AMRO Country Report
ACR/23-04

ASEAN +3 MACROECONOMIC RESEARCH OFFICE

AMRO Annual Consultation Report

Indonesia - 2022

ASEAN+3 Macroeconomic Research Office (AMRO)

April 2023

Acknowledgements

1. This Annual Consultation Report on Indonesia has been prepared in accordance with the functions of AMRO to monitor and assess the macroeconomic status and financial soundness of its members; identify relevant risks and vulnerabilities; report these to member authorities; and if requested, assist them in mitigating these risks through the timely formulation of policy recommendations. This is being done in accordance with Article 3 (a) and (b) of the AMRO Agreement.

2. This Report is drafted on the basis of the Annual Consultation Visit (ACV) of AMRO to Indonesia, which was conducted in Jakarta, Indonesia, from December 5 to 23, 2022 (Article 5 (b) of the AMRO Agreement). The AMRO ACV team was headed by Dr Sumio Ishikawa, Group Head and Lead Economist. The ACV members were Dr Thi Kim Cuc Nguyen, Country Economist for Indonesia; Dr Andriansyah, Fiscal Specialist and Back-up Economist for Indonesia; Ms Chunyu Yang, Associate Economist; Mr Sota Nejime, Associate Researcher; and Ms Phiengphathai Maniphone, Associate. AMRO Director Dr Kouqing Li and Chief Economist Dr Hoe Ee Khor participated in key policy meetings with the authorities. The AMRO Annual Consultation Report on Indonesia for 2022 was peer-reviewed by a group of economists from AMRO's Country Surveillance, Financial Surveillance and Fiscal Surveillance teams; endorsed by the Policy and Review Group; and approved by Chief Economist Dr Hoe Ee Khor.

3. The analysis in this Report is based on data and information available up to February 15, 2023.

4. By making any designation of or reference to a particular territory or geographical area, or by using the term "member" or "country" in this Report, AMRO does not intend to make any judgments as to the legal or other status of any territory or area.

5. On behalf of AMRO, the ACV team wishes to thank the Indonesian authorities for their comments on this Report, as well as their excellent meeting arrangements during our visit.

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Executive Summary

The Indonesian economy posted a firm recovery in 2022, led by strong rebound in domestic demand as consumer and business confidence was sustained, and by robust exports. The authorities are encouraged to constantly recalibrate the policy mix to maintain stability and support economic growth in the face of stronger headwinds. In addition, accelerating structural reforms is critical for Indonesia to transition smoothly to a green and sustainable economy and to adapt to demographic changes, along with ongoing efforts to boost infrastructure development and improve the business climate.

1. The Indonesian economy posted a firm recovery in 2022. The recovery momentum was boosted by strong domestic demand, while exports benefited from elevated commodity prices and higher value-added from downstream natural resource-based industries. The economy grew solidly by 5.3 percent in 2022. Economic growth will likely remain strong at 5.0 percent in 2023, supported by resilient domestic demand amid an expected slowdown in global demand. While soaring global food and fuel prices were passed on to domestic prices, consumer price inflation has been relatively contained due to Bank Indonesia (BI)'s prompt monetary policy response in synergy with policy measures conducted by the government and related institutions to control inflation, including subsidies of fuels and other necessities. AMRO staff project that the consumer price inflation will moderate to within the central bank's target range by Q4 2023.[1]

2. The external position remained strong. Like other emerging markets (EMs), Indonesia saw outflows from the government bond market along with increased global financial market uncertainty triggered by aggressive monetary tightening, notably from the United States Federal Reserve, in 2022. Stability of the rupiah was nevertheless maintained, thanks to an improvement in the current account and higher foreign investment inflows. Indonesia's external debt also declined steadily to about 30 percent of GDP in 2022, down from about 35 percent in 2021. The debt structure has been sound, with short-term external debt by remaining maturities accounting for about 17 percent of total external debt.

3. Rebounding economic activity underpinned improved financial performance among listed firms and banks. Increased earnings are observed in commodity exporters on the back of higher demand and prices. Likewise, domestic activity resumed and benefited sectors that produced necessity consumer goods. This is in line with the movement of the Jakarta Composite Index, which outperformed regional peers in 2022. Amid a strong recovery in loan growth, banks have been resilient with stable loan quality, high capital buffers and elevated provisions. Notably, the size of restructured loans moderated from 11 percent of total loans outstanding as of end-2021 to 7.3 percent by end-2022, and the non-performing loan (NPL) ratio also fell to 2.4 percent in December 2022.

4. The central bank recalibrated its policy mix in response to external shocks to contain inflation, while supporting growth and ensuring financial stability. BI started its liquidity normalization policy last year by raising the rupiah reserve requirement ratio to absorb excess liquidity. BI also increased its benchmark policy rate to anchor inflation expectations and hence core inflation. As banks remained financially sound, macroprudential policies continued to be relaxed to support economic recovery, in line with other policy measures of the Financial System Stability Committee.[2]

5. AMRO commends the efforts to upgrade payment systems and promote financial inclusion. Notably, BI launched the real-time retail electronic payment system BI-FAST and expanded the use of standardized quick response payments at home and with neighboring countries. In addition, a white paper was published on Project Garuda about central bank digital currency, marking another step toward improving the efficiency of the payment system in the digital era.

[1] AMRO staff projection for headline consumer price inflation is on a quarterly average basis (not end of the quarter). Meanwhile, Bank Indonesia projects headline consumer price inflation will moderate within its target range in the second half of 2023.
[2] The Committee comprises of Ministry of Finance of Indonesia, Bank Indonesia, Financial Services Authority (OJK), and Indonesia Deposit Insurance Corporation (LPS).

6. The government promptly took policy measures to contain inflation and maintain the people's purchasing power. These measures included efforts to strengthen the interregional supply and distribution of necessity goods, notably food and food ingredients. To absorb the shock of global commodity price hikes, the government increased the subsidy budget for 2022 and retained subsidized fuel prices. More recently, the government raised several subsidized fuel prices to ease pressure on the budget while providing more cash transfers and wage subsidies to vulnerable groups.

7. The fiscal position has consolidated faster than budgeted on the back of robust tax revenue collection. The 2021 tax reform package, coupled with rebounding economic activity and commodity price windfalls, contributed to a strong revenue performance in 2022. The budget deficit narrowed to substantially below 3 percent of GDP in 2022, one year ahead of the government's plan. AMRO expects the fiscal deficit to stay below 3 percent of GDP in 2023, underpinned by further tax measures and lower expenditure on account of reduced COVID-19 spendings and energy subsidies.

8. Indonesia's short-term outlook is influenced by positive spillovers from China's re-opening and a sharper-than-expected global slowdown with potential recession in some other major trading partners. China's recent lifting of its zero-COVID policy and reopening of its borders will benefit tourism and exports, and present an upside opportunity for Indonesia. On the downside, as the global outlook dims, inflationary pressures might linger alongside prolonged geopolitical tensions and the protracted energy crisis. Continued monetary tightening, especially by the Fed, could extend the uncertainty in global financial markets. Challenges facing Indonesia in the medium to long term arise from the need to improve the investment climate, supported by infrastructure development and better connectivity. It is also critical for Indonesia to transition smoothly to a green and sustainable economy and adapt to demographic changes.

9. AMRO supports the authorities' constant recalibration of the policy mix in response to changing domestic and external developments, such as global economic slowdown, rising inflation, and policy rate hikes by the central banks of advanced economies. As risks to inflation and capital flows persist, policy measures to contain inflationary pressure and safeguard exchange rate stability remain crucial. At the same time, the central bank should stand ready to ease monetary policies to sustain the recovery momentum if the risk balance tilts toward a sharper global slowdown. In addition, policy measures to deepen domestic financial markets (including the FX market), enhance the payment system, and promote green and inclusive economy should continue.

10. Targeted policy support could be refined. Micro, small and medium enterprises (MSMEs) can gain better access to bank financing through improved bookkeeping in addition to the existing credit guarantee and interest subsidy program. Financial inclusion could be strengthened via fintech along with efforts to raise financial and digital literacy. As the loan restructuring program has been extended until March 2024 for MSMEs and selected sectors, banks should be encouraged to prudently continue the program for viable borrowers only.

11. Fiscal space could be further rebuilt by implementing revenue-based measures. In particular, the government should continue to implement the 2021 tax reform package. While excess financing has increased recently to provide a fiscal buffer amid ongoing uncertainties, the cost of doing so is not trivial and can be minimized by improving cash and debt management. At the same time, efforts to enhance spending efficiency and effective budget allocation to support sustainable growth should continue.

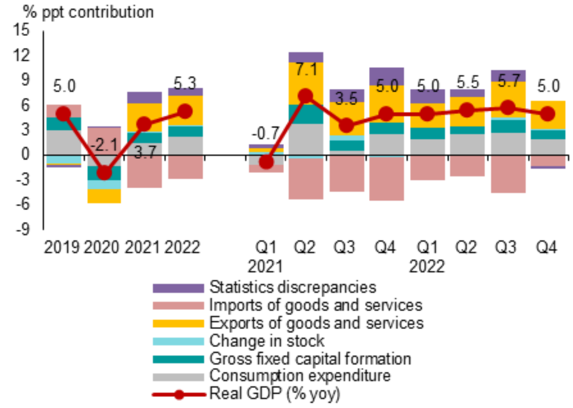
12. AMRO encourages the authorities to step up structural reforms. AMRO welcomes the authorities' plan to launch a carbon trading market for coal-fired power plants this year. The newly endorsed Omnibus Law on Development and Strengthening of Financial Sector is expected to reform and strengthen the national pension system and deepen the domestic financial market. A strong pension system can, in turn, support the financing of infrastructure development, complementing policy initiatives to raise funds from the private sector.

