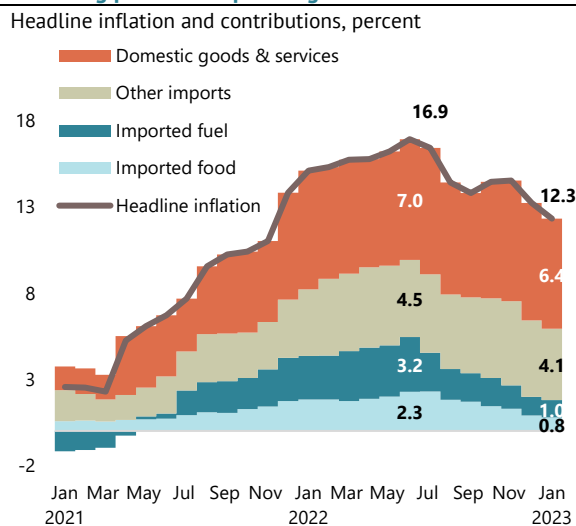
Source: NSO.

Figure ES.4. A small fiscal surplus was recorded in 2022

Budget balance indicators, percent of GDP
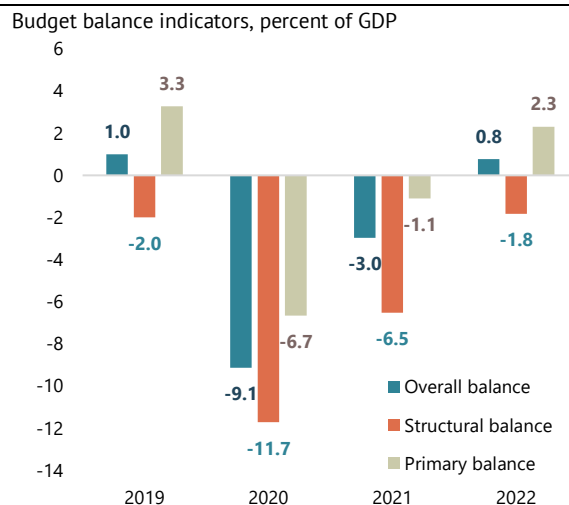
Source: Ministry of Finance and World Bank staff estimates.

Figure ES.5. Budget revenue (including taxes) was robust in 2022

Budget revenue, percent of GDP
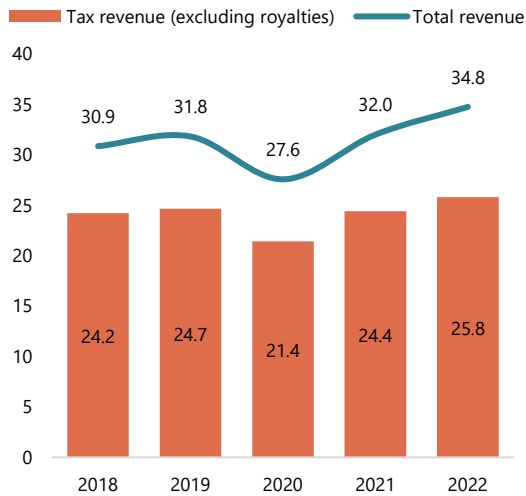
Sources: MoF; World Bank staff estimates.

Figure ES.6. Expenditure remained significantly higher than pre-pandemic levels

Budget expenditure indicators, percent of GDP
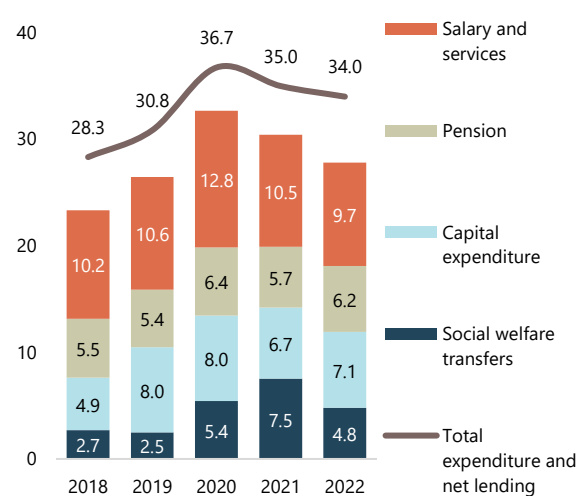
Sources: MoF; World Bank staff estimates.

Figure ES.7. External imbalances keep widening

Current account and its components, percent of GDP
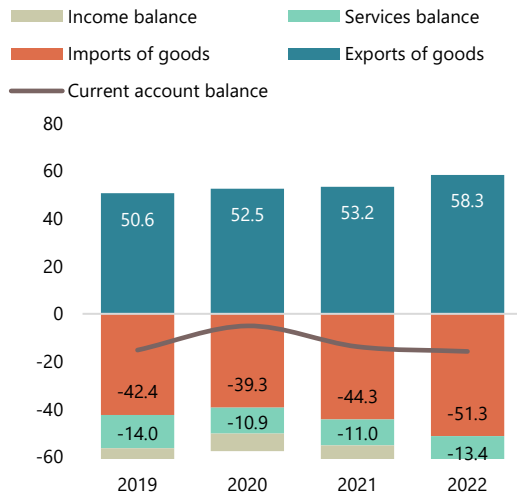
Source: BoM.

Figure ES.8. Reserves declined due to widening imbalances and sizable Bank of Mongolia interventions

Capital inflows, BOM FX intervention, and gross international reserves of BOM, US$ million
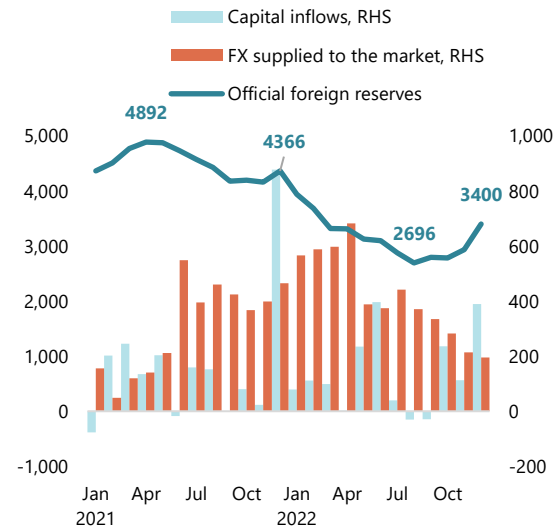
Source: BoM.
Note: FX = foreign exchange; RHS = right-hand scale.

Figure ES.9. Labor has mostly moved from agriculture to lower productivity services sectors

Average value added per worker and share of employment in three decades, by sector
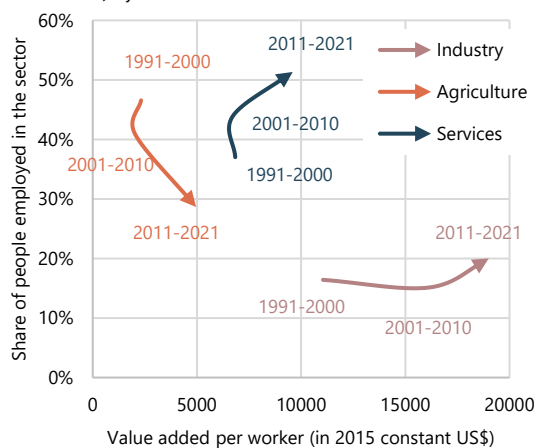
Sources: UNdata; NSO; World Bank staff estimates. Updated version of figure 3.9 in World Bank (2020).

Figure ES.10. Labor force participation of women declined rapidly in the past decade

Labor force participation rate (LFPR), by gender
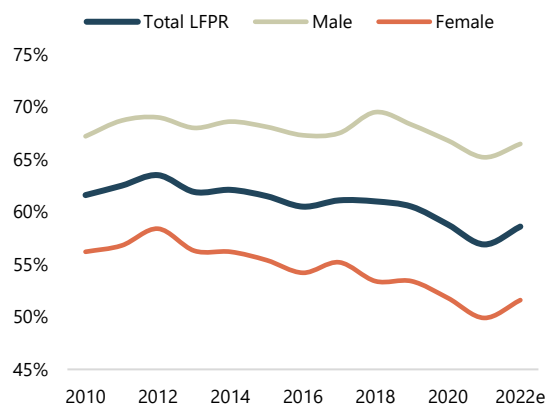
Sources: NSO; World Bank staff estimates.

Table ES.1. Key macroeconomic indicators

	2021	2022	2023f	2024f	2025f
Real GDP Growth, at constant market prices	**1.6**	**4.7**	**5.2**	**6.3**	**6.8**
Private Consumption	-5.9	7.4	7.0	6.6	6.1
Government Consumption	9.2	5.4	11.5	14.7	8.1
Gross Fixed Capital Formation	17.7	0.3	18.0	7.0	0.0
Exports, Goods and Services	-14.6	31.3	14.1	15.2	15.6
Imports, Goods and Services	13.6	30.5	5.0	11.5	10.7
Real GDP Growth, at constant factor prices	**0.4**	**3.9**	**5.2**	**6.3**	**6.8**
Agriculture	-5.5	12.0	0.9	5.5	5.5
Industry (including mining)	-2.2	-2.8	7.7	9.0	10.6
Services	3.9	5.5	5.2	5.1	5.1
Inflation (CPI, period average)	**7.1**	**15.2**	**9.5**	**6.8**	**6.0**
Current Account Balance (% of GDP)	**-13.4**	**-15.8**	**-14.4**	**-9.8**	**-5.6**
Fiscal Balance (% of GDP)	**-3.0**	**0.8**	**-1.2**	**-0.5**	**0.3**
Debt (% of GDP)	**64.5**	**63.8**	**60.8**	**58.5**	**56.0**

Source: World Bank staff estimates.
Note: Public debt does not include contingent liabilities or the BoM's liability under the People's Bank of China swap line (11 percent of GDP in 2022).

1 RECENT ECONOMIC DEVELOPMENTS AND OUTLOOK

32,856.6

31,055.4

29,408.5

Output loss

28,404.5

27,928.3

27,091.7

26,655.4

26,446.7

24,545.6

23,235.9

22,894.8

2015
2016
2017
2018
2019
2020
2021
2022

GDP in constant prices

GDP outlook forecasted in 2019
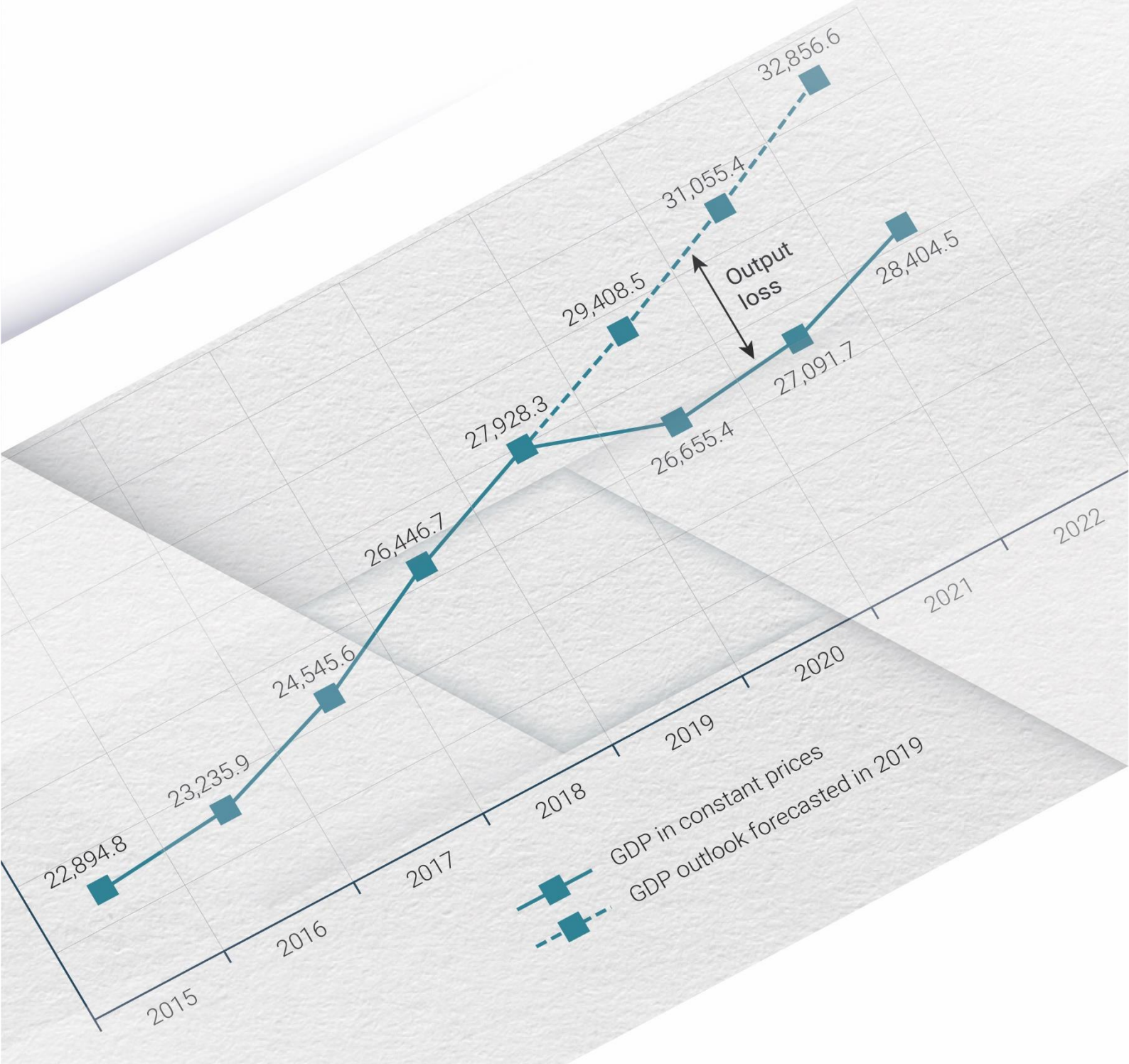
Chapter I: Recent Economic Developments and Outlook

1. Recent Economic Developments

1.1. Robust but incomplete economic recovery

Despite global financial tightening, high oil and food prices, and border restrictions with China, the Mongolian economy recovered in 2022. Economic growth is estimated to have reached 4.7 percent in 2022 (up from 1.6 percent in 2021), with real GDP surpassing its pre-pandemic level,

as in most other East Asia and Pacific (EAP) countries (figure I.1).[1] However, it is yet to fully heal from the COVID-19 shock, as economic activity remains below its pre-pandemic trajectory, that is, expected level of activity in the absence of the pandemic (figure I.2).

Figure I.1. Real GDP in Mongolia reached its pre-pandemic level in 2022, in line with most EAP countries

Local currency real GDP, index 2019 = 100
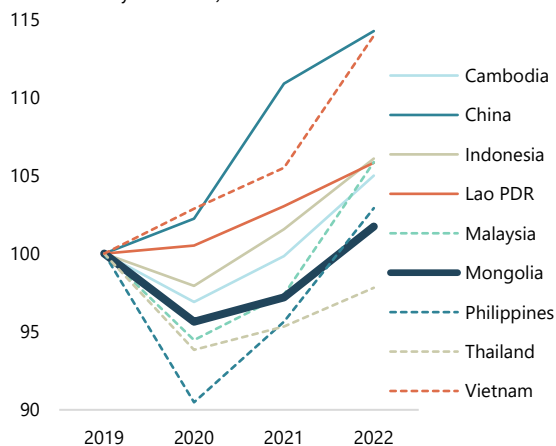
Source: World Bank.

Figure I.2. However, output is yet to catch up to its pre-pandemic trend

Real GDP of Mongolia, constant prices
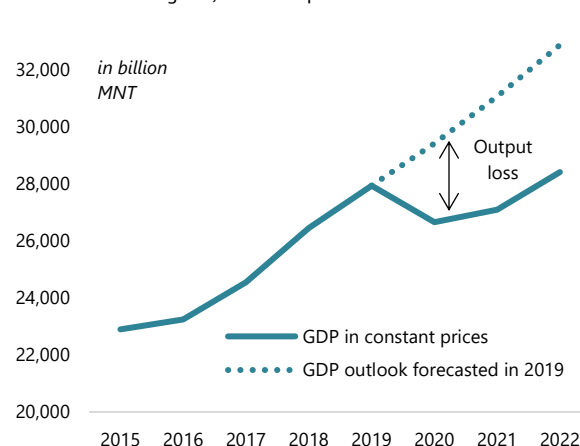
Sources: NSO and World Bank staff estimates.

On the demand side, economic growth was driven by a rapid recovery in exports and robust consumption (figure I.3). After being dragged down by border restrictions with China in H1 2022, exports (particularly coal) surged in the second half of the year (especially in Q4 2022) as these restrictions eased. Meanwhile, private consumption remained robust throughout the year principally due to an increase in household

income following the recovery in labor market conditions (which raised real wages), sustained social assistance, a discretionary rise in pensions, and household savings built during the pandemic. Public consumption also rose, especially in Q4 2022.[2] Driven by the domestic demand recovery, demand for imported goods, especially durable goods, also remained elevated throughout 2022, in line with the economic

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[1] Growth was higher than widely expected. Indeed, forecasts produced in early 2022 by the government, Bank of Mongolia, and key International Financial Institutions (including the World Bank) showed economic growth between 1 and 3 percent, assuming that the border restrictions that crippled the mining sector would not be resolved in 2022.

[2] Public sector wages increased, reflecting the introduction of a performance-based wage system in the health sector.

recovery and large public investment projects, despite high imported prices and transportation costs. In addition, inventories in 2022 were mainly supported by higher birth of livestock, while coal inventories, which accumulated from H2 2021 to H1 2022 due to border restrictions, were drawn down.

Investment remained subdued. Despite increased public capital expenditures and off-budget investment by state-owned enterprises (SOEs) (see Section 1.3), gross fixed capital formation

did not contribute to economic growth in 2022 due to lower private investment. The higher cost of inputs, together with banks' limited risk tolerance and a decrease in foreign direct investment (FDI), mainly explains the slowdown in private investment, while monetary tightening may have played only a minor role (see Section 1.2). The demand for imported goods, especially durable goods, remained elevated throughout 2022, in line with the economic recovery and large public investment projects, despite high import prices and transportation costs.

Figure I.3. Growth was mainly driven by a recovery in exports, robust consumption, and buildup of inventories ...

Demand-side contribution to GDP growth (percentage points)
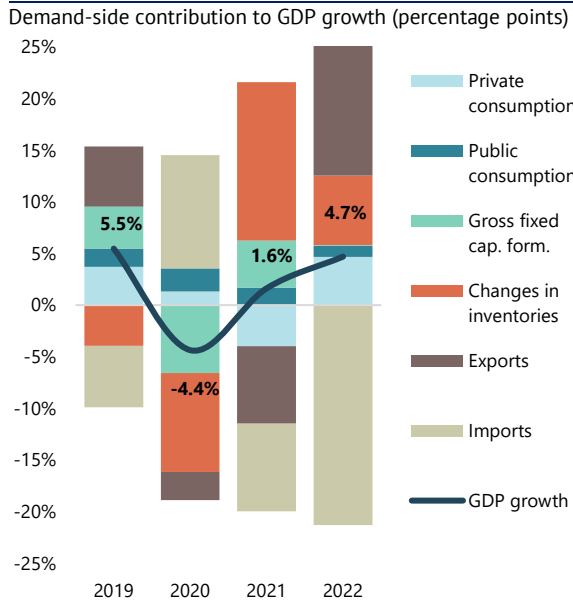
Source: NSO.

Figure I.4. ... and it was robust in most sectors, except mining

Supply-side contribution to GDP growth (percentage points)
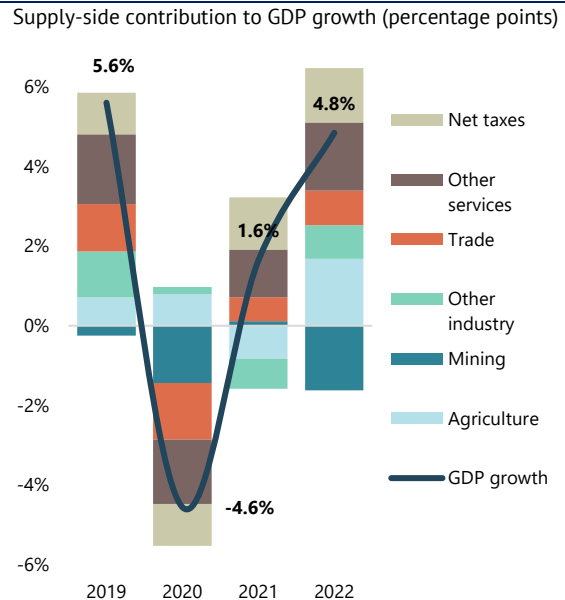
Source: NSO.

On the production side, the increased number of livestock, higher meat production, and, to a lesser extent, a rebound in services, explain the robust growth performance (figure I.4). Agriculture sector growth reached a seven-year high, as favorable weather conditions allowed both a higher number of offspring and a lower loss of livestock compared to 2021. Increased livestock slaughter in anticipation of a harsher 2023 winter boosted both agriculture and manufacturing growth (through meat

production). Meanwhile, following two consecutive years of decline, the construction sector slowly recovered, mainly owing to railway construction works for coal transportation. A rebound in services, particularly for hospitality, tourism, and entertainment, was associated with the easing of pandemic-related restrictions. However, financial intermediary services were impacted by weak lending and deposit activities in 2022 (see Section 1.2).

In contrast, mining sector production contracted, despite a rebound in coal production. The weak performance in the mining sector was mainly driven by lower gold and copper content extracted from the concentrates mined at the Oyu Tolgoi (OT) mine, leading to reduced mining value-added compared to 2021. However, coal mining production increased by 22 percent in 2022, catching up with its pre-COVID-19 levels, despite a sharp slowdown in the first half of the year due to the border restrictions.[3] Other minerals such as crude oil and iron ore contracted due to mishaps between local residents and foreign crude oil miners, and to reduced logistic capacity (mainly due to the high volume of imports and coal exports).

The rebound in economic activity resulted in robust employment growth and a low unemployment rate, but labor force participation remains below its pre-pandemic level. The reopening of the economy led to an expansion of employment by 5.0 percent in 2022, with a substantial improvement in manufacturing, transportation, and public services (figure I.5), and to a low unemployment rate (5.3 percent by end-2022, the lowest since the mid-2000s). This sound performance was achieved despite the withdrawal of the subsidized lending program to support firms in retaining employees established as part of the government's economic recovery package. Also, more fixed and short-term jobs were created than permanent ones.[4] The labor force participation rate (LFPR), however, remained below its pre-pandemic level (57.9 percent by end-2022 compared to 60.6 percent in 2019), and the large gender gap persisted (figure I.6).

Figure I.5. The reopening of the economy allowed a robust recovery in employment

Decomposition of change in employment by sectors
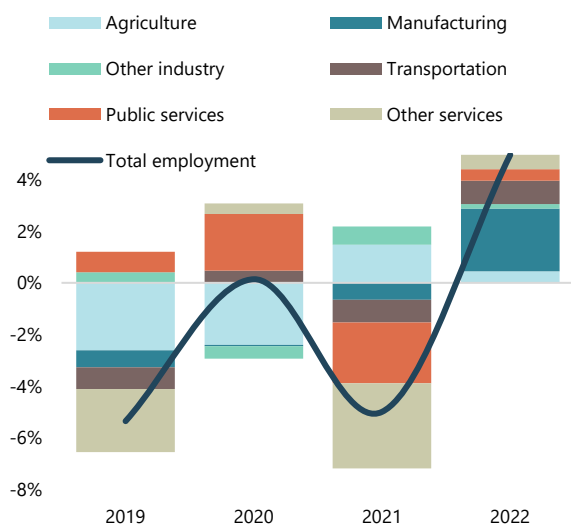
Figure I.6. However, labor force participation is yet to fully recover from the pandemic

Labor force participation rate (LFPR) by gender and unemployment rate
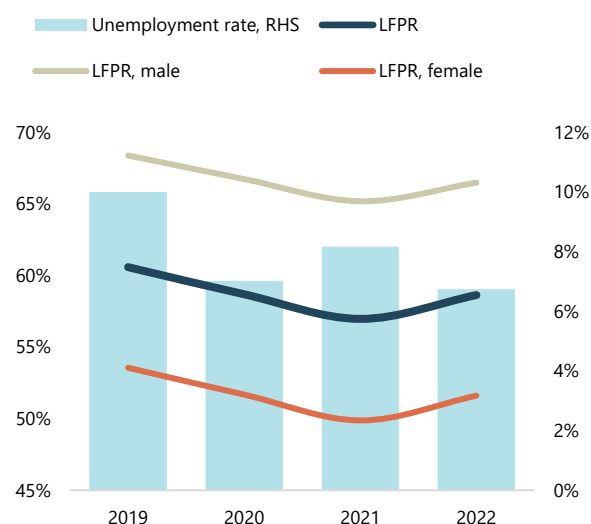
Source: NSO.

Source: NSO.

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[3] Coal mining production was limited by border restrictions starting in mid-2021. In terms of coal production and exports, 2021 was the worst-performing year since 2016.

[4] The percentage of employment contracts other than permanent (including fixed- and short-term contracts) expanded to 36.8 percent in 2022, up from 27.2 percent in 2021.

1.2. Inflation pressures remained significant while credit was timid

Supply bottlenecks and pressures on energy and imported food prices, together with a significant exchange rate depreciation, resulted in high inflation. The headline inflation rate recorded an average of 15.2 percent in 2022, accelerating from 7.1 percent in 2021 (figure I.7). Price increases were large and widespread across consumer goods, and higher than in most EAP countries (figure I.8).[5] Given that about half of the consumer basket consists of imported goods, inflation was mainly driven by higher import prices for oil and food (especially during H1 2022), which were compounded by a large exchange rate depreciation (see Section 1.4).[6]

Figure I.7. Inflation accelerated in H1 2022, driven by the rising prices of imported goods

Headline inflation and contributions, in percent
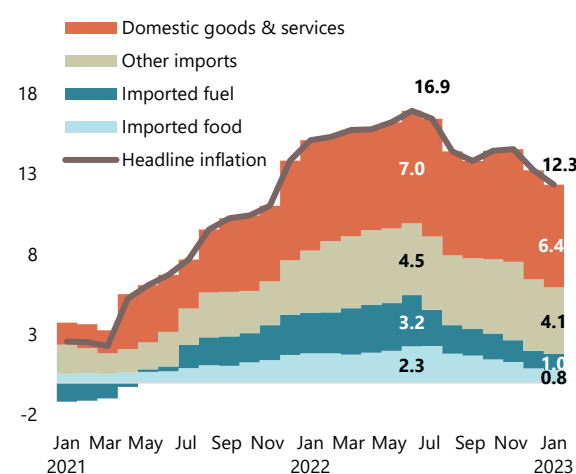
Source: NSO.

Figure I.8. In 2022, the inflation rate in Mongolia was higher than in most EAP countries

Inflation index for EAP countries (derived from national CPI indexes (2019=100)
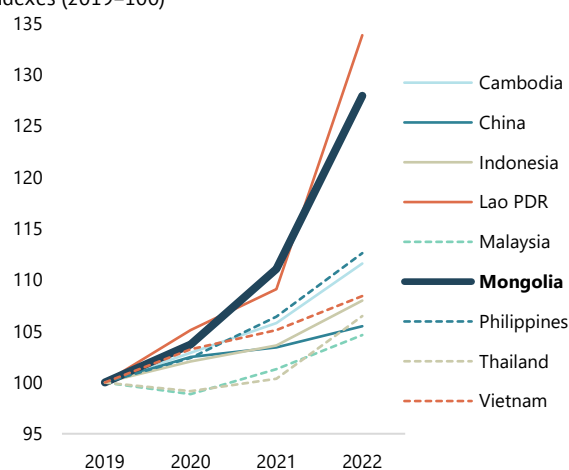
Source: World Bank.

Higher production costs and demand-driven inflationary pressures pushed up the prices of domestically produced goods and services. While the growth of import prices started to moderate in the H2 2022, increases in production costs persisted, keeping inflation elevated. Indeed, producer price increases exceeded 25 percent in 2022 in water supply, trade, and transportation (figure I.9). This translated into higher costs for end-consumer products, with the largest increases observed in food (including flour and flour-based goods), transportation, hospitality, and healthcare services (figure I.10). Sustained government spending and a strong recovery in private consumption (see Sections 1.3 and 1.1, respectively) also pushed up consumer prices from the demand side.