A. Recent Developments and Outlook

A.1 A Firm Recovery

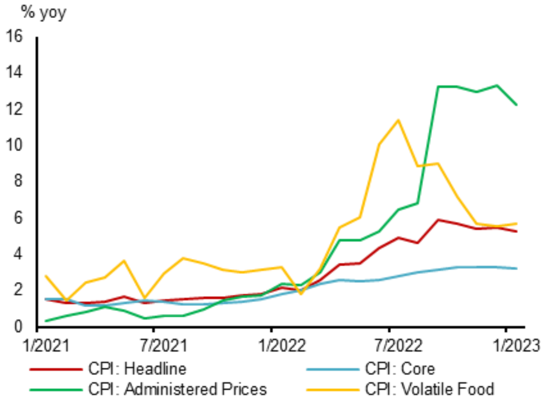
1. The Indonesian economy firmly recovered in 2022. Real GDP growth accelerated to 5.3 percent year on year (yoy) in 2022, up from 3.7 percent in 2021 (Figure 1). A resilient export performance, coupled with rebounding household consumption spurred by the removal of COVID-19 mobility restrictions, underpinned the strengthened growth momentum. Firms have also increased investment, as manifested in a recovery of the capacity utilization ratio across different manufacturing segments. The border reopening has hastened recovery in provinces that depend on international tourists. Against this backdrop, the labor market has continued to normalize toward pre-pandemic levels. Solid domestic demand is expected to support the economy in the face of an expected slowdown in global demand. AMRO projects that economic growth will remain firm at 5.0 percent in 2023.

Figure 1. Demand-side Contribution to Real GDP Growth



Source: Statistics Indonesia; CEIC; AMRO staff calculations

Figure 2. Consumer Price Indices



Source: Statistics Indonesia; CEIC; AMRO staff calculations
Note: Monthly data valid up to January 2023.

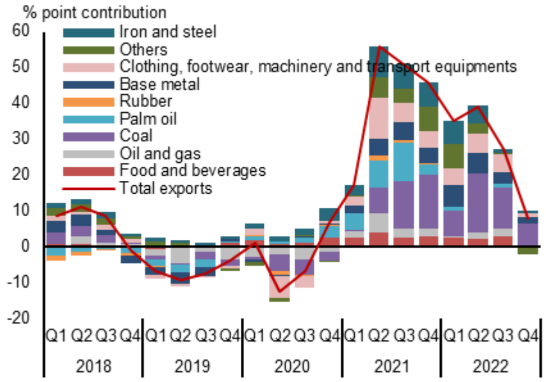
2. Inflation has been spurred by soaring global energy and food prices. Higher global commodity prices have been passed on to domestic prices, lifting headline inflation above the target range of 2-4 percent in June 2022 and keeping it there since then (Figure 2). That said, the increases in consumer prices in Indonesia were more contained relative to regional peers, mitigated by BI's prompt monetary policy responses in synergy with policy measures conducted by the government and related institutions to control inflation, including subsidies and measures to enhance the domestic supply and distribution of key food and food ingredients. Headline inflation peaked at 5.95 percent yoy in September 2022 on the back of price increases for several subsidized fuels but moderated more recently. AMRO staff project that the consumer price inflation will fall within the target range by Q4 2023.[3]

3. Current account surpluses and increased foreign direct investment (FDI) have supported Indonesia's external sector. In addition to the elevated commodity prices, Indonesia has benefited from downstream activities in natural resource-based industries with more exports of processed metals such as iron and steel in recent years (Figure 3). Likewise, basic metal processing industries have recorded higher FDI inflows in line with a current drive to develop the electric vehicle (EV) ecosystem, notably battery production capacity, by leveraging Indonesia's rich nickel reserves (Figure 4). Meanwhile, like other EMs, Indonesia

[3] AMRO staff projection for headline consumer price inflation is on a quarterly average basis (not end of the quarter). Meanwhile, Bank Indonesia projects headline CPI will moderate within its target range in the second half of 2023.

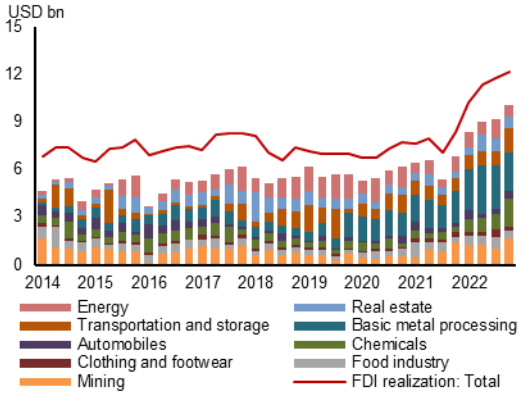
saw outflows from the government bond market along with increased global financial market uncertainty triggered by aggressive monetary tightening by the U.S. Federal Reserve in 2022 (Figure 5).[4] The stronger U.S. dollar and higher interest rates abroad also propelled some Indonesian residents into increasing their holdings of external assets. Notably, exporters reportedly put more foreign exchange earnings overseas (Box A). That said, an improved current account balance, underpinned by strong exports, coupled with elevated FDI inflows, has supported the rupiah[5] and Indonesia's balance of payments (Figure 6). Gross international reserves remained high at USD139.4 billion as at January 2023, sufficient to cover about 6.1 months of imports of goods and services and twice the short-term external debt.

Figure 3. Contribution to Export Growth



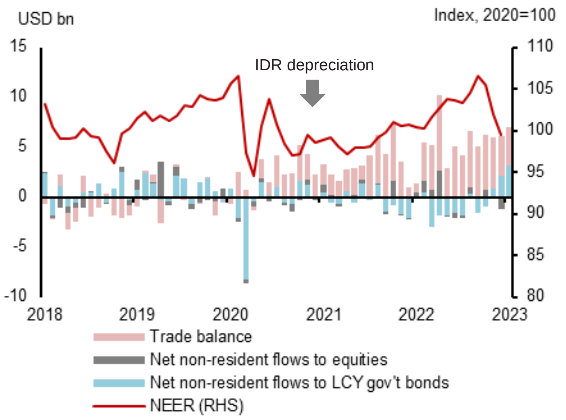
Source: Statistics Indonesia; CEIC; AMRO staff calculations

Figure 4. FDI Realization



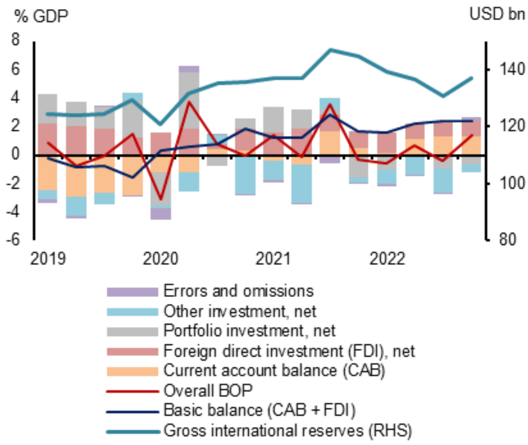
Source: Investment Ministry; CEIC; AMRO staff calculations
Note: Quarterly data obtained up to Q4 2022.

Figure 5. Trade Balance, Net Non-resident Flows to Capital Markets, and IDR Spot Rate



Source: Bank for International Settlement (BIS); Ministry of Finance; Jakarta Stock Exchange; CEIC; AMRO staff calculations
Note: NEER stands for nominal effective exchange rate. Monthly data obtained up to December 2022 for NEER, and January 2023 for the remaining indicators.

Figure 6. Overall Balance of Payments and Gross International Reserves



Source: Bank Indonesia; CEIC; AMRO staff calculations
Note: Quarterly data obtained up to Q4 2022.

4. Indonesia's external debt has declined steadily. The government's external debt decreased on the back of a reduction in foreign holdings of rupiah-denominated government bonds and lower foreign currency (FCY) loans outstanding. The non-financial corporate sector also reduced its FCY borrowing and, to a lesser extent, FCY bond issuances last year. All in all, Indonesia's external debt declined markedly to 30.1 percent of GDP as of end-2022, down

[4] The government bond market has seen net inflows in recent months, as investor sentiment was boosted amid abating expectations of aggressive Fed rate hikes and declining inflation in the U.S.
[5] The rupiah depreciated about 3.9 percent against the USD in 2022. In comparison, the Singapore dollar depreciated about 2.3 percent, Malaysian ringgit 5.6 percent, the Philippine peso 9.5 percent and Thai baht 8.5 percent.

from 39.3 percent and 34.9 percent at end-2020 and end-2021, respectively (Table 1). The external debt structure remains sound, with the share of short-term external debt by remaining maturities accounting for about 17 percent of total external debt.

Table 1. Gross External Debt: 2018-2022

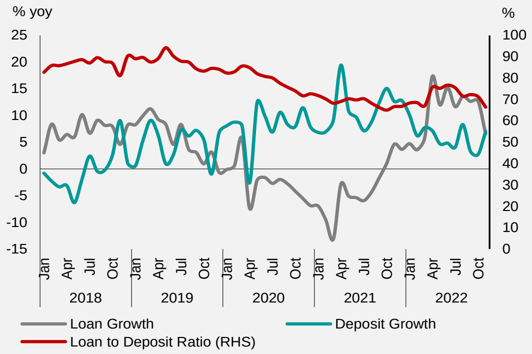
in billions of USD, unless otherwise indicated	2018	2019	2020	2021	2022			
	Dec	Dec	Dec	Dec	Mar	Jun	Sep	Dec
External Debt: Total	375.4	403.6	416.9	414.0	410.5	402.7	395.1	396.8
in percent of GDP	*36.0*	*36.1*	*39.3*	*34.9*	*33.6*	*31.8*	*30.3*	*30.1*
External Debt: Government	183.2	199.9	206.4	200.2	196.2	187.3	182.3	186.5
o/w LCY bonds and notes held by non-residents	61.7	76.4	69.0	62.4	59.1	52.4	47.9	48.9
o/w FCY bonds and notes	66.3	69.1	77.7	81.3	80.3	80.7	82.0	82.0
o/w FCY loans	55.2	54.4	59.6	56.5	56.9	54.2	52.3	55.6
External Debt: Bank Indonesia	3.1	3.0	2.9	9.0	8.9	8.6	8.2	9.2
External Debt: Private	189.2	200.7	207.7	204.8	205.4	206.8	204.6	201.2
External Debt: Banks	34.4	35.2	33.6	32.9	32.9	35.3	34.4	33.9
External Debt: Private: Non Bank	154.8	165.4	174.1	171.9	172.5	171.5	170.2	167.3
External Debt: Non-bank financial corporates	10.6	11.4	9.6	8.5	8.4	7.0	6.6	6.4
External Debt: Non-financial corporates	144.2	154.1	164.5	163.4	164.1	164.5	163.6	160.9
o/w LCY bonds and notes held by non-residents	1.4	0.6	0.3	0.1	0.1	0.1	0.1	0.1
o/w FCY bonds and notes	34.0	38.5	46.6	48.4	47.9	49.6	48.4	47.6
o/w FCY loans	95.5	100.0	104.9	99.5	99.9	98.2	99.1	97.8
o/w trade credit	12.0	13.7	11.0	13.7	14.7	15.2	14.7	14.0
o/w other borrowings	1.2	1.2	1.6	1.6	1.5	1.3	1.3	1.4
External debt: short-term by remaining maturities	60.2	63.3	65.1	59.4	62.8	66.7	62.6	66.6
in percent of total external debt	*16.0*	*15.7*	*15.6*	*14.4*	*15.3*	*16.6*	*15.8*	*16.8*
in percent of gross international reserves	*49.9*	*49.0*	*47.9*	*41.0*	*45.2*	*48.9*	*47.8*	*48.6*

Source: Bank Indonesia; CEIC; AMRO staff calculations
Note: BI's increased external debt in 2021 was due to the IMF's additional SDR allocation.

Box A. Recent Developments of U.S. Dollar Liquidity[6]

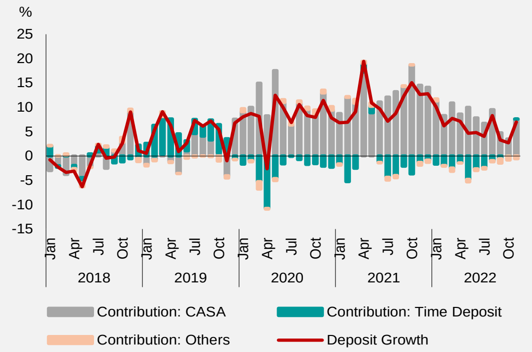
Liquidity of the U.S. dollar in the Indonesian banking system was tighter in 2022 as growth of dollar deposits slowed amid a pickup in loan growth. U.S. dollar loans rebounded from a contraction in 2021 to grow 17 percent in March 2022 and has grown at double-digit pace after that, except for a dip in November. Meanwhile, dollar deposit growth has been broadly decelerating (Figure A1). As a result, the dollar loan-to-deposit (LTD) ratio increased to 77 percent in H1 2022, up from 67 percent in end-2021, though it still stayed below the pre-pandemic level of around 87 percent. In recent months, the LTD ratio has moderated, posting 66 percent in November 2022.

Figure A1. FCY Loan Growth, Deposit Growth and LTD Ratio



Source: Indonesia Deposit Insurance Corporation; AMRO staff calculations

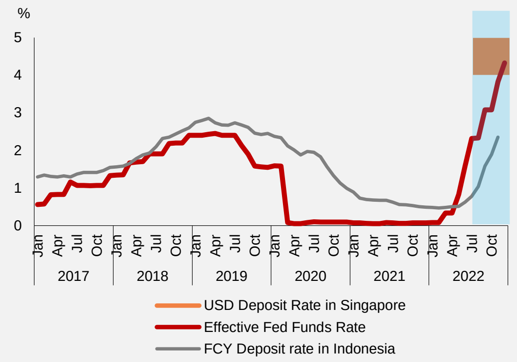
Figure A2. FCY Deposit Growth and Contribution Breakdown



Source: Indonesia Deposit Insurance Corporation; AMRO staff calculations

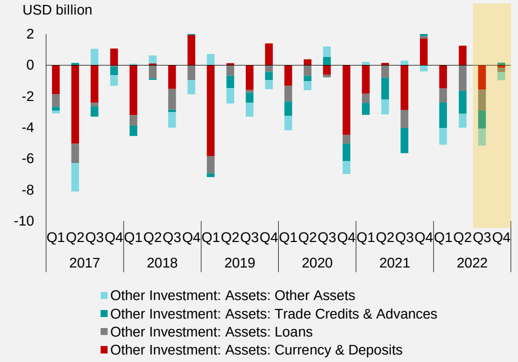
The slowdown in dollar deposit growth is mainly attributed to slower growth in USD CASA deposits (Figure A2). The growth of USD CASA deposits moderated to 11 percent in November 2022, down from 22 percent at end-2021. Indonesian exporters reportedly kept more of their FX earnings outside Indonesia, in part due to higher interest rates overseas.[7] Local banks' dollar deposit rates are found to have increased since April 2022, possibly due to banks' efforts to keep liquidity quite ample amid higher loan demand. Nevertheless, onshore dollar deposit rates continued to be lower than dollar interest rates elsewhere (Figure A3), likely underpinned by a still-subdued FCY loan demand.[8] This seems to be consistent with BOP data which shows continued outflows by residents to acquire external assets, among which were the "other investment" assets, including currency and deposits at overseas banks (Figure A4).

Figure A3. Interest Rate Comparison



Source: IMF; CEIC; commercial banks in Singapore
Note: Due to the lack of time series data, the orange square shows the range of USD time deposit rates sourced from the website of commercial banks in Singapore.

Figure A4. "Other Investment" Account: Assets

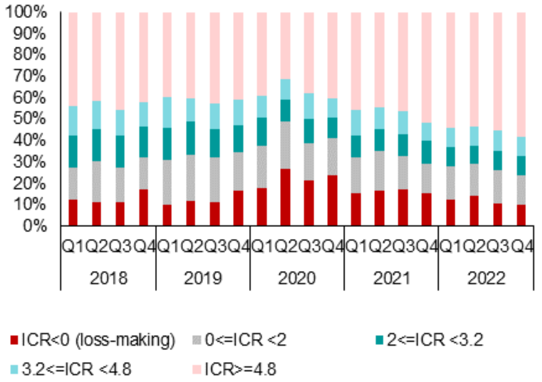


Source: BI

[6] This box is prepared by Yang Chunyu, Associate Economist, with contribution from Nguyen Thi Kim Cuc, Deputy Group Head and Senior Economist. Given that some data series for the U.S. dollar are not available, we use data series for foreign currency (FCY) as a proxy for the dollar since most FCY deposits in Indonesia are in the U.S. dollar. Therefore, the terms "U.S. dollar" and "FCY" are used interchangeably.
[7] Current regulations require exporters to repatriate their FX earnings onshore within 90 days of their invoice, but do not mandate a minimum holding period, hence exporters are eligible to transfer earnings overseas anytime afterward.
[8] In September 2022, the FCY deposit rate onshore was 1.58 percent, when the U.S. dollar time deposit rate in Singapore was already above 4 percent (3.99-4.24 percent for one month, 4.27-4.68 percent for three months, 4.51-5.08 percent for six months, and 4.54-4.79 percent for 12 months).

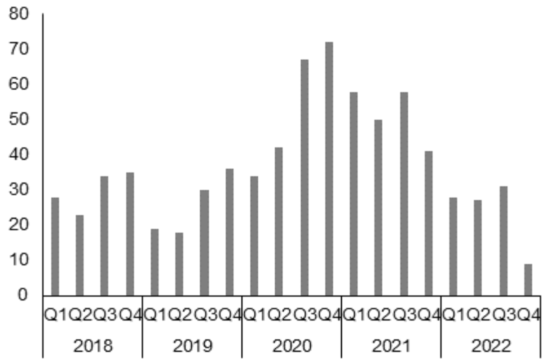
5. Listed firms' financial performance has broadly improved. The share of listed firms that reported an interest coverage ratio (ICR) of below 2 continued to decline, from 29.5 percent in end-2021 to 23.8 percent in Q4 2022, going below the pre-pandemic level of 34.4 percent (Figure 7). The number of firms that reported at least three consecutive quarters of negative earnings has also shrunk from the 2020 peak (Figure 8). Increased earnings are observed in commodity exporters, thanks to higher global demand and prices. While a full recovery in real estate and discretionary consumer goods remains to be seen, especially in tourism-related firms, the resumption of domestic activity has benefited sectors that produced necessity consumer goods (Figure 9). This is in line with the movement of the Jakarta Composite Index (JCI), which outperformed regional peers in 2022 (Figure 10).

Figure 7. Composition of Listed Firms by ICR



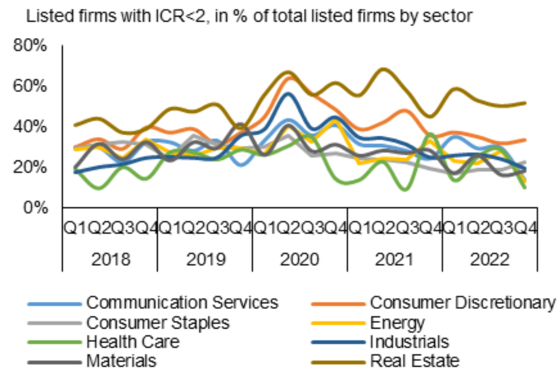
Source: Bloomberg; AMRO staff calculations
Note: Interest coverage ratio (ICR) is calculated as the ratio of earnings before tax, depreciation and amortization (EBITDA) to total interest expenses. Quarterly data obtained up to Q42022.