To respond to the rapidly rising prices and manage inflation expectations, as well as limit the widening external imbalances, the central bank hiked its policy rate to a seven-year high and adjusted its macroprudential ratios. The monetary policy rate, which had remained at a

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[5] Half of the consumer basket items recorded increases of at least 10 percent in 2022 (2 percentage points higher than the central bank's upper target on inflation rate), and more than one-third of the items recorded price increases of at least 20 percent.

[6] Approximately 46 percent of the consumer basket comprises imported goods, including food and fuel (World Bank staff estimates using 2020 as the reference year).

historical low of 6 percent throughout 2021, was raised five times by a total of 700 basis points to 13 percent in December 2022. However, the impact of the interest rate channel on domestic demand was weakened by distortions associated with the government's ongoing subsidized loan programs. Indeed, the passthrough of policy rate

changes to lending and time deposit rates were relatively limited during this period (figure I.11). Mixed with macroprudential measures that loosened the reserve requirement on foreign currency liabilities, the policy tightening supported capital inflows and the exchange rate (see also Section 1.4).

Figure I.9. Production cost increases were substantial in the water supply, trade, and transportation sectors ...

Production prices index, y-o-y increase
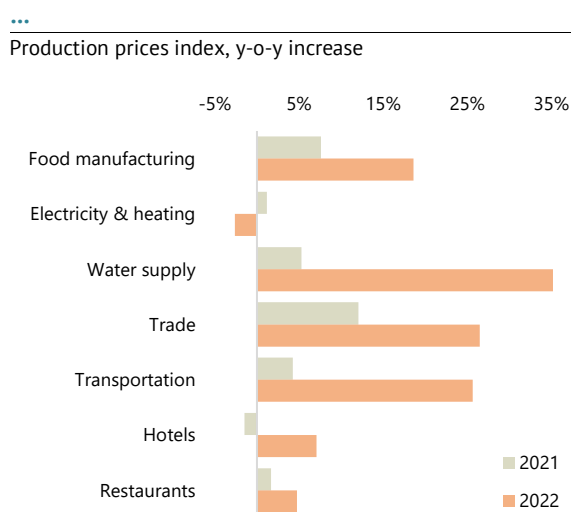
Source: NSO.

Figure I.10. ... which were transferred to final consumers through increased prices of domestically produced goods and services

Headline inflation and price increases in selected items
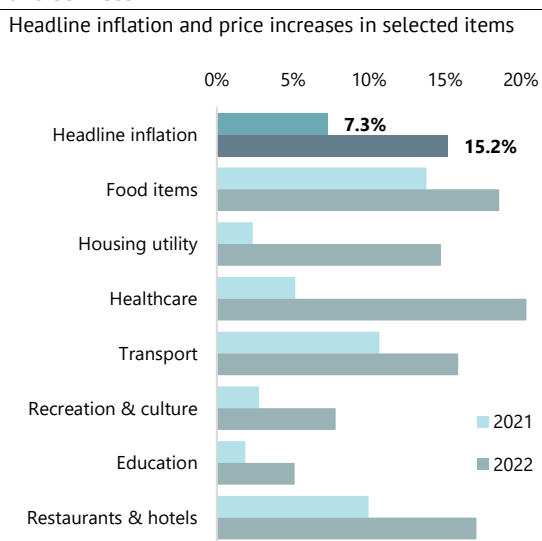
Source: NSO.

Banks remained cautious despite improving economic prospects.[7] Credit growth decelerated sharply in 2022 (from 21.3 percent in 2021 to 6.5 percent in 2022, implying negative growth in real terms) as the government's subsidized credit programs were rolled back (in particular, the subsidized loan program to protect jobs) (figure I.12). In addition, banks adopted a wait-and-see attitude, given the uncertainty regarding the continuation of government-subsidized lending programs and sectors to be supported.[8] They were also cautious ahead of the Asset Quality

Review (AQR) undertaken before the banks' mandatory initial public offering process and undertook some balance sheet adjustments immediately following the AQR (completed in July 2022).[9] In addition, the lack of significant improvement in nonperforming loans continues to limit bank lending to relatively risky sectors. Indeed, throughout 2022, banks mainly issued less risky loans including retail loans backed by salary, pension, and deposits (figure I.13). Low credit growth moved in tandem with a drop in savings. Indeed, households drew down their

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[7] Low credit growth, together with declining net foreign assets, explain the weak money creation from the asset side.

[8] These subsidized lending programs are "risk-free" for the banks, as the government provided a collateral guarantee and interest subsidies. While the bulk of the 2021 MNT 10 trillion subsidized lending program has been completed, significant lending to support the agriculture sector under the President's food security program is expected to commence in 2023.

[9] Banks' credit contracted by 1.2 percent (y-o-y) in Q3 2022, partly because of the limited issuance of subsidized loans and higher bank risk aversion as a result of the jump in nonperforming loans following the AQR.

savings accumulated during the pandemic for consumption purposes (figure I.14).[10] In addition, the negative real interest rates on savings and the temporary removal of interest accrued on

MNT demand deposit accounts (as part of the pandemic measures, see Annex 1) help explain the reduction in depositors' appetite to save.[11]

Figure I.11. Passthrough to lending rates was weaker

Interest rate on newly issued loans and deposits (flow) in local currency relative to the policy rate
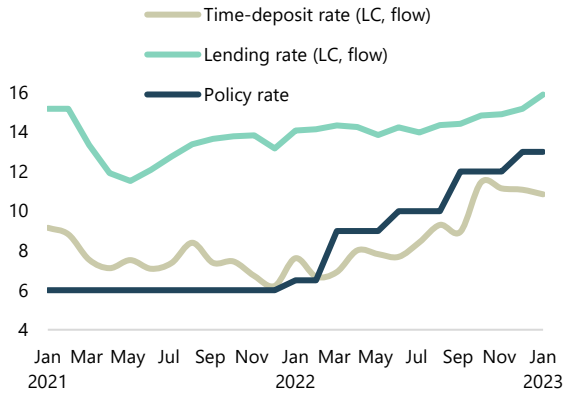
Source: BoM.
Note: Lending rate is a weighted average of discounted and non-discounted lending rates.

Figure I.12. Credit growth declined, as subsidized loans were scaled down and commercial loans were subdued

Growth of newly issued loans and contributions by type of loans
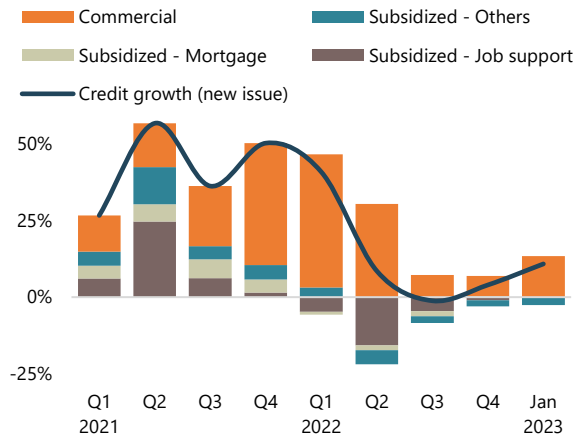
Source: BoM.
Note: The government's subsidized loans under the MNT 10 trillion program includes loans for agriculture, mortgage, repo financing, and employment support loans.

Figure I.13. Banks mainly issued less risky consumer loans

Growth of newly issued loans and contributions, by sector
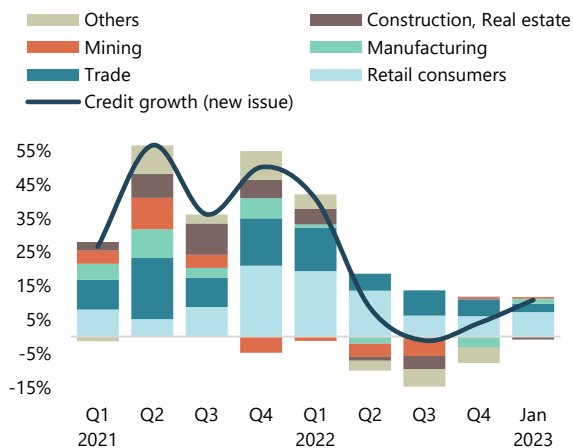
Source: BoM.

Figure I.14. Deposits remained weak

M2 money growth and contributions from the liability side
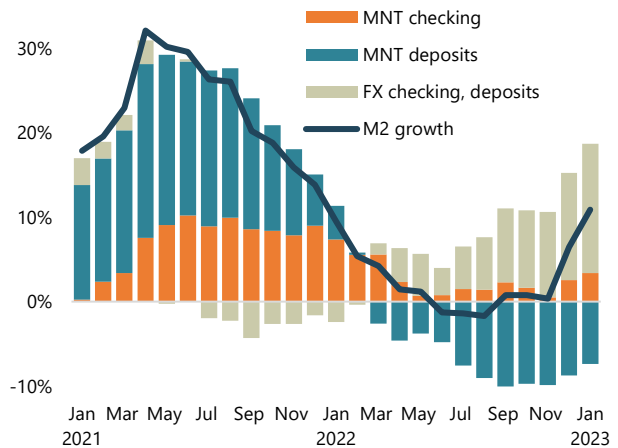
Source: BoM.
Note: M2 = broad money.

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[10] Foreign exchange current account balances and deposit account balances also increased, as households aimed to protect savings from the exchange rate depreciation.
[11] Per year interest rates on time deposits averaged 8.8 percent (mean of monthly weighted averages) in 2022, while average headline inflation was 15.2 percent.

1.3. The fiscal position improved, but debt remains high and fiscal risks are increasing

Budget revenue collection improved markedly in 2022, reflecting the economic and labor market recovery and strong international trade-related revenues. Total revenue reached 34.8 percent of GDP (figure I.15), the strongest outturn in the past decade. High volumes and prices of imports and exports, stronger economic activity and labor market (see Section 1.1), and a robust wage increase explain this robust performance. The government collected higher mining royalties, value-added tax, income tax, and social security payments (figure I.16). Royalties were significantly impacted by border restrictions in H1 2022, but strong coal exports boosted royalties in the last two months of the year. In contrast, revenues from oil and iron ore exports remained low (see Sections 1.1 and 1.4). A portion of the royalties meant to be accumulated in the Future Heritage Fund (FHF) (an intergenerational wealth fund) was repurposed to finance the Child Money Program (CMP), a universal cash transfer program covering all children aged zero to 18 with a temporary exemption, and no funds were accumulated in the FHF in 2022.

Figure I.15. Budget revenue (including taxes) was robust in 2022 ...

Budget revenue in percent of GDP
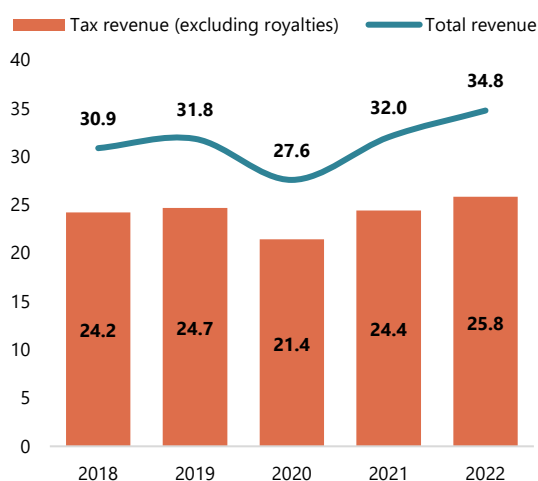
Source: MoF.

Figure I.16. ... in line with the economic recovery and higher international trade

Y-o-y growth of budget revenue in 2022 and its growth contributions
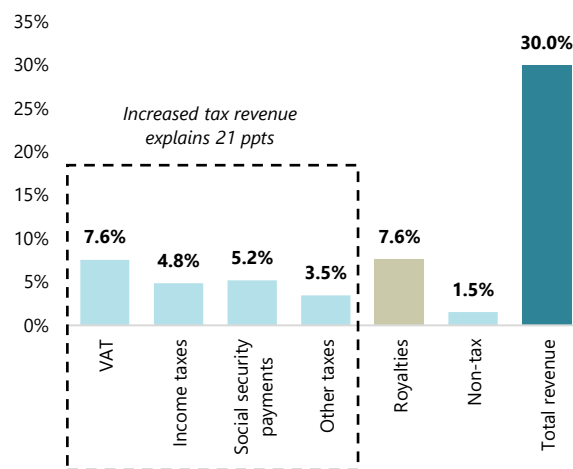
Sources: MoF; World Bank staff estimates.
Note: Royalties include the accumulation in FSF. No funds were accumulated in the FHF in 2022.

While fiscal expenditures decreased slightly as a share of GDP, they remained elevated and significantly above pre-pandemic levels. Total expenditure declined to 34.0 percent of GDP in 2022, down from 35.0 percent recorded in 2021 (figure I.17), despite a nominal increase of 16.3 percent. With the end of the pandemic-related restrictions, the need of government support to households decreased. However, increases in capital investment, pensions, and salaries, and large spending on the Child Money Program (CMP), explain these persistent high expenditure levels (figure I.18). Capital expenditures rose from 6.7 percent of GDP in 2021 to 7.1 percent (a 28 percent nominal increase), reflecting the completion of some projects that were delayed during the pandemic, increased cost of investment inputs, and infrastructure

investments by the Ulaanbaatar municipality to tackle traffic congestion. Additional major public investments were financed off-budget through SOEs (for example, the construction of a railway for coal transportation purposes). Due to a discretionary increase in pensions starting in February 2022, total pension expenditure increased from 5.7 percent of GDP in 2021 to 6.2 percent in 2022.[12] While CMP spending remained elevated (2.8 percent of GDP in 2022), and a 50

percent rebate on social security contribution payments (considered as part of social welfare transfers) was made during May–December 2022, the total cost of social welfare declined (from 7.5 percent of GDP in 2021 to 4.8 percent in 2022) as the impact of the one-time top-up benefits offered during the one-month quarantine in May 2021 dissipated. In addition, some recurrent spending was cut following the Austerity Law.[13]

Figure I.17. Expenditure remained significantly higher than pre-pandemic levels

Budget expenditure in percent of GDP
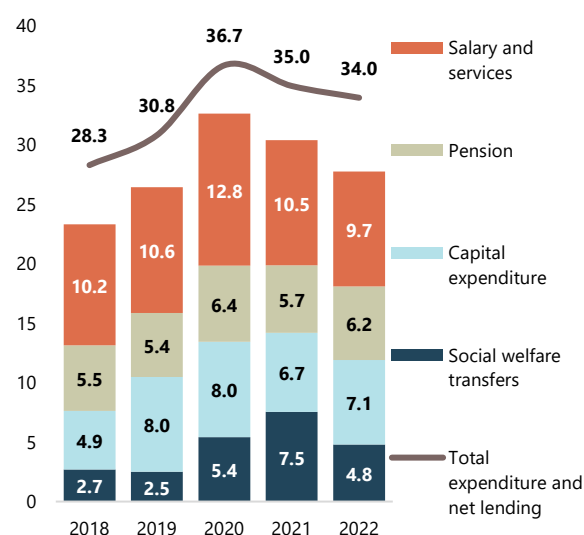
Sources: MoF; World Bank staff estimates.

Figure I.18. Large investments and pension outlays kept government spending elevated

Y-o-y growth of budget expenditure and its growth contributions
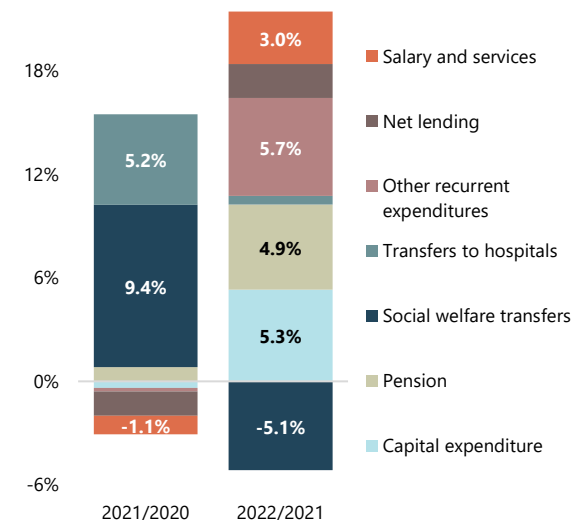
Sources: MoF; World Bank staff estimates.
Note: Performance-based bonuses for teachers are considered as salary expenditure.

Owing to buoyant revenue performance and contained expenditure growth, Mongolia's fiscal balance improved. The headline budget balance recorded a surplus of 0.8 percent of GDP in 2022 (the first surplus since the start of the pandemic), improving from a deficit of 3.1 percent in 2021. Similarly, the structural balance (defined by the

government as the overall fiscal balance net of fiscal saving funds) also improved, as its deficit narrowed substantially from 6.5 percent in 2021 to 2.0 percent in 2022 (figure I.19). The improvement in the structural balance also reflects the change in the financing of the CMP,

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[12] This change represents a 30 percent nominal increase, the highest in the past six years, with the exception of 2020.
[13] Under the Austerity Law enacted in April 2022, nonessential public recurrent spending was reduced, and some public investments were delayed. For instance, administrative expenses related to public events organization and travel and communication and transportation of public officials were cut, while some employment restructuring was done at SOEs to reduce salary spending. In addition, construction of some nonessential public offices and cultural centers was delayed.

which was shifted to the Future Heritage Fund but weakened long-term fiscal sustainability.[14]

Despite the improved fiscal position, public debt remains high, with large and increasing fiscal risks. A solid economic turnaround, a primary surplus, and payments of some external debt (the Chinggis bond was fully paid in late 2022) contributed to the small decline in public debt (from 64.5 percent of GDP in 2021 to 63.8 percent in 2022 [figure I.20]), while the large depreciation (21 percent against the U.S. dollar) limited this

decrease, as the majority of public debt (nearly 95 percent of public and publicly guaranteed debt) is denominated in foreign currency. In addition, fiscal risks, which were already substantial, continued increasing due to contingent liabilities related to offtake coal contracts of Erdenes Tavan Tolgoi (ETT), a state-owned coal mine, with Chinese state companies adding up to other existing fiscal risks such as those related to DBM's fragile financial situation.[15]

Figure I.19. A small fiscal surplus was recorded in 2022 ...	Figure I.20. ... supporting some reduction in the public debt-to-GDP ratio

Budget balance indicators in percent of GDP

Public debt-to-GDP ratio

Sources: MoF; World Bank staff estimates.
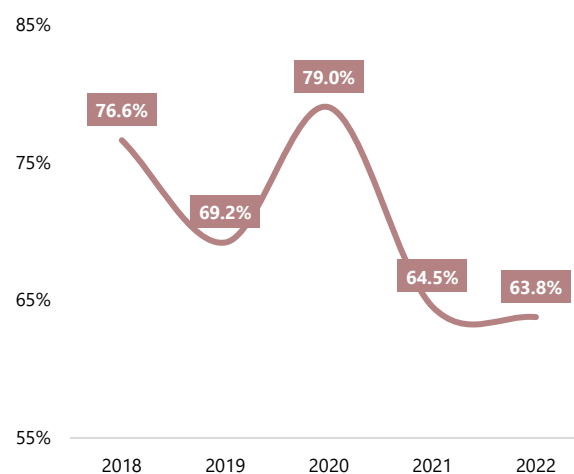
Sources: MoF; World Bank staff estimates.
Note: The DBM's debt is included, but the BOM's swap deal with the People's Bank of China is not.

1.4.   A large external imbalance remains despite a rebound in exports

Rising demand for imports, together with higher import prices, led to a larger external imbalance in 2022, despite a significant increase in exports

(figure I.21). Owing to elevated commodity prices, a rapid recovery in coal exports associated with the easing of border restrictions, and some

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[14] A share of royalties (specified in the Law on Future Heritage Fund [FHF]) must be accumulated in the FHF for future generations. However, the law was amended in 2021 to fund the increase in CMP benefits, resulting in a decrease of the share of royalties going to the FHF and an increase in the share allocated to structural revenue, thus automatically improving the structural balance.

[15] In H1 2022, ETT received advance payments (estimated at US$603 million) on its coal exports to boost international reserves at a time when coal exports were severely restricted at the Chinese border and reserves were critically low. As of end-2022, the outstanding balance on ETTs advanced payments is estimated at US$480 million (representing four to five months of ETT's exports). ETT has also engaged in offtake agreements with Chinese coal – importing SOEs. These agreements mobilize upfront financing for infrastructure investments against pledges of future coal exports. While some of these agreements remain confidential, the declassified offtake contracts amount to about US$3 billion payable in coal until 2027 (equivalent to almost 30 percent of total exports in 2022).

improvement in logistics management (including of hygiene requirements linked to the pandemic) at border crossings, merchandise export revenue increased by 20 percent (y-o-y) in 2022 (figure I.22). However, this rise in exports was more than offset by a 27 percent (y-o-y) increase in merchandise imports due to the elevated prices of imported food and energy associated with Russia's invasion of Ukraine, a substantive increase in household demand for import goods (following the removal of mobility restrictions related to the pandemic and the economic rebound), and higher imports of investment goods linked to public investment projects, including from SOEs (figure I.23). The services balance deficit was one of the largest in recent years (13.4 percent of GDP), with increased demand for transportation services related to coal exports and tourism mainly driving the 37 percent (y-o-y) increase in services imports (reaching 20 percent of GDP, the highest since 2019). These developments resulted in a widening of the current account deficit to 15.8 percent of GDP in 2022, up from 13.8 percent in 2021.

Figure I.21. External imbalances keep widening

Current account and its components, percent of GDP
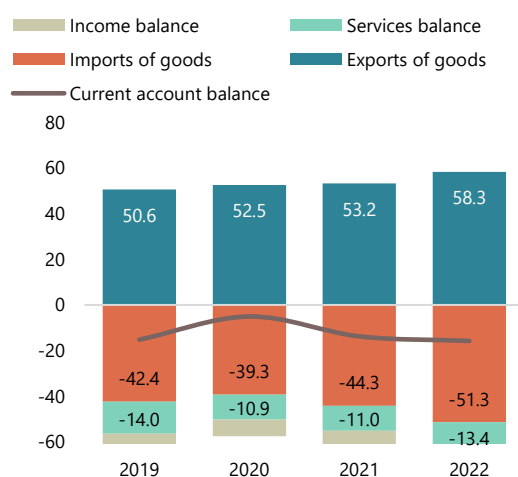
Source: BoM.

Figure I.22. High commodity prices and increased coal exports supported exports receipts

Export revenue growth and percentage contributions of key commodities
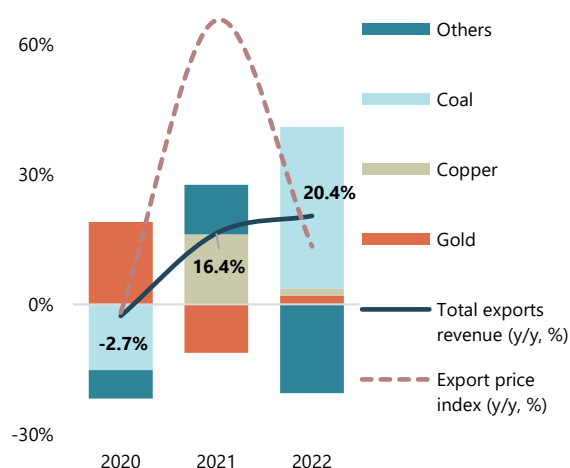
Sources: Mongolian Customs; BoM; World Bank staff estimates.
Note: Copper also covers gold content within OT's copper concentrate.

Financial tightening in advanced economies impacted capital inflows (including FDI) into the country. While foreign investments in the OT mine increased, FDI to other companies nearly halved in 2022, pushing the FDI-to-GDP ratio down to 9.7 percent (its lowest level in six years) from an average of 14.2 percent during 2017–21 (figure I.24). Similarly, a net outflow was recorded under portfolio investment for the third year in a row. These developments can be explained partly by the tightening cycle in advanced economies (in particular, by the U.S. Federal Reserve [FED]), which triggered capital outflows (figure I.25) and depreciation pressures (figure I.26) in emerging markets and developing economies (EMDEs) (figure I.26). The financial account was further affected by the full payment of the Chinggis bond (a sovereign Eurobond). However, sizable trade credit advances received in December 2022 limited the decline in the financial account surplus (which still fell to 11.8 percent of GDP in 2022, down from 13.0 percent in 2021).

Figure I.23. Investment, consumption, and fuel continued to dominate the import bill

Imports bill growth and percentage contributions of key items
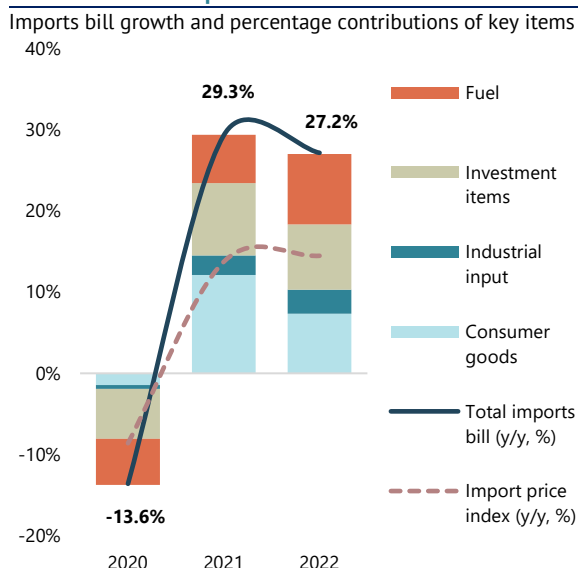
Sources: Mongolian Customs; BoM; World Bank staff estimates.

Figure I.24. The decrease in FDI contributed to balance-of-payments pressures

Balance of payments and its components, percent of GDP
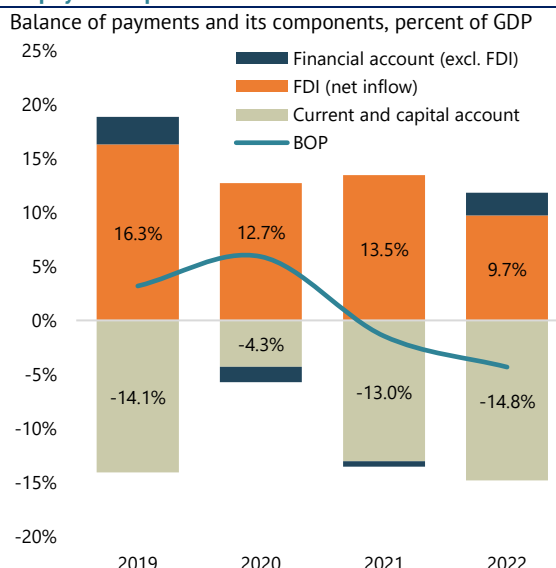
Sources: BoM.

Figure I.25. Capital outflow from the EMDE's in relation to the FED's tightening has been large ...

Capital outflow in the weeks following a shock
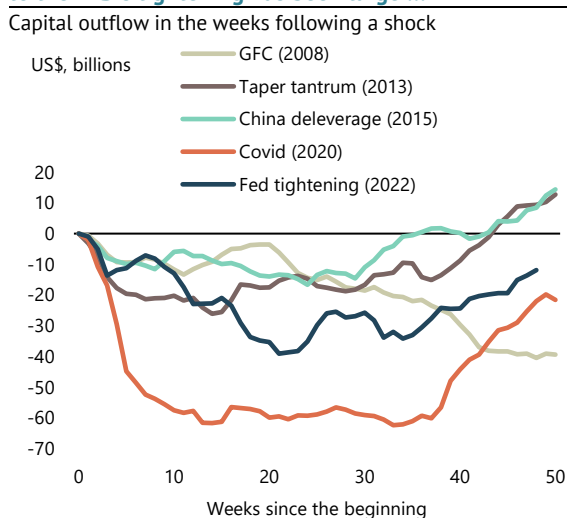
Source: World Bank 2023.

Figure I.26. ... resulting in depreciation pressures

Nominal exchange rate of US$ against local currency
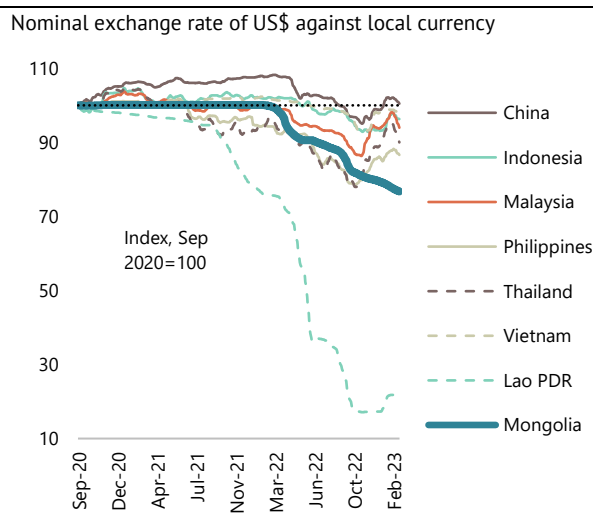
Source: World Bank 2023.