Figure 8. Number of Listed Firms with Three Consecutive Quarters Negative Earnings



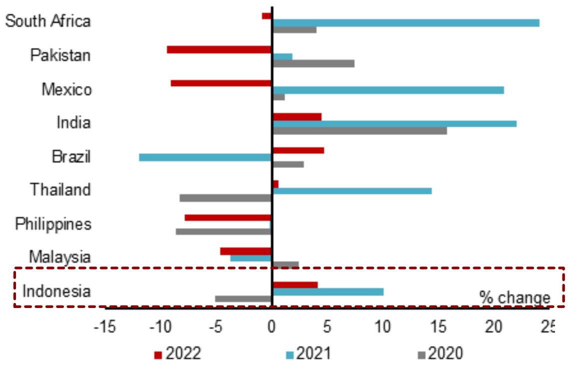
Source: Bloomberg; AMRO staff calculations
Note: Listed firms' earnings are before EBITDA. Quarterly data obtained up to Q4 2022.

Figure 9. Listed Firms at Risk by Sector



Source: Bloomberg; AMRO staff calculations
Note: Quarterly data obtained up to Q4 2022.

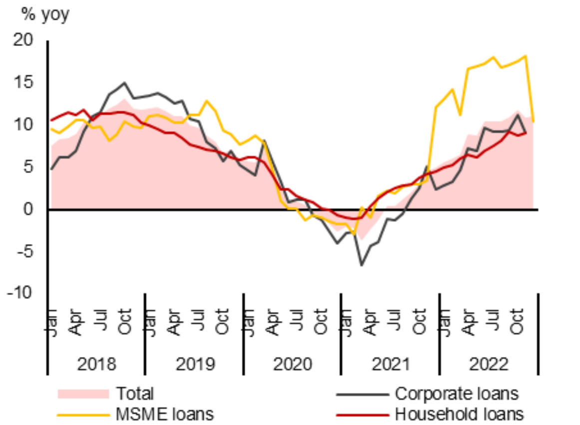
Figure 10. Stock Indices: Selected EMs



Source: National authorities; CEIC; AMRO staff calculations

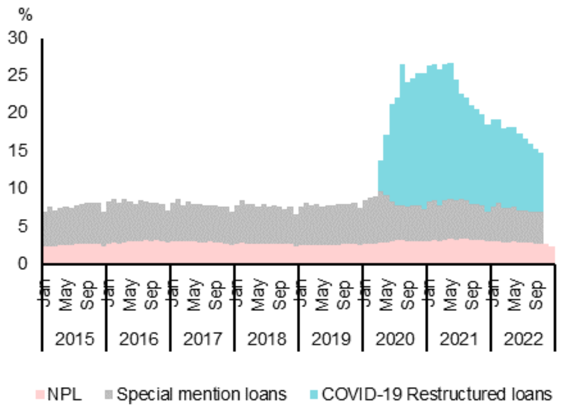
6. The banking sector has been resilient with strong recovery in loan growth, stable loan quality, and high capital buffers and provisions. Loan growth rebounded to 11.4 percent as at end-2022, up from 5.2 percent a year earlier. The recovery was broad-based, driven by a pickup in banks' loan appetite, as well as stronger loan demand reflecting improved economic conditions (Figure 11). As far as loan quality is concerned, COVID-related restructured loans fell from 11 percent of total loans outstanding at end-2021 to 7.3 percent as at December 2022; the non-performing loan (NPL) ratio also fell to 2.4 percent as at end-2022 from 3 percent as at end-2021 (Figure 12). Rebounding loan growth and improved loan quality supported a recovery in banks' profitability indicators (Figure 13). Banks remain well buffered against a possible deterioration in loan quality when the COVID-19 restructuring program expires.[9] Loan-loss provisions have been sufficient to cover about 260 percent of NPLs.[10] Banks' capital adequacy ratio also stood at 25.6 percent in December 2022, one of the highest in the region (Figure 14).

Figure 11. Bank Loan Growth by Type of Loan



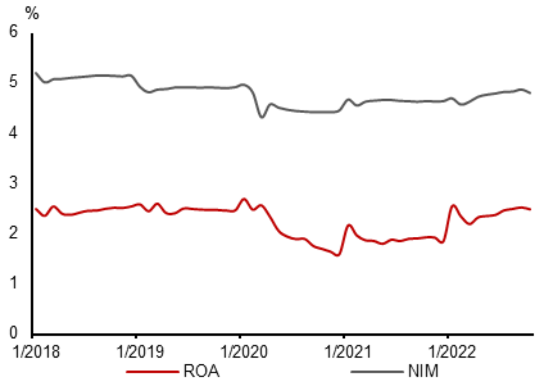
Source: OJK; BI; CEIC; AMRO staff calculations
Note: Monthly data obtained up to December 2022 for total loans and MSME loans, and up to November 2022 for corporate and household loans.

Figure 12. Banks' NPLs, Special Mentions and Restructured Loans



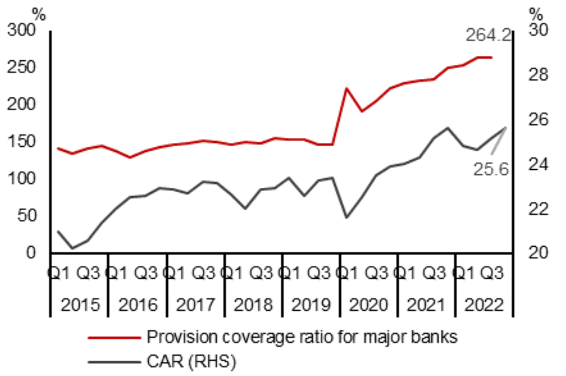
Source: OJK; BI; CEIC; banks' financial reports; AMRO staff calculations
Note: Monthly data obtained up to December 2022 for NPL and October 2022 for special mention loans and COVID-19 restructured loans.

Figure 13. Returns on Assets (ROA) and Net Interest Margins



Source: OJK; CEIC; AMRO staff calculations
Note: Monthly data obtained up to October 2022.

Figure 14. Capital Adequacy Ratio and Provision Coverage of NPLs



Source: OJK; BI; CEIC; Moody's; banks' financial reports; AMRO staff calculations
Note: The provision coverage of NPLs is calculated by AMRO staff members using the data of Bank Rakyat Indonesia (BRI), Bank Mandiri, Bank Central Asia (BCA), Bank Negara Indonesia (BNI), Bank CIMB and Bank Danamon. Quarterly data obtained up to Q3 2022 for provision coverage of NPLs and Q4 2022 for CAR .

[9] To support pandemic-hit businesses, the Financial Services Authority (OJK) allows banks to restructure loans affected by the pandemic and classify them using relaxed criteria. In particular, banks could assess loan quality based on the borrower's ability to serve their debt obligations in a timely manner and regardless of the macroeconomic conditions and business prospects. The loan restructuring program was launched in April 2020 and has been extended to March 2024 for MSMEs and selected sectors. Banks reportedly expect that 7 to 10 percent of COVID-related restructured loans may turn into NPLs when the restructuring program expires. As the restructured loans outstanding was 8 percent of total loans in October 2022, the NPL ratio may increase by 0.56-0.80 percentage points by then.

[10] Loan-loss reserves provided specifically for COVID-19 restructured loans increased steadily from 20 percent in 2020 to 24 percent as of October 2022.

A.2 Policy Mix in Transition

7. The central bank has appropriately adjusted its policy mix in response to external shocks to contain inflation, maintain growth momentum while ensuring financial stability.

a. BI started to exit its liquidity normalization policy by raising the rupiah statutory reserve requirement (SRR), which had been lowered from 5.5 percent to 3.5 percent during the pandemic, to 9.0 percent by September 2022, in part to absorb excess liquidity. Meanwhile, a lower SRR has been applied to banks that lend to priority sectors and MSMEs, and to green financing (Selected Issue 2). The central bank also bought government bonds in the primary market in line with the Joint Decrees of the Minister of Finance and Governor of Bank Indonesia signed in 2020 and 2021 (known as SKB I and III, respectively), to support government spending on health care and social assistance related to the COVID-19 pandemic.[11]

b. Since August 2022, BI had raised its benchmark policy rate, the seven-day reverse repurchase (repo) rate, by a total of 225 basis points to 5.75 percent as at February 2023. The rate hikes were aimed at anchoring inflation expectations and core inflation in a front-loaded, pre-emptive, and forward-looking manner, as the domestic economy gained traction amid rising global inflation and interest rates.

c. BI continued to strengthen the exchange rate stabilization policy through its triple intervention policy to avoid excessive rupiah movements and interest rate volatility in times of increased global financial uncertainty.[12] The central bank also conducted a so-called "operation twist" by selling short-tenor bonds and buying long-tenor bonds in the secondary government bond market. The operation was aimed at flattening the yield curve by raising short-term yields in line with a higher policy rate and, in so doing, attracting inflows into short-term bonds while containing the rise in the yield of longer-term bonds.

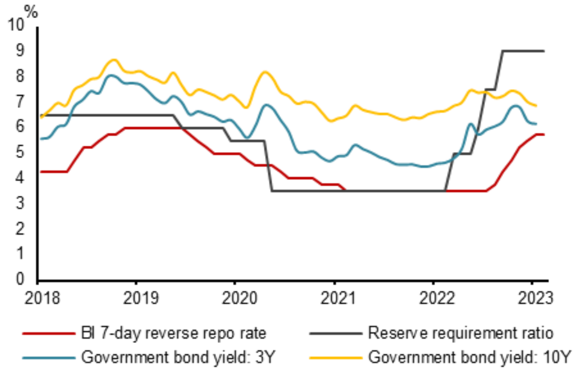
d. BI announced an initiative in December 2022 to launch financial instruments in the form of U.S. dollar term deposits carrying attractive interest rates, targeted at exporters of natural resources, in line with market mechanism.[13] This policy measure was intended to encourage exporters to retain their export proceeds onshore, and hence aimed at (i) strengthening foreign exchange reserves and external resilience, (ii) boosting domestic FX liquidity, and (iii) strengthening the exchange rate stabilization policy, thereby supporting imported inflation control.

8. Payment systems policies have increased financial inclusion and enhanced resilience, and helped mitigate the adverse impact of the COVID-19 pandemic. Retail payments among the public have been facilitated by the launch of the BI-FAST system at the

[11] Under SKB I and III, BI bought government bonds with of IDR273.1 trillion in total, of which IDR224 trillion was under SKB III, in 2022. For a comprehensive summary of the fiscal-monetary policy coordination conducted during the pandemic (2020-2022), please refer to the **Selected Issue on Monetary-Fiscal Policy Synergy during the Pandemic** in the **AMRO Annual Consultation Report on Indonesia 2021**.
[12] Interventions in the spot FX, domestic non-deliverable forward and secondary government bond markets.
[13] BI will offer FX term deposits to exporters via appointed local banks which will earn agent fees paid by BI. In addition, these term deposits will not be included in the calculation of banks' third-party funds and hence are not subject to the reserve requirement regulation. By depositing their FX earnings into BI's new instrument, exporters will receive competitive interest rates, as well as possible tax incentives. More information about this instrument can be found in BI's **press release** on the instrument dated March 2, 2023, and BI's **press release** after the February 2023 BI board meeting dated February 16, 2023. While the instrument is currently available to exporters of natural resources, such as coal or palm oil, discussions are underway to expand it to exporters of manufacturing products, including the downstream nickel industry.

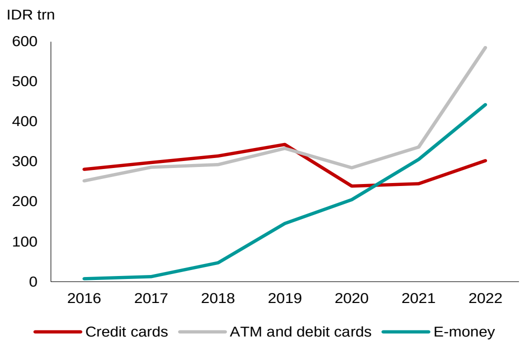
end of 2021, which provides a real-time, 24/7 digital transaction function. The number of BI-FAST participants, mainly commercial banks, had increased to 106 by November 2022, representing 87 percent of the national retail payment system. BI also launched the Open API National Standard (SNAP) as a standard protocol or language in providing various payment services in Indonesia, and expanded electronification (social aid program disbursements, regional government transactions and various transportation modes), as well as the use of standardized quick response payments at home and with neighboring countries.[14] Notably, the central bank has also expanded the usage of the Quick Response Indonesia Standard (QRIS) to 45 million users as at December 2022, including more than 23.9 million merchants who are mostly MSMEs. Against this backdrop and a recovery in economic activity, the value of retail electronic transactions has surged recently, especially those settled with ATM and debit cards or with e-money (Figure 16). In addition, the cross-border quick response (QR) payment integrated with the Local Currency Settlement (LCS) scheme between Indonesia and Thailand, launched by BI and the Bank of Thailand in 2021, progressed from the pilot phase to implementation in August 2022, and by now 76 payment system providers from both countries have joined the project. In addition, the cross-border QR payment link with Malaysia is in the pilot phase, and that with Singapore is in the initiation phase. BI also participated in regional cross-border payment cooperation with its ASEAN peers.[15]

Figure 15. BI Policy Rate, Reserve Requirement Ratio, and Government Bond Yields



Source: Bank Indonesia; Indonesia Bond Pricing Agency; CEIC; AMRO staff calculations
Note: Monthly data obtained up to January 2023 for bond yields, and up to February 2023 for BI policy rate and reserve requirement ratio.

Figure 16. Total Value of Shopping/Purchase Transactions



Source: Bank Indonesia; CEIC; AMRO staff calculations

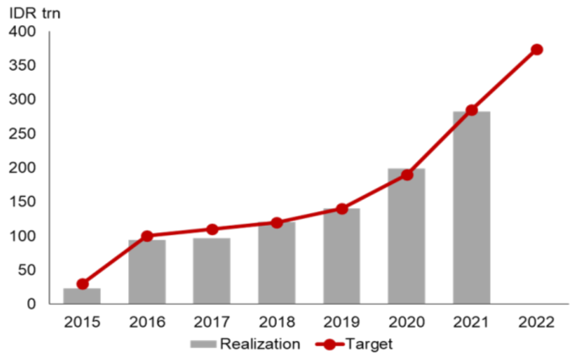
9. Policy support to the pandemic-hit economy has focused on selected sectors. To increase MSMEs' access to financing, the size of the government's credit guarantee and interest subsidy program, known as People's Business Credit or KUR, was raised to IDR372 trillion in 2022, up from IDR190 trillion in 2020 and IDR285 trillion in 2021 (Figure 17). As previously mentioned, incentives in the form of a lower rupiah reserve requirement ratio have also been offered to banks that provide loans to MSMEs and selected sectors, supporting economic recovery. BI's Macroprudential Inclusive Financing Ratio (RPIM) policy, introduced in 2021, has been fine-tuned to allow individual banks greater flexibility in implementation.[16]

[14] Reforms have been also implemented to simplify and integrate payment system regulations, licensing, and supervision to anticipate future digitalization developments.
[15] BI signed a Memorandum of Understanding (MOU) on Cooperation in Regional Payment Connectivity (RPC) in November 2022 with Bank Negara Malaysia, Bangko Sentral ng Pilipinas, the Monetary Authority of Singapore and the Bank of Thailand. The RPC is expected to contribute significantly to accelerating regional economic recovery and promoting inclusive growth.
[16] The RPIM policy was issued in August 2021 to encourage banks to increase lending to MSMEs. Each bank had been required to allocate at least 20 percent of its loan book to MSMEs by 2022, and to increase this steadily to 30 percent by 2024. That said, the quantitative requirement for individual banks was lifted earlier this year and the target of 20 percent by end-2022 now applies to the whole industry. Individual banks can set their own targets based on their strengths and constraints, with a view to increasing the ratio gradually. To encourage banks to increase MSME loans and meet the abovementioned targets, BI has expanded the definition of MSME loans to include those extended to low-income households or individuals, loans to MSMEs' supply chains,

Macroprudential policies have been kept relaxed with the extension of the policy of a 100 percent loan-to-value ratio for property loans and a zero percent down-payment ratio for motor vehicle purchase loans, until end-2023. Efforts to expand QRIS usage among MSMEs have been enhanced with the extension of a QRIS merchant discount rate waiver until June 2023. The loan restructuring program to support businesses and households affected by the pandemic has been extended until March 2024 for MSMEs and selected industries.

10. The government has taken measures to contain inflation and maintain people's purchasing power amid rising global inflationary pressures. These measures include efforts to strengthen the interregional supply and distribution of necessity goods, notably food and food ingredients. To absorb the shock of global fuel prices aggravated by the Russian-Ukrainian war, the government allocated a much higher fuel subsidy and compensation to state-owned oil and gas company Pertamina in its revised budget for 2022 (Figure 18) and kept retail pump prices, especially for subsidized fuel products, unchanged until September 2022. To reduce the pressure on the budget amid continued uncertainties about global fuel prices, the government has adjusted its energy subsidy policy in September by raising subsidized fuel prices [17] and providing direct cash transfers to poor and vulnerable households[18] and wage subsidies for low-salaried workers (Selected Issue 1).[19]

Figure 17. People's Business Credit (KUR) Program: Realization versus Target



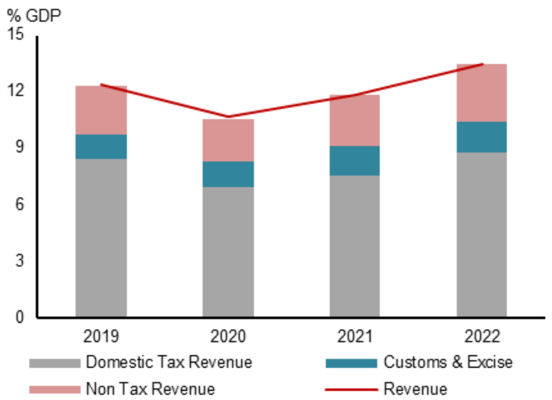
Source: Indonesia Presentation Book (October 2022); AMRO staff compilation

Figure 18. Additional Subsidies and Social Protection Allocation in 2022 Budget

IDR trn	2020	2021	Budget 2022 (ICP $63)	Revised Budget 2022 (ICP $100)	Additional allocation
Energy subsidies	**108.8**	**140.4**	**134.0**	**208.9**	**74.9**
• Fuel and LPG	47.7	83.8	77.5	149.4	71.8
• Electricity	61.1	56.6	56.5	59.6	3.1
Compensation (other expenditure)	**91.1**	**47.9**	**18.5**	**293.5**	**275.0**
• Fuel	45.7	30.0	18.5	252.5	234.0
• Electricity	45.4	17.9	-	41.0	41.0
Total Subsidy and Compensation	**199.9**	**188.3**	**152.5**	**502.4**	**349.9**
Social protection			**431.5**	**455.7**	**24.2**

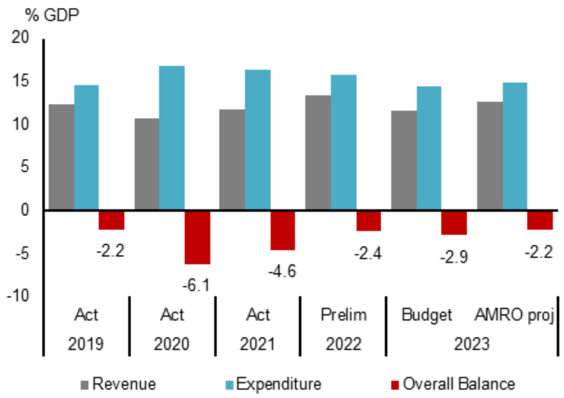
Source: Ministry of Finance; CEIC; AMRO staff calculations
Note: ICP is Indonesia crude oil price.