A large current account imbalance, reduced capital inflows, and sizable interventions by the central bank to avoid a sharper depreciation led to a loss in foreign reserves (figure I.27). Gross international reserves fell from a high of US$4.9 billion (nearly five months of imports coverage) in April 2021 to as low as US$2.7 billion (about 2.5 months of imports coverage) in August 2022,

to end the year at US$3.4 billion (3.1 months of imports coverage). This fall was due to the rapidly widening external imbalances, which resulted in a balance-of-payments deficit of 4.3 percent of GDP (despite the strong improvement in coal exports toward the end of the year and OT's greater repatriation of exports revenue in Q4

24

2022).[16] The BOM intervened to contain exchange rate depreciation pressures resulting from these widening external imbalances and from the appreciation of the U.S. dollar following the FED's monetary policy tightening. Even though the BOM supplied over US$5 billion through interventions in 2022 (about half of it within the first four months of 2022 amid the onset of Russia's invasion of Ukraine), the nominal exchange rate of the Mongolian tugrug to the U.S. dollar depreciated by 21 percent and banks rationed foreign exchange transactions in periods of high external pressures, resulting in a significant gap between the official exchange rate and the parallel exchange rate at the non-bank market (figure I.28).

Figure I.27. Reserves declined due to widening imbalances and sizable BOM interventions

Capital inflows, BOM FX intervention, and gross international reserves of BOM, in US$ million
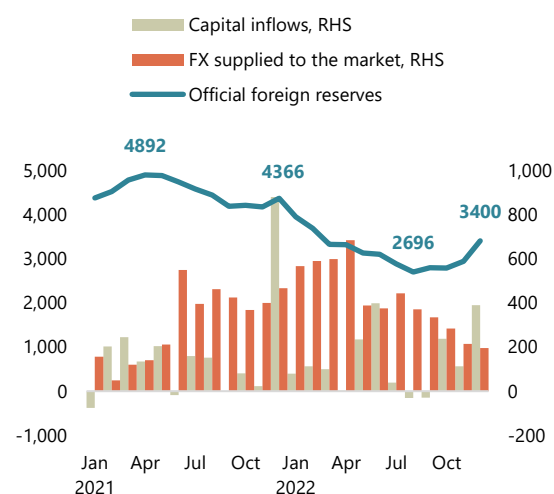
Source: BoM.
Note: FX = foreign exchange; RHS = right-hand scale.

Figure I.28. Foreign currency rationing amid deteriorating market confidence widened the spread between non-bank and interbank exchange rates

Midpoint of nominal exchange rate of MNT/US$
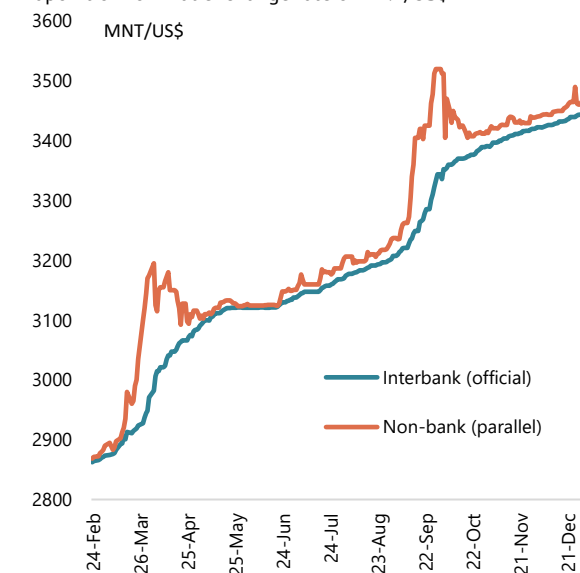
Source: BoM.
Note: The central bank reports the midpoint of the daily nominal exchange rate announced by banks (interbank exchange rate).

2. Outlook, Risks, and Policy Recommendations

2.1. Outlook and Risks

Economic growth is expected to accelerate to 5.2 percent in 2023 driven by rapid recovery in mining production, resulting from the removal of border restrictions and the commencement of the OT underground mining stage, and by the continued recovery in services from the pandemic (table I.1). Mining production is expected to rebound, recovering from the disruptions caused by border restrictions in 2022, while the official start of production at the OT's underground mine

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[16] In this period, OT's repatriation of exports revenue was larger than its usual monthly amount and was used to support operations and investment activities in the country.

(March 2023) is expected to contribute to the increase in overall mining production.[17,18] Services (particularly tourism) are projected to continue recovering from restrictions associated with the pandemic, while sluggish agricultural production due to the recent harsh winter is expect to weigh on growth. From the demand side, higher exports (linked to China's economic rebound), sustained household consumption (on the back of continuous improvements in the labor market), and large public investment (through the budget and quasi-fiscal activities) are expected to support growth. However, private investment is projected to remain low amid tight credit conditions, as banks prioritize less risky loans backed by stable income such as salaries, and rising costs of production.

Table I.1. Key macroeconomic indicators

	2021	2022e	2023f	2024f	2025f
Real GDP Growth, at constant market prices	**1.6**	**4.7**	**5.2**	**6.3**	**6.8**
Private Consumption	-5.9	7.4	7.0	6.6	6.1
Government Consumption	9.2	5.4	11.5	14.7	8.1
Gross Fixed Capital Formation	17.7	0.3	18.0	7.0	0.0
Exports, Goods and Services	-14.6	31.3	14.1	15.2	15.6
Imports, Goods and Services	13.6	30.5	5.0	11.5	10.7
Real GDP Growth, at constant factor prices	**0.4**	**3.9**	**5.2**	**6.3**	**6.8**
Agriculture	-5.5	12.0	0.9	5.5	5.5
Industry (including mining)	-2.2	-2.8	7.7	9.0	10.6
Services	3.9	5.5	5.2	5.1	5.1
Inflation (CPI, period average)	7.1	15.2	9.5	6.8	6.0
Current Account Balance (% of GDP)	-13.4	-15.8	-14.4	-9.8	-5.6
Net Foreign Direct Investment, Inflow (% of GDP)	13.1	9.7	11.7	9.7	8.1
Fiscal Balance (% of GDP)	-3.0	0.8	-1.2	-0.5	0.3
Debt (% of GDP)	64.5	63.8	60.8	58.5	56.0
Primary Balance (% of GDP)	-1.1	2.3	0.6	0.9	1.6

Source: World Bank staff estimates.
Note: Public debt does not include contingent liabilities or the BoM's liability under the People's Bank of China swap line (11 percent of GDP in 2022).

With the rapid recovery in domestic demand, inflation is expected to remain elevated throughout 2023, despite some easing of external and supply-related pressures. The inflation rate is expected to decrease from 15.2 percent in 2022 to 9.5 percent in 2023 as the impact of supply and external shocks dissipates. However, domestic demand pressures are expected to keep inflation elevated in 2023 due to expected improvements in wage income and labor market conditions, as well as continued accommodative fiscal and quasi-fiscal policies.

Solid mining revenue performance is expected to contain the fiscal deficit in 2023, despite expansionary expenditures. Overall,

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[17] This underground mine phase is funded through a multisource project financing package (including US$2.2 billion in loans and guarantees from the International Finance Corporation (IFC) and Multilateral Investment Guarantee Agency (MIGA), with a total investment cost projected at US$7.1 billion.

[18] OT's total output is expected to grow by 16.2 percent in 2023, of which +20.0 percentage points will come from the underground mine, while production from the open pit will decline.

expenditures would continue increasing, with capital expenditures expected to reach their highest level (in percent of GDP) since 2016, despite moderating recurrent spending amid some cost-saving measures and partial targeting of the CMP. On the revenue side, the robust economic recovery would boost tax collection, and the increase in the volume of mineral exports would increase mining revenues (despite the expected lower prices of gold and copper this year compared to 2022).

In 2023, balance-of-payments pressures are expected to remain significant, amid robust growth of imports and sizable bond repayments. Export receipts would increase due to stronger mining production (although lower mining prices would limit this rise) in the absence of border restrictions. On the import side, the continuous improvement in consumption and sustained public investment (including from SOEs and associated with offtake coal agreements) would maintain the high demand for import products, while low private investment would partially contain this expansion. In addition, sizable bond payments, including on the debt of DBM, are still due in 2023 despite the recent rollover of two Eurobonds.[19] As a result, pressures on the balance of payments would persist.

The medium-term growth outlook remains favorable, with substantial improvements expected in mining output, though the need for further economic diversification persists. The economy would continue to benefit from OT investment in the development of its underground project (supporting FDI inflows), with production expected to more than double compared to current levels by 2025, which would progressively increase government revenues, reduce balance-of-payment pressures, and boost foreign reserves.[20]

Risks to the outlook are tilted to the downside. Downside risks include further deterioration of the external balance and additional inflationary pressures resulting from a protracted Russia's invasion of Ukraine, a larger-than-expected tightening of monetary policy in advanced economies, risks associated with the current sizable contingent liabilities (including from DBM), and uncertainty related to the large (and confidential) offtake coal export agreements. Recent banking sector turmoil in advanced economies could persist and lead to higher investor risk aversion and further tightening in global financial conditions, affecting Mongolia's ability to attract foreign capital. Upside risks comprise higher-than-expected external demand and commodity prices associated with China's economic recovery, faster-than-expected completion of infrastructure megaprojects that would facilitate an additional boost in export capacity, and successful development of a commodity exchange platform (see box I.1) that could result in higher-than-expected coal revenues due to enhanced price transparency.

Box I.1. Mining commodity exchange platform

Mongolia's trading practices for mining commodities (in particular, coal) have long suffered from numerous challenges including lack of transparency, reduced bargaining power, and limited market information, leading to contract prices far below international market prices. These issues were accentuated following corruption accusations related to coal exports and the revelation of multiple confidential agreements on sizable advance payments and offtake barter agreements by a state-owned

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[19] In October 2022, the government issued a new five-year US$650 million Eurobond at relatively favorable terms, to roll over parts of two other Eurobonds maturing in 2023 and 2024 (Gerege and Khuraldai bonds), thus reducing near-term external debt servicing pressures. Mongolia, however, still faces large external payments linked to maturing Eurobonds (including from the DBM), amounting US$1.5 billion over 2023–24.

[20] Note that government revenues would initially experience only a limited increase from the substantive increase in OT's production due to payments owed to Rio Tinto (OT's majority owner) on large investments linked to the underground project.

coal mine in late September 2022. These have not only limited coal exporters' revenue repatriation and contributed to external imbalances, but have also triggered social protests.

To address these challenges, the Mongolian government plans to trade mining products on a commodity exchange and has started a pilot for coal. By centralizing trade transactions into an organized marketplace, commodity exchanges allow effective competition among buyers and sellers and facilitate fair and transparent trading practices. Mongolia already has experience with the Mongolian Agricultural Commodity Exchange established in 2013. The exchange trades in seven main types of agricultural commodities under spot and forward contracts. As a first step toward the development of a mining commodity exchange, the Law on Mining Commodity Exchange was adopted in December 2022 (effective July 2023). A regulation on open electronic trading of coal for export purposes was also enacted to allow for a trial of coal trading on the Mongolian Stock Exchange platform until the law kicks in. Between January and March, 0.7 million tons of coal (about 5 percent of total coal exports over this period) were traded over 15 trading sessions. Note, however, that this modest amount traded is partly due to most coal exports being subject to previously signed contracts.

Commodity exchanges have been established in developing countries over the past two decades. While commodities trading is mainly concentrated in global exchanges in advanced economies, developing countries have been setting up their own commodity exchanges to facilitate trade. Starting in the early 1990s in the Europe and Central Asia region, countries such as Belarus, Turkmenistan, and Uzbekistan established state-owned auction-type commodity exchanges that trade commodities ranging from agricultural products, metals, and petroleum products to industrial and consumer goods, not only for the domestic market but also for export purposes.[a] As operations of these types of exchanges expanded over the years, they began to introduce standardized contracts; adopt electronic trading systems; offer additional brokerage, clearing, and settlement services; and provide legal, customer protection, delivery, and deal guarantees. One recent initiative is the Egyptian Mercantile Exchange (EMX), which started operations in November 2022, and includes trading in markets such as wheat, rice, gold, and steel.

Several prerequisite conditions affect the degree of success of commodity exchange operations: (i) sufficiently large market size and volume of exchange contracts, allowing for liquid transactions with good competition and low-price variability; (ii) a clearly defined, transparent set of rules for market entrants, participants, and public sector intervention, allowing for a robust institutional framework; (iii) sound financial management; (iv) sufficient willingness and commitment by purchasers to participate in exchange transactions; (v) presence of objectively and easily measured standard criteria, as well as quality control measures for traded commodities; and (vi) differentiation of contracts offered to avoid competition from other international exchanges.[b]

Certain public policy measures may also help the successful implementation of a commodity exchange, including (i) providing more incentives in the form of tax waivers or reductions for trading through the exchange (only in particular cases and taking into consideration the fiscal country context); (ii) promoting standardized and independent third-party quality control services within the exchange; and (iii) coordinating major parties involved by getting them to agree on trading rules and frameworks and publishing information about prices, volumes, and number of contracts.[c]

Sources: a. World Bank 2011a. b. World Bank 2011b. c. World Bank 2011b.

2.2.   Policy Recommendations

Fiscal discipline and reforms to enhance governance are crucial to build macro-fiscal resilience and improve fiscal sustainability. *In the short term,* fiscal moderation would be required to free space for upcoming large debt payments. Also, by limiting demand pressures, government spending restraint would complement the monetary policy efforts in releasing pressures on the balance of payments and prices. In particular, the government needs to aim for a more effective and responsive social protection system with better targeting of programs, consider pension and energy tariff reforms to reduce fiscal subsidies, and prioritize essential investment projects. Also, quasi-fiscal activities (including subsidized mortgages through the central bank and off-budget investments implemented by SOEs) should be limited to avoid additional demand pressures and reduce contingent liabilities. *In the medium term,* the country's fiscal framework needs to be strengthened to enable fiscal policies to mitigate rather than amplify macroeconomic volatility (driven by mining commodity price fluctuations). In particular, the definition of parameters and escape clauses in the fiscal rules need to be clarified to promote government savings in good times and support the economy in bad times, while building up savings for future generations (by restoring the FHF as an intergenerational fund). The government also needs to improve public investment management and governance (including of SOEs and public-private partnership projects); increase civil service efficiency through performance-based funding systems; improve transparency in mining revenues (for example, by further developing the recently created commodity exchange); and raise non-mining revenues, including by broadening the tax base and raising revenues at the local level.