Figure 19. Budget Revenue Performance



Source: Ministry of Finance; CEIC; AMRO staff calculations
Note: Data for 2022 is preliminary.

Figure 20. Overall Budget Performance



Source: Ministry of Finance; CEIC; AMRO staff projections
Note: Data for 2022 is preliminary.

and loans to financial services institutions and public service agencies that provide financing to MSMEs. Banks' purchase of bonds issued for financial inclusion purposes, such as woman empowerment, is also classified as MSME financing.

[17] Subsidized fuels include diesel and gasoline RON90.

[18] An additional cash transfer of IDR150,000 per month for a total of four months was provided to 20.65 million beneficiary families starting from September 2022.

[19] A one-time subsidy of IDR600,000 was granted to 16 million workers who earned less than IDR3.5 million per month.

11. Notwithstanding the increase in expenditure, the fiscal position has consolidated faster than budgeted, underpinned by robust tax revenue collection. The recalibrated fiscal support led to a higher allocation for fuel subsidies and related compensation and social protection programs in the revised government budget for 2022. On the revenue front, revenue collection reached 13.5 percent of GDP in 2022, up 30 percent from the previous year, supported by income and consumption-based taxes in tandem with increased economic activity and higher commodity prices (Figure 19). The higher tax revenue has also been attributed to the 2021 tax reform package, notably the increase in the standard value-added tax (VAT) rate from 10 percent to 11 percent and the Voluntary Disclosure Program.[20] Against this backdrop, the fiscal deficit narrowed to 2.4 percent of GDP in 2022, one year ahead of the government plan to restore the fiscal rule of a 3 percent cap on the budget deficit (Figure 20). The budget deficit is expected to remain below 3 percent of GDP in 2023, underpinned by the continued implementation of tax reform measures and lower expenditure related to COVID-19 and energy subsidy. Amid the ongoing progress in fiscal consolidation, government debt is projected to stabilize at about 40 percent of GDP post-pandemic (Appendix 1, Figure 1.7).

12. Initiatives have been adopted to boost infrastructure development. The authorities have revised a list of National Strategic Projects (PSNs) several times. As of end-2022, the list consists of 200 ongoing projects and 12 programs with an estimated investment value of USD351.2 billion. As far as progress is concerned, 148 projects[21] have been completed since 2016, with a total investment value of USD64.0 billion. Considering the high demand for infrastructure projects, the government encourages private-sector participation in the PSNs through public-private partnerships, including limited concession schemes (LCS), and other creative financing platforms (Box B). The Indonesia Investment Authority (INA), established in 2020 under the Omnibus Law on Job Creation, has contributed to the development of financially viable projects by attracting global investors primarily engaged in equity investment. Regulations to ease land acquisition for infrastructure development have been issued under the same Omnibus Law.[22]

[20] Other tax measures include the introduction of digital taxation, namely VAT on digital goods and services, income tax on interest payment from peer-to-peer lending, and income tax on crypto capital gains.
[21] This number includes both projects under the current PSNs and those that have been excluded.
[22] The regulations include No. 19/2021 on land acquisition for public interest and No. 43/2021 on spatial adjustment for forest and land rights and permits. (Source: Indonesia Presentation Book – October 2022, available **here**.)

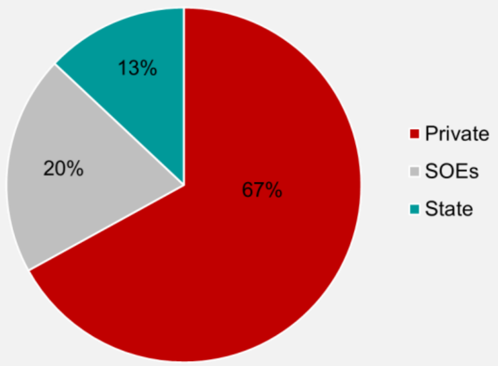
Box B. Infrastructure Developments in Indonesia[23]

The Indonesian government has set up National Strategic Projects (PSNs) to enhance infrastructure development. The list of PSNs, first compiled in 2016, falls under the purview of the Coordinating Ministry for Economic Affairs (KPPIP). The ministry updates it constantly with each project's progress. It also considers which new infrastructure projects to add to the list, and which existing projects should remain listed.[24] Once KPPIP approves a project for listing, the government will provide special support to ensure effective implementation. For instance, it will secure land acquisition and appoint a state-owned enterprise (SOE) to implement the project. Presidential Regulation No.109/2020 waives land transfer fees and grants electronic permit licensing to each component project under the umbrella of PSNs.[25] The most recent list of PSNs was stipulated in Coordination Minister Regulation No.9/2022 in 2022.

As of end-2022, the PSNs consisted of 200 projects and 12 programs totalling around USD351.2 billion. The 200 projects involved road and dam construction, train networks and clean water facilities.[26] The 12 programs organized key initiatives, such as a waste-to-energy program and a regional development program, which comprised many small projects. Under the PSNs, the minimum value of a project is IDR500 billion; those that are of a similar nature and fall below the minimum value, are bundled into one program. In terms of funding sources, the private sector is expected to provide most of the money, about USD235.3 billion or 67 percent of total financing needs. SOEs will be the second most crucial funding source, estimated at USD70.2 billion, or 20 percent of the total, while the state budget will bear the rest, amounting to USD45.7 billion, or 13 percent of the total (Figure B1). As far as progress is concerned, 148 projects have been completed since 2016, with a total investment value of USD64.0 billion. Currently, 28 projects and nine programs are partially operating, while other projects are in the construction, public-private partnership (PPP) transaction or preparation phase. In total, around 85 percent of projects, including those that were later dropped from the list, have moved on to a PPP transaction phase or thereafter.

The public-private partnership has been the most successful financing scheme among alternative financial instruments thus far. Huge demand for infrastructure needs in Indonesia has called for innovative financing schemes in addition to traditional funding. Since 2016, the authorities have reformed several institutions to provide substantial risk-sharing facilities for PPP to foster infrastructure development. For example, the Indonesia Infrastructure Guarantee Fund offers guarantees for PPP projects. Furthermore, the targeted projects are entitled to guarantees based on several MOF regulations, such as the PSN Guarantee, SOE Credit Guarantee and Corporate Credit Guarantee.[27] There are 214 projects which have been delivered through the PPP scheme as of September 2022.

Figure B1. Estimated Share of PSNs' Funding Sources



Source: KPPIP; AMRO staff compilation
Note: The funding source amount is estimated by KPPIP.

Besides, a couple of institutions are aiming to mobilize private money from investors. PT SMI, established in 2009, is an institution that creates and operates some vehicles as financing platforms to collect funds from private banks, multilateral development institutions and capital markets.[28] For

[23] This box is prepared by Sota Nejime, Associate Researcher.
[24] If a project is declared "complete" or no longer requires PSN facilities, KPPIP drops it from the list.
[25] The other facilities are spatial planning, local content usage, government guarantee, an IT monitoring system by KPPIP, debottlenecking, procurement acceleration, law settlement assistance, and project acceleration for private investment.
[26] Geographically, most of the projects are in Java (81 projects and one program) and Sumatra (42 projects), which would amount to USD126.5 billion and USD49.0 billion, respectively. Bali and Nusa Tenggara (18 projects) and Kalimantan (13 projects) are the regions with the lowest allocations of infrastructure investment, at USD2.9 billion and USD15.4 billion, respectively. Sulawesi has 22 projects amounting to USD21.5 billion, and Maluku and Papua own 13 projects with a value of USD36.5 billion. The 11 programs and 11 projects in the rest of PSNs, however, are nationwide, and are estimated to cost around USD99.3 billion.
[27] The PSN Guarantee provides a guarantee against political risks that can result in i) delays in implementing PSNs and ii) a financial loss on entities carrying out the PSNs. The SOE Credit Guarantee is a guarantee offered by IIGF against SOEs' default risk on loans and bond issuances to finance infrastructure projects. The Corporate Credit Guarantee is provided to support the corporate working capital of entities joining PSN programs or projects.
[28] PT SMI has the most assets among the institutions discussed in the current box.

instance, SDG Indonesia One is a loan funding platform created by PT SMI, which has implemented six or seven projects. It can also provide loans to projects directly and conduct feasibility studies. Indonesia Infrastructure Finance has a similar role to PT SMI, providing loans for infrastructure projects, and partners with multilateral agencies such as the World Bank and ADB to do so. The Indonesia Investment Authority (INA) is another non-bank institution; its primary role is to have a partnership with global investors and facilitate their equity investment into its prioritized sectors, such as infrastructure. Meanwhile, revenue-backed securitization issued by limited mutual funds (RDPT), which are offered to a limited number of investors, has also contributed to infrastructure development. Since 2018, more than 50 RDPT products have been issued, concentrating on the toll road sector, with a total value of about IDR29.7 trillion. (Table B1)

Table B1. Example of Institutions Providing Alternative Financing

Name	Establishment	Shareholders	Capital	Asset	Outstanding loan/equity/guarantee	Business areas
Sarana Multi Infrastruktur (PT SMI)	2009	100%: Indonesia Ministry of Finance	IDR30.5 trillion (as of end-2021)	IDR114.5 trillion (as of end-2021)	IDR77.0 trillion (Loan, as of end-2021)	(i) Financing and investment including loans, mezzanine and funds formation (ii) Advisory service (iii) Project development
Indonesia Infrastructure Guarantee Fund (IIGF)	2009	100%: Indonesia Ministry of Finance	IDR9.6 trillion (as of end-2021)	IDR14.1 trillion (as of end-2021)	IDR83.3 trillion (Guarantee, as of end-2021)	Government guarantee provision for infrastructure PPP projects
Indonesia Infrastructure Finance (IIF)	2010	30%: PT SMI 20%: ADB 20%: IFC 15%: KfW 15%: SMBC	IDR2.0 trillion (as of end-2021)	IDR14.6 trillion (as of end-2021)	IDR10.5 trillion (Loan, as of end-2021)	(i) Fund-based investment including loans, mezzanine and refinancing (ii) Guarantee provision (iii) Advisory service
Indonesia Investment Authority (INA)	2020	100%: Government of Indonesia	IDR75.0 trillion (as of end-2021)	IDR79.2 trillion (as of end-2021)	IDR3.2 trillion (Equity, as of end-2021)	(i) GP/LP fund structure equity invection (ii) Co-investment with partners
Limited mutual funds (RDPT)	-	-	-	-	IDR29.7 trillion (Total RDPT funds, as of Q3 2022)	Mutual funds (offered to limited investors maximum of 50 investors with an initial investment unit of IDR5 billion)

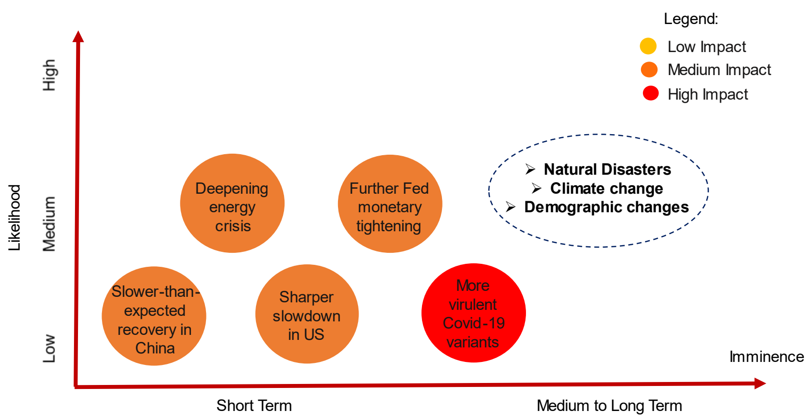
Source: PT SMI; IIGF; IIF; INA; OJK

Another financing scheme in the pipeline is the limited concession scheme (LCS), where new money from the private sector is injected into brownfield infrastructure projects owned by the government or SOEs in exchange for a new concession. Under the LCS, the government grants a concession to private-sector proponents to operate and develop infrastructure projects for more than 20 years in exchange for fixed upfront payments. The government or SOEs continue to own the projects during the effective period of the concession, while the private-sector proponents can enjoy flexible operational rights and boost revenues from the infrastructure projects. Once the concessionary period ends, the operational rights will be returned to the government or SOEs. With the LCS, the government or SOEs will receive fresh money upfront so that they can invest in new infrastructure projects.

B. Risks, Vulnerabilities and Challenges

13. Indonesia's economic growth is expected to remain solid in 2023, with short-term outlook influenced by positive spillovers from China's re-opening and a sharper-than-expected global slowdown with potential recession in some other major trading partners. China's recent lifting of its zero-COVID policy and reopening of its borders will likely benefit tourism and exports, and present an upside opportunity for Indonesia. On the downside, a sharper-than-expected global slowdown led potential recession in some major trading partners may weigh down on Indonesia's growth momentum. In addition, inflationary pressures may linger alongside prolonged geopolitical tensions and a protracted energy crisis. Continued monetary tightening by the Fed, could extend uncertainty in the global financial markets. As the COVID-19 pandemic is now moving into an endemic phase, the likelihood of having a new wave of deadly sub-variants may be low, but if it happens, the impact on the economy could be significant (Figure 21). Over the medium to long term, it is critical for Indonesia to transition smoothly to a green and sustainable economy and adapt to demographic changes on top of the need to improve the investment climate, supported by infrastructure development and connectivity.

Figure 21. Indonesia's Downside Risk Map



Source: AMRO

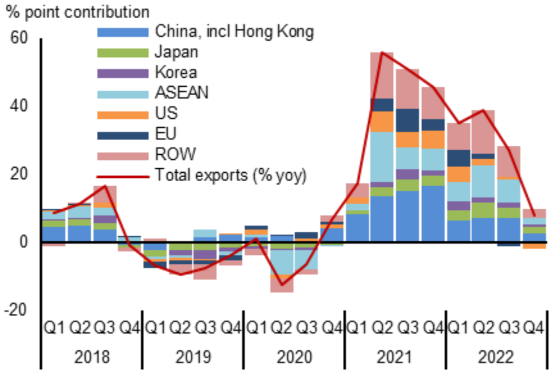
B.1 Near-term Risks

14. **China's re-opening is expected to exert positive spillovers to Indonesian economy; at the same time, its short-term outlook might be weighed down by a sharper-than-expected global slowdown with potential recession in other major trading partners.**

a. China's recent lifting of its zero-COVID policy and reopening of its borders will likely benefit tourism and exports, and present an upside opportunity for Indonesia. Notably, exports to China surged in 2021 throughout Q3 2022, led by coal, palm oil, and especially iron and steel (Figure 22). A stronger-than-expected recovery in China's economy hence could help sustain the external demand for Indonesian goods. In addition, the recent downstream drive in the natural resources sector, particularly the EV battery industry, could boost Indonesia's growth via increased production and exports of higher-value added goods over the medium term.

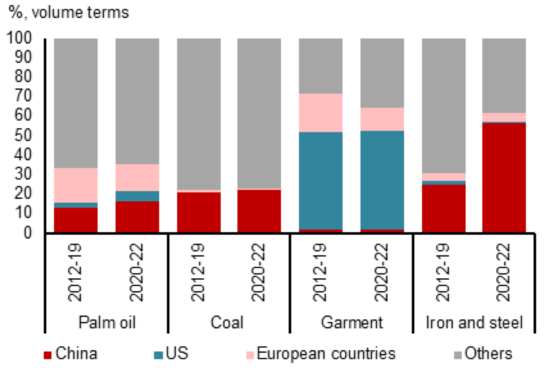
b. At the same time, a severe global recession with a sharper-than-expected slowdown in major trading partners could hamper Indonesia's recovery momentum. Indonesia benefited from a rebound in external demand from its key export markets over the past two years. Figure 23 suggest China has been the largest importer of Indonesian commodities, while the U.S. has also imported a sizable amount of light manufacture goods, such as garments, furniture, aquacultural products and palm oil. Meanwhile, European countries are among the big importers of Indonesian's palm oil, garments, iron and steel. A slower-than-expected recovery in China, or a sharp slowdown in other major trading partners such as the US and EU would likely weigh down Indonesia's exports. This, in turn, would have negative impacts on Indonesian firms and households which rely on export earnings from these sectors, and may affect their investment, consumption, and loan repayment capacity.

Figure 22. Contribution to Export Growth by Key Market



Source: Statistics Indonesia; CEIC; AMRO staff calculations
Note: ROW stands for the rest of the world.

Figure 23. Key Export Commodities: Market Composition



Source: Statistics Indonesia; CEIC; AMRO staff calculations
Note: The data gives the average of each period.

15. A deeper global energy crisis would exert pressure on world inflation, which could affect Indonesia. The unexpected Russian-Ukrainian war sent global oil prices surging to USD120 per barrel in June last year, 60 percent more than a year earlier and the highest since 2014. Although the higher commodity prices benefited Indonesia's fiscal and external balance, they were passed on to domestic food and fuel prices and lifted headline inflation above the central bank's target. While global oil prices have moderated recently due to concerns over a global slowdown, oil supply has remained tight and could further tighten if sanctions on Russia escalate and/or production elsewhere is disrupted or if the rebound in China's economy is stronger than expected. Russia's shutdown of natural gas supplies to Europe has also kept natural gas prices elevated. Prolonged geopolitical tensions remain a risk to global energy prices and hence and hence world inflation, as well as inflation in regional economies, including Indonesia.

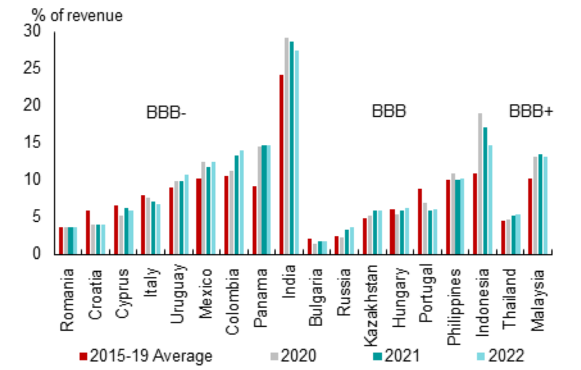
16. The possibility of rising government bond yields and bank lending rates has subsided recently, but if materialized, it would push up borrowing costs for both government and businesses. Indonesia's 10-year government bond yield, a measure of government borrowing costs, increased in 2022.[29] While the government's interest payment burden underpinned by higher government bond yields has moderated from the 2020 peak, it remains elevated relative to peer countries with similar sovereign credit ratings (Figure 24). A higher interest burden would narrow the fiscal space, especially after the budget deficit cap of 3 percent of GDP is restored, considering the need to maintain the government's priority spending. Following the increase in policy rates, higher lending rates have been observed in several loan categories at the current juncture.[30] Should the rise in bank lending rates continue

[29] Ten-year government bond yields averaged 7.1 percent in 2022, about 50 basis points higher than 2021.
[30] The lending rate for floating rate loans reportedly increased along with the policy and interbank market rates. Banks could also reconsider the lending rate for fixed rate loans upon renewal. That said, banks may hold off the decision to raise lending rates to maintain their customer base in the face of strong competition.