Exchange rate flexibility, project prioritization, and boosting export revenues and capital inflows are key to rebuilding Mongolia's foreign exchange reserves and easing the pressure on the balance of payments. *In the short term,* more exchange rate flexibility will help contain imports and speculation on further depreciation, thus preserving foreign exchange reserves (which are still at low levels despite a recent increase). Also, given the sizable infrastructure investments expected under the New Recovery Policy, selectivity and prioritization of projects (to avoid a larger import bill) will be necessary to avoid putting additional pressure on the balance of payments, especially considering the upcoming sizable external debt payments and increased cost of finance at the international market. *In the medium term,* addressing weaknesses in trade facilitation, logistics, and phytosanitary standards would help businesses boost exports. In particular, the government should focus on facilitating trade across borders by reducing the costs and time involved in border clearance. Building high-quality logistics-related infrastructure through more efficient public investment projects and improving phytosanitary standards and processes would also help Mongolian firms participate in global value chains. Also, the legal framework for investors needs to be improved by amending the Investment Law to emphasize investor protection and promotion. This should be complemented by the operationalization of the newly established Foreign Trade and Investment Agency.

The effectiveness of government reform policies on diversification would be critical in ensuring growth sustainability and resilience to domestic, external, and climate shocks in the medium term. High dependence on mining activities in the past decade has led to a loss of competitiveness in non-resource tradable sectors, which are typically a source of productivity growth. Also, the macroeconomic volatility emanating from mining commodity price fluctuations (and amplified by often procyclical policies), has often resulted in costly boom-bust cycles and discouraged the sustained investment needed for productivity growth. Reform policies, including the ongoing New Recovery Policy, need to promote the development of non-mining

industries by putting forward an ambitious business environment reform agenda that includes reforms of the legal framework (in enforcing contracts, insolvency and bankruptcy, competition, and property rights) and streamlining of procedures for business activities (in customs, inspections, and licensing and registration).[21] Also, putting in place policies and a legal environment to foster exports and foreign investment will make Mongolia's exports more competitive. Finally, a more dynamic labor market will complement these diversification efforts by increasing productivity in non-mining sectors (see the proposed job strategy in Chapter II).

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[21] World Bank 2022b.

2

LABOR MARKET CHALLENGES AND A JOBS STRATEGY FOR MONGOLIA

Chapter 2: Labor Market Challenges and a Jobs Strategy for Mongolia

Job creation is key to Mongolia becoming a dynamic economy and an inclusive society. The government has produced a long-term development framework, Mongolia Vision 2050, and, more recently, a blueprint for economic recovery and diversification in the New Recovery Policy. Employment should be a key consideration in implementing these plans. The greater the country's capacity to create good jobs, the more likely living standards will rise and poverty will decrease. Job creation will also drive economic development as more productive jobs replace less productive ones. A dynamic labor market also has important social benefits by offering widespread opportunities to participate fully in society.

In this chapter, we present a jobs strategy to address major labor market challenges in Mongolia. We first summarize the major labor market challenges Mongolia is currently facing based on the World Bank's "Mongolia Jobs Diagnostic."[22] We then identify the origin of these challenges, or labor market constraints, from three perspectives: labor supply, labor demand, and labor market functioning. Finally, we propose a jobs strategy, that contains specific actions and interventions that have the potential to create a more dynamic and inclusive labor market for the future.[23]

1. Mongolian Labor Market Challenges

There are two major labor market challenges of a structural and long-term nature in Mongolia.

i. **Mongolia's overarching employment challenge is to create more and better jobs that are more diversified than those created over the past decade.** Despite employment growth over the past two decades, job creation in Mongolia has not been strong enough to increase labor force participation (LFP) and reduce unemployment. Even though the private sector played an important role in job creation, the majority of jobs created between 2010 and 2020 were in low-wage sectors (figure II.1). The country is also losing its export diversity, with greater concentration in a smaller number of natural resources-related products with limited job creation potential.

ii. **The country also needs to increase inclusion by raising women's LFP, providing more opportunities for young people, and bringing more urban residents into the workforce.** Less than 60 percent of the working-age population (age 15 and older) participates in the labor market, and this rate has been slowly declining over time, especially for women; the gender gap in LFP is now almost 15 percentage points (figure II.2). The transition of young people into the labor market is not going well, especially for the less educated, who have low participation rates and high unemployment. Mongolia's urban LPF rate is low by international standards and is much lower than in rural areas.

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[22] World Bank 2022c.

[23] For the full study of labor market trends and prospects, and recommendations on how to create a more dynamic and inclusive labor market in Mongolia, see World Bank (2022d).

Figure II.1. Labor has mostly moved from agriculture to lower-productivity services sectors

Average value added per worker and share of employment in three decades, by sector
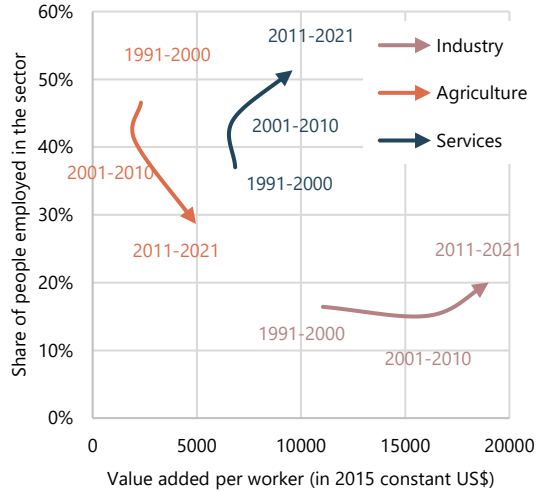
Figure II.2. Labor force participation of women declined rapidly in the past decade

Labor force participation rate (LFPR), by gender

Sources: UNdata; NSO; World Bank staff estimates. Updated version of figure 3.9 in World Bank (2020).
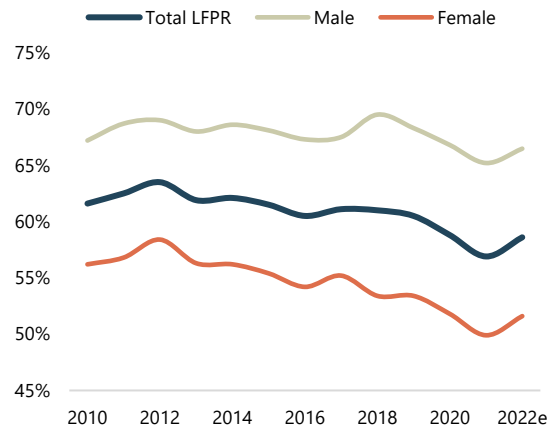
Sources: NSO; World Bank staff estimates.

2. Constraints Behind These Challenges

Various demand-side constraints hinder the private sector from becoming more dynamic, diversified, and innovative to generate more and better jobs (figure II.3). Sustained private investment will require strengthened macroeconomic and fiscal management in the country to reduce uncertainty and encourage domestic saving and investment (especially FDI) as well as the efficient allocation of capital. Firms also report that certain aspects of the business environment—which include political instability, distortionary taxes, lack of access to credit, and corruption—limit their operations (figure II.4).[24] Moreover, there is space to improve trade facilitation, logistics, and phytosanitary standards to encourage the growth of new sectors beyond the resource sector and to

overcome the geographic constraints and the extremely low population density that challenge the country's ability to benefit from agglomeration effects.

Some constraints to job creation have to do with labor supply. The country's education and training systems provide a large supply of postsecondary graduates. Yet, their skills often do not match those needed by sectors that are critical to the country's recovery plan and its longer-term development strategy. This results in higher youth unemployment despite increased enrollment in tertiary education (figure II.5).[25] Moreover, activation services and programs (including active labor market programs), do not

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[24] The World Bank's "Mongolia Business Environment and Competitiveness Assessment Report" (World Bank 2022b) provides a recent analysis of key constraints to firm development in Mongolia.

[25] The World Bank's "Mongolia Jobs Diagnostic" (World Bank 2022c) provides details on rate of employment depending on level and field of education.

adequately support the employment prospects. Finally, generous social welfare benefits may create disincentives for workers to enter or re-

enter the job market, although evidence for this is limited (see box II.1).

Figure II.3. Mongolia has become more and more concentrated in mining, a capital-intensive sector

Decomposition of Mongolia's exports

Legend: ■ Textiles ■ Agriculture ■ Minerals ■ Services ■ Others
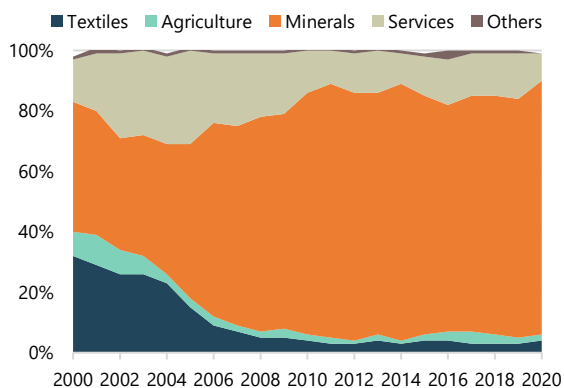
Sources: Atlas of Economic Complexity; World Bank staff estimates.
Note: Metals and stones are considered as minerals.

Figure II.4. Certain aspects of the business environment limit the private sector's activities and thus demand for labor

Constraints to Mongolia's business environment, percent

Constraint	Percent
Political instability	35.2
Tax rates	17.2
Access to finance	15.9
Corruption	9.1
Inadequately educated workforce	5.5
Customs and trade regulations	5.2
Business licenses and permits	4.5
Practices of the informal sector	4.2
Tax administration	1.4
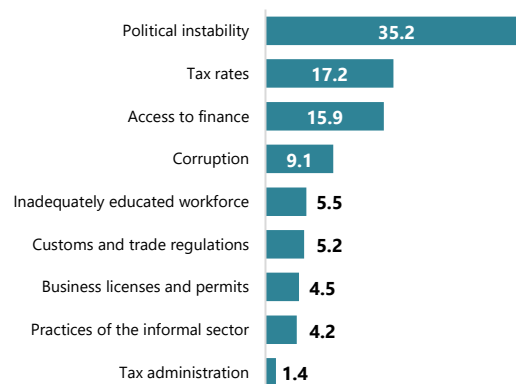
Sources: World Bank Enterprise Surveys, Mongolia 2019.

Figure II.5. Despite increased enrollment in tertiary education, youth unemployment increased and has remained high since 2018

Enrollment in tertiary education and youth unemployment rate

Legend: ○ EAP countries (latest) → Mongolia
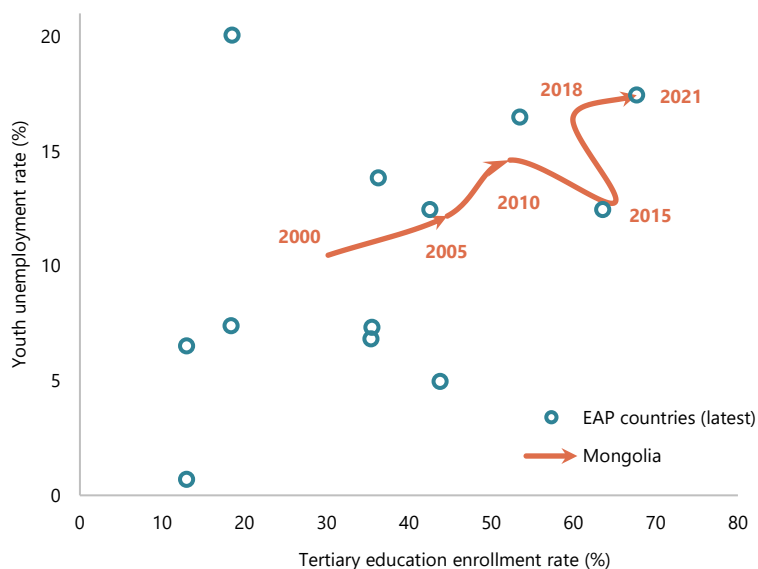
Source: World Development Indicators.

The labor market in Mongolia is inefficient in matching workers with jobs and in improving the reemployment of job seekers. The function of the labor market is to match people with jobs. Among other things, this requires accurate information on labor supply and labor demand. It also requires effective public employment services and active labor market programs to help the unemployed, social assistance recipients, and job seekers in general to find employment.

Strengthening the capacity and effects of Mongolia's public employment service provision and active labor market programs would help address the country's jobs challenges, especially concerning the inclusion of women and youth in the labor force. In addition, the unemployment insurance system covers wage workers in the formal sector, but most of the unemployed do not receive benefits—only about one-fifth of the unemployed qualify for benefits.

Box II.1. Examining the causal effect of the Child Money Program (CMP) on women's labor force participation in Mongolia

Labor force participation (LFP) in Mongolia is recovering relatively slowly from the pandemic (see Chapter I, Section 1) in the context of generous social assistance, raising concerns about the disincentives created for workers to enter or re-enter the job market. In particular, the ongoing public and political debate on the theme "from welfare to jobs" centers around the need to reduce the existing generous welfare benefits (including the fivefold increase in the quasi-universal cash transfer program, CMP, starting in 2020) to decrease potential disincentives to participate in the labor market and ease the fiscal burden (see Annex 2 for stylized facts on Mongolia's social assistance system and Annex 3 for theory and international evidence on labor supply responses to welfare benefits).

Empirical results on the causal effect of welfare benefits on LFP in Mongolia are mixed. A study using 2012 data found that women living in benefits-receiving households are less likely to participate and tend to work fewer hours, while men's labor supply was found to be unresponsive to transfer payments.[a] The CMP was found to reduce female LFP and hours worked based on data from the 2000s.[b] However, a recent study using 2020 household survey data did not find a significant difference in the LFP of people living in households that receive welfare benefits and those that receive no benefits. Rather, the study finds that people who relied on welfare benefits for a longer period do not usually have the skills needed for existing jobs.[c] We contribute to the existing empirical literature by focusing on the CMP's impact on mothers' participation using the most up-to-date household survey data (which includes the recent fivefold increase in CMP benefits).

At first glance, data seem to suggest that CMP benefits may indeed lead to lower female LFP. According to the Household Socio-Economic Survey (HSES) 2020, the participation rate of CMP recipient mothers with fewer than four children aged zero to 18 is lower than that of mothers who are not CMP recipients (figure BII.1.1). However, other factors may affect LFP (and could be correlated with CMP receipts) such as age, household size, education, financial needs, and location. Therefore, participation rates may be lower for recipient mothers because of factors other than the benefit received from the CMP. It is then essential to account for these factors to determine the welfare program's true causal effect on LFP.

Our empirical results do not support the hypothesis that the CMP disincentivizes mothers' participation in the labor market. We ran an econometric fuzzy regression discontinuity design model on a sample of 2,175 mothers aged 30 to 60 with children aged 10 to 26, from the HSES 2020 data (see Annex 3 for technical details).[d] After trying various models, specifications, and parameters, we were unable to detect a significant causal impact of the CMP on mothers' LFP. In addition, even though we find a negative correlation between CMP receipt at the household level and women's LFP, this correlation is not

statistically significant. This suggests that although there is a negative effect associated with CMP receipt, the magnitude of the effect is too small to conclude with confidence that CMP has a negative impact on LFP.

Figure BII.1. Mothers who receive CMP benefits participate less in the labor force

Labor force participation rate of mothers according to number of children living in the household and CMP receipt status (household level)
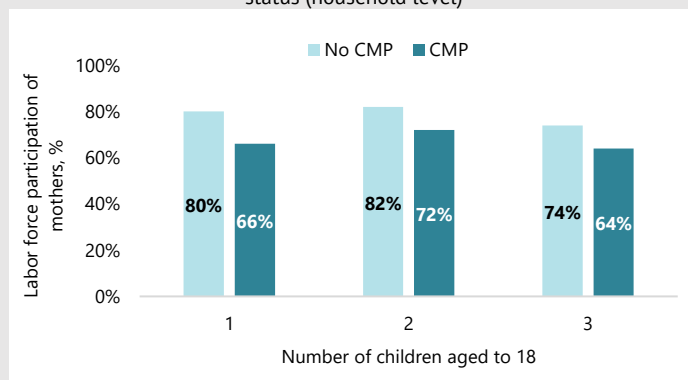
Source: World Bank staff estimates based on 2020 HSES data.
Note: Mothers are defined as being the wife of the household head, aged 30 to 60, and living in a household with fewer than four children under age 18.

Women seem to have other considerations (besides CMP benefits) in their decisions on whether to enter the labor market. The CMP amount may be insufficient for many mothers to quit working, since one additional child increases the financial needs of the household, making it difficult for households to give up employment.[e] Note that the methodology adopted in this study only allowed us to focus on mothers whose children are very close to the age 18 threshold.

Results may differ if all welfare benefits are considered (instead of only CMP benefits). Indeed, households receive several other benefits (see Annex 2), and the whole welfare benefits package could have an impact on LFP. Note also that our empirical results need to be taken with caution due to data limitations, which lead us to rely on several assumptions (see Annex 3). Finally, it is important to recognize that rigorously identifying the causal impact of the CMP will require a randomized control trial, which is difficult to implement.

Note: a. Gassmann et al. 2016. b. Dandarchuluun et al. 2020. c. National Academy of Governance (2022). d. Among these mothers, 1,666 (76.6 percent) were in the labor force, while 1,406 (64.6 percent) received CMP benefits for at least one child. e. The monthly benefit amount per child is equal to 54 percent of the 2020 national monthly per capita poverty line (MNT 184,747).

3. A Jobs Strategy for Mongolia

This section proposes a multidimensional jobs strategy from three different perspectives: labor demand, labor supply, and labor market functioning.

A. Make Labor Demand More Dynamic

To increase the demand for labor, the government needs to (i) strengthen macroeconomic and fiscal management to encourage the sustained investment needed for

job creation; (ii) create a business environment that supports a dynamic, innovative private sector and thereby demand for high-quality labor; and (iii) diversify exports beyond the resource sector to promote job creation in new economic sectors with lower volatility. Section I.2.2 in this report presents policy recommendations under these reform areas.

B. Upgrade the Workforce

Mongolia's education and training systems need to be enhanced to provide both current and future workers with the relevant skills to meet the demands of the emerging economy.

Upgrade the quality and relevance of the education and skills development system

Providing more relevant and quality labor market information to higher education and vocational training institutions could help tailor their courses to labor market demands and the country's development priorities. Higher education institutions (HEIs) and Technical and Vocational Education and Training (TVET) institutions also need to regularly undertake their own analysis of the job market in addition to consulting with employers and other stakeholders to understand employment trends and skills mismatches and to assess the relevance of the programs they offer.

Financial incentives could strengthen the links of HEIs and TVET institutions with the labor market. Incentives such as financial aid grants could be used to encourage HEIs and TVET institutions to align their programs and selection criteria with identified labor market demands and the country's economic development priorities.

The government should consider establishing a genuine partnership with the private sector in the area of skills development. A step in the right direction would be to give professional and trade associations a legal status, mandate, and accountability. This would allow them to represent their professions on institutional and national governing bodies and on the panels of large-scale development and research programs in order to develop occupational standards, enhance curriculums, and undertake peer reviews of the performance of institutions and programs.

The school-to-work transition of graduates could be facilitated by giving them experience in workplaces and the labor market during their studies via internships, cooperative learning, and job placements. With students' future employment in mind, higher education curriculums need to offer flexibility in choices for learning, including team-based and experiential learning, to cultivate the most-needed soft, cognitive, and professional skills (such as foreign language proficiency). Granting more autonomy to educational institutions would facilitate reforms along these lines.

Enable social assistance beneficiaries to work

Activation services and programs would improve the employment prospects of social assistance recipients. Intermediation services, including counseling and job search assistance, can play an important role in helping social assistance beneficiaries to find jobs, and active labor market programs (ALMPs), including preemployment and vocational training, on-the-job training, counseling, and wage subsidies, can prepare them to take those jobs. Programs promoting and supporting productive self-employment also have a role to play, especially for individuals unable to access formal jobs, such as those in rural areas.

Tailored social services can increase the effectiveness of activation services. The public employment services (PES) would need to be equipped to refer individuals to any services that

they do not provide, such as social care, child care, elderly care, fee waivers for health and educational services, finance, housing subsidies, transportation subsidies, substance abuse counseling, or help with accessing identification and basic legal documents.

To encourage work, social welfare recipients should continue to temporarily receive a portion of their transfers after finding employment. Stopping a benefit when a recipient's income rises can be a disincentive to work. Instead, reducing benefit levels over time can also

prepare beneficiaries to become self-sufficient upon their exit from the program.

Moving from welfare to work will require adequate coordination of welfare and employment policies. Adopting such a holistic, case management approach requires coordination across policies and institutions. Welfare and employment policies must be subject to adequate coordination at all institutional levels for planning, implementation, and delivery of services.

C. Improve Labor Market Functioning

Some reforms to labor policies and institutions would help the labor market function more efficiently and inclusively.

Build a comprehensive labor market information system

Having a high-quality labor market information system (LMIS) is essential for a labor market to function efficiently. There is currently a significant gap in information on labor market trends and prospects, including accessible and accurate information on current and prospective demand for specific occupations and skills.

The government should establish an open-access labor market information web portal and a labor market observatory responsible for managing the portal and generating labor market information. The web portal would be a one-stop shop for the labor market information needed by all relevant stakeholders both inside and outside government. The labor market observatory would compile relevant data, monitor labor market conditions, and make information and analysis available through the portal.

Transform ALMPs into Effective Employment Tools

The following measures could improve the effectiveness of Mongolia's ALMPs. The government is expected to revise the

Employment Promotion Law, which governs ALMPs, to tackle ALMP funding-related constraints, including the timeliness of fund transfers to the Employment Promotion Fund. As Mongolia urbanizes and formalizes, it needs to prioritize the provision of employability and skills development programs that are aligned with urban labor market needs. This includes training programs that are more demand driven and more closely linked to workplaces. Another priority should be to introduce a systematic monitoring and evaluation system for ALMPs, which would be part of the enhanced labor market information system discussed above. Finally, the effective implementation of ALMPs will require enhancing the ability of the public employment service to counsel and provide job seekers with tailored action plans.

Reform Unemployment Insurance to Better Protect Workers

Policy makers should consider increasing the support that unemployment insurance can provide. One key change to consider is to reduce the nine-month requirement for continuous contributions, which is a lengthy time frame for eligibility given the seasonal nature and volatility of Mongolia's economy. If affordable, the authorities could consider increasing the contribution rates and benefit duration, based on

rigorous actuarial assessment. Enhancing activation services and ensuring that they are tailored according to employment barriers would also improve the employment prospects of unemployment benefit recipients.

In sum, making Mongolia's labor market more vibrant and inclusive will require all relevant economic and social agencies to cooperate to tackle demand- and supply-side constraints in close cooperation with the private sector.

ANNEX

Annex 1: Pandemic-related government support and channels of economic impact in 2022[26]

Law on "Prevention, Combat, and Mitigation of Social and Economic Impacts of COVID-19": Effective May 2020 to December 2022, measures under this law aimed to support households and credit.

Imposing a moratorium on monthly mortgage payments. This measure lowered the burden on household finances, as mortgage payments comprise approximately 30 percent of borrowers' nominal income. A total of 276,000 borrowers (over 80 percent of all mortgage borrowers) requested to delay about MNT 1 trillion (US$285 million) in mortgage payments for 32 months starting in April 2020. This measure likely contributed to the robust recovery in private consumption during 2022.

Removing interest rates on demand deposit accounts. This measure was intended to encourage banks to lower lending rates by reducing the cost of finance for banks. However, since banks were implementing the government's subsidized programs and lending at rates significantly below market, there was some interest rate rigidity for banks to lower their lending rates, especially in 2022 in the context of monetary policy tightening. Despite this, the cost of finance freed up from the banks' liabilities may have been redirected toward financing certain portions of the subsidized programs.

"10 trillion Comprehensive Plan for Health Protection and Economic Recovery": Introduced in March 2021 and still ongoing, this MNT 10 trillion program is financed through a mix of resources including banks' excess reserves, government budget (mainly interest subsidies), and the central bank (subsidized mortgage program and long-term repo financing). As of January 2023, MNT 5.8 trillion has been spent in the following programs.

Employment support loan. Interest rate subsidies of 600 and 700 basis points by the government for businesses and individuals, respectively, allowing final borrowers to receive loans at a 3 percent interest rate and a lump-sum principal repayment option at maturity. This measure aimed to support job retention by firms and reduce credit risk in the banking system and was mainly applied to trade and other services activities. This measure has contributed to the employment recovery since 2021. A quantitative analysis suggested that it was effective in protecting around 168,000 to 230,000 jobs in 2021 compared to a counterfactual under the absence of such package.[27] The program was discontinued in 2022, as the target of MNT 2 trillion was met by end-2021.

Central bank long-term repo financing. The BOM provided liquidity of up to two years to banks that on-lent the funds to borrowers at an interest rate of 10.5 percent and with loans secured by real estate and movable assets. This measure initially targeted small and medium-sized enterprises and manufacturers of non-mineral exports and was later expanded to a wide range of sectors including trade, manufacturing, and services, likely contributing to the economic recovery of these sectors. In addition, fuel and food importers also received some funding to maintain the steady supply of essential goods in times of persistent bottlenecks.

Housing mortgage subsidies. This measure consists of a fixed 6 percent interest rate. The subsidized housing mortgage program, effective since 2013, has been funded by a combination of central bank financing and

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[26] This annex was written by World Bank staff based on BOM and other open-source information.
[27] World Bank 2022a.

refinancing of mortgage payments by existing borrowers. To support the economic recovery, MNT 2 trillion was allocated to this program in March 2021. Mortgage loan issuances under this program were substantial in 2021 but started to dial down in 2022 due to a decrease in funds availability and reduced mortgage repayments (which support new mortgage issuances) resulting from the moratorium on monthly mortgage payments (aforementioned).
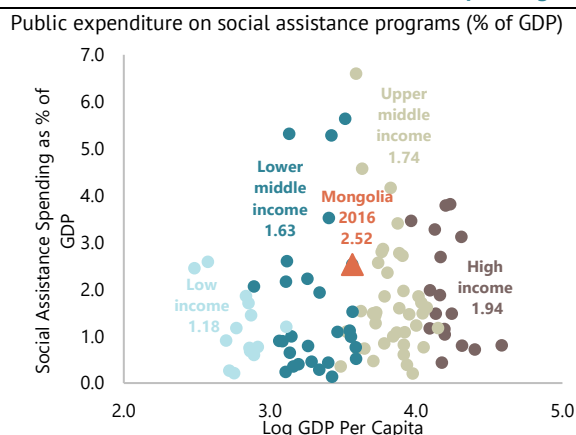
Agricultural loan interest rate subsidies. The government provided 770 basis points in interest rate subsidies targeting herders and agricultural production of cashmere, wool, meat, and crops. This program provided financing support for purchases of wheat and oilseed in times of rapidly rising food commodity prices and weak crop production during 2022.

Annex 2: Stylized facts on Mongolia's social assistance system

Mongolia has established a social safety net, comprising a set of diverse programs that reach a large part of the population and based on a robust legal foundation. Social assistance includes 16 programs that deliver more than 40 benefits, targeted to a specific social or demographic group, including the elderly, children under age 18, and the poor.[28] Nearly half of these benefits are cash transfers, with transfer amounts varying significantly across programs. This welfare system is built on a strong legal foundation that outlines several core objectives, including building human capital and reducing vulnerabilities of at-risk population groups.[29]

Social assistance is generous and primarily targeted at families with children. Prior to the COVID-19 pandemic, Mongolia spent about 2.5 percent of its GDP on social welfare, much more than other lower middle-income countries (1.6 percent of GDP). This share was also higher compared with the average level in high-income countries (1.9 percent of GDP), which can typically afford a more comprehensive and generous welfare system (figure A2.1).[30] Excluding administrative costs, about 60 percent of Mongolia's pre-COVID social expenditure targeted families with children through programs like the Child Money Program (CMP) (a quasi-universal program targeting children), a childcare allowance for children under age three, regular transfers to orphaned or disabled children, and the lifetime Mother Hero Program for women who gave birth to four or more children.[31]

Figure A2.1. Even before the pandemic, Mongolia stood out in terms of the size of social assistance spending ...	Figure A2.2. ... which was further increased during the pandemic

Public expenditure on social assistance programs (% of GDP)

Social assistance spending as a percentage of GDP, 2019–21

Source: Fraikin 2022.
Note: All estimates are obtained from the Atlas of Social Protection Indicators of Resilience and Equity (ASPIRE) and refer to pre-COVID years. Mongolia's estimate is the average for 2010–16. In ASPIRE, expenditure refers to the total statutory social assistance program expenditure including spending on benefits and administrative costs.

Source: Mongolian Statistical Information Service.
Note: 2021 data do not include the exceptional income support related to the pandemic such as the one-time cash transfer provided in May 2021. Expenditures on pensions, benefits, and services, excluding administrative costs.

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[28] Social protection systems are typically based on three pillars: social insurance, labor and employment services, and social assistance (also known as social welfare and considered exclusively in this chapter).
[29] The current legislation on social assistance is comprised of six laws: Law on Cash Allowances for the Honored Mothers (2011); Social Welfare Law (2012); Law on the Rights of People with Disabilities (2016); Law on Social Protection of the Elderly; Law on Providing Benefits and Discounts to the Honored Elderly; and Law on Providing Benefits to Mothers, Single Parent with Multiple Children (2017). Amendments to the Social Welfare Law were approved by the Parliament in 2022.
[30] Fraikin 2022.
[31] Own calculations based on data retrieved from the Mongolian Statistical Information Service.

To address the challenges brought by the COVID-19 pandemic, the government significantly increased welfare benefits, particularly the CMP. Support provided through two main programs, the CMP and the Food Stamp Program (FSP), expanded substantially in 2020, with the CMP, in particular, experiencing a fivefold increase (from MNT 20,000 per month to MNT 100,000 in May 2020) and expanding coverage to previously unenrolled families.[32] CMP benefits alone increased from 0.6 percent of GDP in 2019 to 3.3 percent in 2021 (figure A2.2), accounting for nearly three-quarters of total social spending in 2021, up from 34 percent in 2019. Expressed as a percentage of the average wage in the country, the value of the CMP benefit also increased substantially, from 1.6 percent to 8.2 percent, much higher compared to rich countries with comparable child benefit schemes (figure A2.3).

Figure A2.3. The amount of CMP benefits is also high compared to the average wage

Value of child benefits as a percentage of the average wage
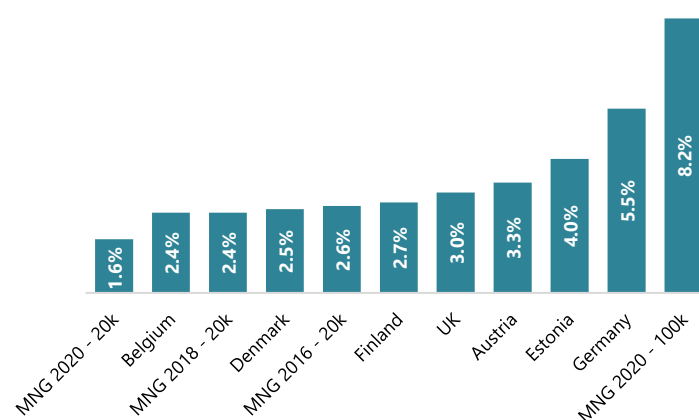
Source: Mongolian Statistical Information Service.
Note: Own calculations based on ODI/UNICEF 2020, OECD, and World Development Indicators. Data refer to the most recent available year.

The country's diverse programs translate into an exceptionally high coverage rate, driven principally by the CMP. As of 2021, about 87 percent of Mongolians and all the poor (98.6 percent) benefited directly or indirectly (that is, to live in a household with at least one social assistance beneficiary) from the country's social safety net.[33] The high coverage is largely driven by the CMP, a quasi-universal program targeted to all children aged zero to 18 (see box II.1). In 2021, the program had more than 1.2 million beneficiaries (99 percent of children. Other welfare programs are much smaller. Indeed, taken together, various family-targeted programs registered about 538,000 beneficiaries. The FSP, which used to be one of the larger programs in the past, saw its beneficiary numbers drop significantly (from around 242,000 recipients in 2019 to 170,000 beneficiaries in 2021).

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[32] Measures that directly impacted household disposable income included a fivefold increase in the CMP benefit and a doubling of the support provided through the FSP. While the CMP benefit increase was extended beyond 2020, the additional support for the FSP ended in December 2020.
[33] Posadas and Vandeninden 2020. The poor refers to the population in the bottom quintile of the welfare distribution.

Annex 3. Behavioral responses to cash transfers: Theory and empirical evidence

Traditional labor market models predict a negative relationship between welfare payments and the propensity to work. Since regular transfers improve household resources, beneficiaries are likely to reduce their labor supply. If eligibility was determined through an income criterion, cash transfers provide additional disincentives to finding employment since higher earnings may disqualify recipients from getting benefits. In addition to short-run negative effects, longer-term welfare dependency may arise due to a lack of work experience or skills depreciation.[34]

A more nuanced discussion, which better reflects the situation in many low- and lower-middle-income countries, shows that there are several channels through which cash transfers could increase labor supply.[35] For example, when living standards are too low for people to engage in labor market activities, transfers could help destitute households escape the classic poverty trap. Cash transfers could also help close financial gaps and promote self-employment: When credit-constrained households are able to invest in productive assets, they are more likely to start or expand a business. Cash transfers could also finance risky but profitable activities, such as rural-urban migration. Finally, additional funds could have spillover effects through increased demand for local goods and services.

With the theory being ambiguous, it is an empirical question of how individual labor supply reacts to welfare payments. Program design, the underlying economic situation, or local labor market conditions are considered drivers of the direction and magnitude of the behavioral response of social welfare beneficiaries. Despite the large variety of programs and country-specific factors, most studies conclude little to no effect on the overall labor supply. When impacts are identified, they are often small or significant only for a specific subgroup of the population. Rather than affecting the total labor supply, transfers might change the type of work that beneficiaries engage in. For example, a shift from formal to informal work or toward working within the household and self-employment has been documented in several countries.[36] Taken together, the existing body of empirical studies largely concludes no systematic evidence of (cash) transfer programs on labor supply. However, specific family-related programs could have a negative impact on female labor force participation.

We estimate the effect of the Child Money Program (CMP) on labor force participation (LFP) of mothers using a Regression Discontinuity Design (RDD) model. RDD is an observational design that uses a threshold in a continuous variable to identify the effect of a treatment. This threshold creates a natural experiment, where individuals who are just above or just below the threshold are almost identical in all aspects except for their treatment status. Thus, RDD can be considered a quasi-experimental method that provides a credible causal estimate of the treatment effect. RDD also has the advantage of being transparent, simple to understand and implement, and requires fewer assumptions than other methods such as difference-in-differences or propensity score matching.

Fuzzy RDD is used when the running variable is not perfectly correlated with the treatment status—in other words, in situations where it is difficult to identify a sharp cutoff point. In contrast to traditional RDD, where the treatment is perfectly determined by the running variable at the threshold, in fuzzy RDD, individuals have a different probability of being assigned to treatment based on their distance from the threshold.

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[34] IDB 2011.
[35] Based on Banerjee et al. (2017).
[36] See references in Banerjee et al. (2017).

Fuzzy RDD requires the identification of a valid instrument that is correlated with the running variable, but not directly with the outcome, to obtain unbiased estimates of the treatment effect. Therefore, the analysis with fuzzy RDD typically involves two stages. In the first stage, the probability of treatment assignment is estimated, given the running variable and the instrumental variable. In the second stage, the treatment effect is estimated by regressing the outcome on the predicted probabilities of treatment assignment, along with controls for the running variable and other covariates.

Our sample consists of mothers[37] aged 30 to 60 whose children are aged 10 to 26. We specifically chose this age bracket for children to assess the impact of CMP receipt on the labor force participation of mothers with children around age 18, the age threshold for CMP benefits receipt. For the purpose of our study, we defined mothers as females who are wives of household heads and reside in the household, with at least one child aged 10 to 26[38] and no child under age 10. In addition, any person aged 10 to 26 living in the household other than the household head is identified as a child.[39] Our comparability assumption of both groups just below or just above the threshold is somewhat questionable due to our sample selection process. In particular, our sample excludes mothers whose children have married or moved out of the household, which could lead to biased estimates if the fact that older children are still living in the household is related to specific individual-level or socioeconomic factors and affects mothers' labor force participation. To address this concern, we include observable characteristics of mothers such as age and education in our analysis to account for any confounding factors that might impact the estimated effect of CMP receipt on LFP.

We operationalize the running variable in our study as the difference between the minimum age of children living in the household, between ages 10 and 26, and the age of 18, where 18 is the cutoff point below and above which the probability of receiving the CMP is modified. To identify the most suitable specification for the running variable, we tested different approaches, including the average age of children and the average age multiplied by a binary indicator of whether the minimum child age is below 18. Ultimately, we chose the minimum age of children living in the household as our measure of CMP eligibility, as it accurately reflects household eligibility for CMP benefits, given that mothers with children under age 10 are not included in our sample. The selected running variable presents a clear discontinuity in CMP receipt at the household level at the threshold we have identified.

The fuzzy RD model is expressed as follows:

First stage: $CMP_i = \sigma + \beta\, D_i + \gamma z_i + X'\theta + \varepsilon_i$
Second stage: $Y_i = \alpha + \gamma z_i + \delta \widehat{CMP}_i + X'\theta + \mu_i,$

where *i* indexes mothers, and σ and α are the intercepts for the first stage and the second stage equations, respectively. The outcome variable, *Y*, represents the mother's LFP status (1 for in the LFP). CMP is CMP

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[37] Our decision to examine the LFP of mothers is based on the assumption that they are responsible for managing social welfare benefits in the household budget. Moreover, we are specifically interested in investigating the decline of women's LFP over the last decade.

[38] We select a sample of mothers with children aged 10 to 26, which is equal to the CMP age threshold of 18 [-8; +8]. We chose this particular age group as a compromise between group comparability and sample size. We have tried different age groups for children, such as 14 to 22 and 15 to 21, but these did not affect our results.

[39] We also exclude as household members any individuals who are considered household heads, student members who have been away from the household for more than 11 months, and any other household members who have been away from the household for more than six months.

receipt at the household level (1 if the household receives CMP benefits for at least one child). The running variable, z, is the age difference between the minimum age of children who live in the household and 18.[40] The instrument, D, is the program status binary variable that is equal to 1 if $z_i \leq 0$. We assume that D_i has no direct effect on mothers' LFP after controlling for z_i. X' is a vector of observable characteristics that may affect LFP (such as age of education).[41] θ is a vector of coefficients, and ε_i and μ_i are error terms.

RDD allows for local average treatment effects (LATE) estimation, which measures the effect of the treatment on individuals close to the threshold. The LATE is calculated as the difference in the average LFP between mothers whose children are just below and just above our threshold identified by the running variable. The estimated value of δ provides a measure of the LATE of CMP receipt on LFP. A positive and significant δ indicates that CMP receipt increases LFP, while a negative and significant δ suggests that CMP receipt decreases LFP. Table A3.1 shows the empirical results.

While the results of this study provide valuable insights, there are opportunities for further research for a deeper understanding of the impact of CMP benefits on mothers. The econometric model employed in this study relied on several assumptions such as the use of a discrete age variable and the choice of parameters in the sample selection method (for example, children's age bracket and the definition of mothers/children), but future research could explore other assumptions and use other econometric methods (if data availability allows it). In addition, while the study examines the effect of receiving CMP benefits or not, future studies could also consider the amount of the benefit and use a censored regression model to analyze the data. Finally, one potential area for future research could be exploring alternative running variables to better understand the influence of CMP benefits (received at the household level) on an individual-level labor force participation decision.

Table A2.1. Regression results

Variable	(1) Model 1[a] Mother's LFP status	(2) Model 2 Mother's LFP status
CMP receipt (household level) [0,1]	0.0101 (0.0398)	0.0167 (0.0520)
Primary school or less [0,1]	-0.0194 (0.0745)	-0.0318 (0.0798)
Secondary school [0,1]	0.0408 (0.0686)	0.0440 (0.0724)
College or higher [0,1]	0.162** (0.0750)	0.168** (0.0758)
West Urban [0,1]	0.0263 (0.0421)	-0.0142 (0.0361)

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[40] Following Lee and Card (2008), we control the group structure of the standard errors through clustering on the minimum age of children, since our age variable is only available at the year level and does not allow us to compare the outcomes for observations "just above" and "just below" the treatment threshold.

[41] We add several explanatory variables to our model: age and its squared form, the region and the rural area where the household lives, the highest level of education attained by the mother (primary or below, secondary, or higher than secondary), an indicator of household members living away from the household, the sum of wages received by household members other than the mother, a binary indicator of own production means, a binary indicator of the mother attending school, a binary indicator of the children in the household all attending school, the number of dwellings owned and a binary indicator of the house being a ger. We also tried another specification with just age, education, region, and rural control variables, resulting in similar coefficients for the causal effect of the CMP.

West Rural [0,1]	0.106***	0.0333
	(0.0374)	(0.0405)
Highlands Urban [0,1]	0.0813*	0.0577
	(0.0439)	(0.0405)
Highlands Rural [0,1]	0.192***	0.117***
	(0.0237)	(0.0271)
Central Urban [0,1]	0.0971***	0.0790***
	(0.0270)	(0.0278)
Central Rural [0,1]	0.0874***	0.0195
	(0.0235)	(0.0224)
East Urban [0,1]	0.0867*	0.0592
	(0.0492)	(0.0459)
East Rural [0,1]	0.154***	0.0825***
	(0.0185)	(0.0191)
>1 household member living away [0,1]		-0.0808**
		(0.0339)
Attending school [0,1]		-0.151
		(0.363)
Household size		-0.0176
		(0.0130)
Age	0.156***	0.160***
	(0.0158)	(0.0175)
Age squared	-0.00185***	-0.00189***
	(0.000173)	(0.000194)
Every child attending school [0,1]		-0.00918
		(0.0336)
Total wage of other household members		3.17e-09
		(2.07e-08)
Household has own production means [0,1]		0.103***
		(0.0229)
One dwelling owned		0.0650
		(0.0642)
Two or more dwellings owned		0.127*
		(0.0667)
Dwelling is not a ger		-0.0138
		(0.0249)
Running variable	0.00121	-0.000113
	(0.00508)	(0.00468)
Constant	-2.560***	-2.685***
	(0.352)	(0.373)
Observations	2,175	2,175
R-squared	0.125	0.143

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