to broaden, it may affect the repayment capacity of businesses, which could worsen if the economy were to weaken. This would in turn adversely affect banks' balance sheets and their asset quality.[31]

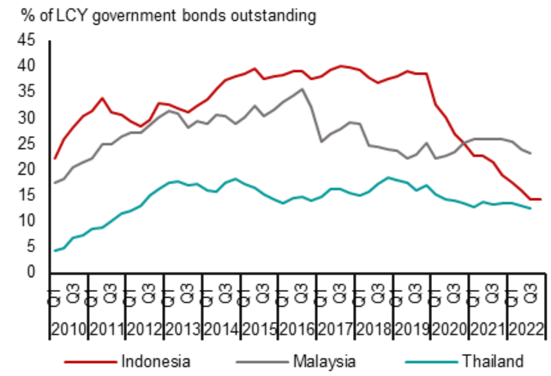
17. Risks of capital flow volatility might persist against the backdrop of continued uncertainty about Fed monetary policy. The Fed embarked on a tightening cycle in 2022 to curb inflation. This led to a stronger U.S. dollar and higher interest rates, triggering capital outflows during the year from EMs, including Indonesia. Inflows to the Indonesian government bond market have resumed in recent months as market expectations of a more aggressive Fed tightening abated. That said, the inflows may reverse if incoming data were to show inflation remaining sticky, causing the Fed to continue raising its policy rate over a prolonged period. On a positive note, Indonesia has become more resilient to negative spillovers from a Fed tightening this time, particularly compared to the Taper Tantrum in 2013, thanks to a stronger external position, more intervention tools, and lower foreign holdings of rupiah-denominated government bonds (Figure 25).[32]

Figure 24. Interest Payment-to-Revenue Ratio



Source: CEIC; Mandiri Sekuritas; IMOF; AMRO staff calculations

Figure 25. Foreign Ownership of LCY Government Bonds in Selected ASEAN Economies



Source: Asian Bonds Online Database
Note: Quarterly data obtained up to Q3 2022 for Malaysia and Thailand, and up to Q4 2022 for Indonesia.

<u>Authorities' Views:</u>

18. Regarding the risk of lingering inflationary pressure stemming from a deeper global energy crisis, the authorities affirmed the continued conduct of a front-loaded, pre-emptive, and forward-looking monetary policy and policy synergy between the central bank and the government in controlling inflation. Bank Indonesia will continue to strengthen monetary policy to ensure that inflation expectations and inflation are maintained within the target range. Amid the risk of soaring international commodity prices, close fiscal-monetary policy coordination to mitigate the impact of high global food and energy prices on domestic inflation will play a critical role. Also, according to the State Budget 2023, the government will continue to provide energy subsidies and social assistance, which are expected to minimize the inflationary pressure from administered prices. In addition, the coordination between the central and regional governments and the central bank in managing volatile food inflation through the Central and Regional Inflation Control teams, as well as the

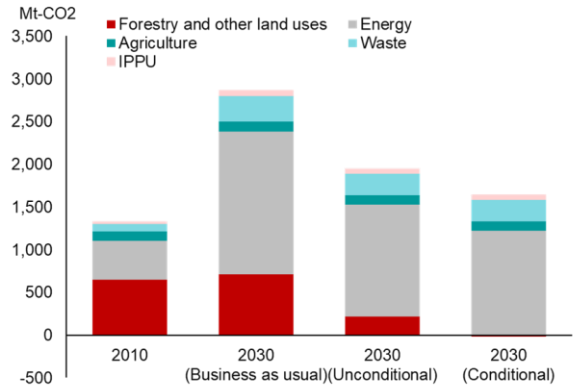
[31] During 2013-2014, along with rising interest rates, banks' NPL ratio increased from 1.8 percent to 2.2 percent. By sector, it was observed that mining, electricity, construction, wholesale and retail trade, transport and real estate were hit harder. Based on the AMRO mission's preliminary estimates, in a rising interest scenario where the negative impact of higher interest rates on each sector is the same as what happened during 2013-2014, the NPL ratio may rise to around 3.9 percent from currently 2.7 percent (as at November 2022), also taking into consideration the possible reclassification of restructured loans.
[32] Foreign holdings of rupiah-denominated government bonds moderated from 38.6 percent of total bonds outstanding as of end-2019, to 26.0 percent as of end-2020 and 19.1 percent as of end-2021. This ratio declined further to 13.9 percent at end-October 2022.

National Movement for Food Inflation Control (GNPIP) will be strengthened. On the risk of rising government bond yields and bank lending rate, the authorities were of the view that the possibility for this risk to materialize is low taking into account the latest developments in government bond yields which were broadly stable and limited increases in bank lending rates despite an increase of 225 basis points in total in the central bank's benchmark rate (BI7DRR), thanks to its policy mix response, including twist operations and still-loose liquidity policy.

B.2 Medium to Long-term Challenges

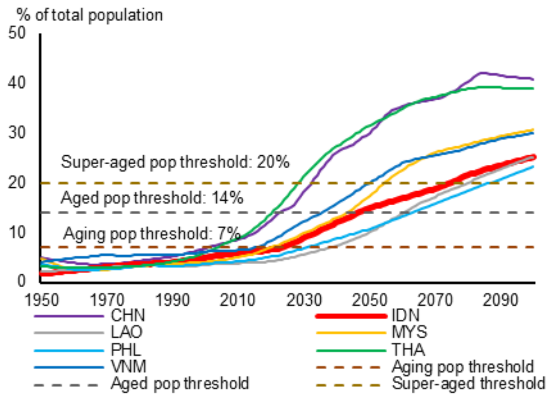
19. Indonesia has raised its target for climate change but still faces a funding gap to achieve the target. Indonesia is one among the largest emitters of carbon dioxide (CO2) in the world, showing its reliance on a carbon-intensive economy. To strengthen the country's decarbonization effort, Indonesia had submitted an enhanced Nationally Determined Contribution (NDC) to the United Nations in September 2022, increasing its unconditional greenhouse gas (GHG) emission reduction target from 29 percent to 32 percent in the business-as-usual baseline by 2030 (Appendix 5).[33] The energy and forestry sectors are expected to contribute more than 90 percent of the reduction target (Figure 26). To mitigate GHG emissions in the energy sector, for instance, the government and state-owned electricity company PLN are jointly working on promoting renewable energy and enhancing the efficiency of coal-fired power plants. The government planned to introduce a carbon tax in April 2022, but the implementation has been delayed; meanwhile, the carbon trading system under a cap-and-trade scheme[34] is slated to take effect in 2023, starting with coal-fired power plants. The government has also been trying to mobilize private financing through climate funds; however, a funding gap remains for green investments to achieve the unconditional NDC target.[35]

Figure 26. Emission Reduction Target



Source: Indonesia Enhanced Nationally Determined Contribution (ENDC) Committee

Figure 27. Population Aged 65+: Selected ASEAN+3 Economies



Source: United Nations Development Program (UNDP)
Note: Projections from 2022 onwards are based on the UNDP's baseline scenario of medium fertility variant.

20. Ongoing demographic changes underscore the importance of reforming Indonesia's mandatory pension system. While it is still one of the youngest countries in the region, Indonesia has entered an aging phase with the population aged 65 years old and above, accounting for 7 percent of the total population (Figure 27). The society will likely age more rapidly along with a declining fertility rate and rising life expectancy. Indonesia is

[33] In addition, the conditional target was raised to 43.2 percent from 41 percent in the original NDC. It is subject to the availability of international support for finance, technology transfer and development and capacity building.
[34] The cap for 2023 and 2024 is determined by the Decree of the Minister of Energy and Mineral Resources number 14.K/TL.04/MEM.L/2023.
[35] To achieve the unconditional NDC target, 40 percent of the funding gap remains between 2020 and 2030, even considering the estimated green investment by the government and private sector. (Source: Indonesia Presentation Book – October 2022, available **here**.)

projected to turn into an aged society by 2050 and become super-aged by 2070.[36] While reforms took place as early as the 1990s, the mandatory old-age savings and pension system has a modest coverage and is small because of low contribution rates (Box C). In the absence of timely adjustments, the system might be unsustainable and inadequate to cope with an aged society in future.[37]

C. Policy Discussions and Recommendations

C.1 Continuing Policy Mix

21. AMRO supports the authorities' constant recalibration of the policy mix in response to changing domestic and external developments. BI has appropriately increased its policy rates to contain inflationary pressures and safeguard rupiah exchange rate stability. As risks to inflation and capital flows persist, the central bank is encouraged to maintain its current monetary policy stance. At the same time, the central bank should stand ready to carry out monetary policies to support the domestic economy if the risk balance tilts toward a sharper global slowdown. To strengthen the domestic FX market, AMRO welcomes the use of market-based initiatives, such as the central bank's FX term deposits bearing competitive interest rates, to encourage exporters to retain their FX earnings onshore. Efforts to foster the development of the hedging market should continue, including the introduction of more domestic non-deliverable forward (DNDF) instruments of different maturities and currencies other than the U.S. dollar, especially related to Local Currency Settlement Schemes.[38]

22. Continued improvement of the payment systems in Indonesia is welcomed. AMRO commends BI's efforts in facilitating cross-border payments, including promoting local currency settlement (LCS) agreements and cross-border QR payments with regional peers. As part of the Indonesia Payment System Blueprint 2025 implementation, an improved BI-FAST with additional features, such as bulk credit, direct debit, request for payments, and more QRIS applications, could enhance financial inclusion. Similarly, further upgrades of the wholesale real-time gross settlement (BI-RTGS) system, including adding a multicurrency feature, building a liquidity-saving mechanism, and improving interoperability, could increase financial market efficiency and strengthen monetary policy transmission. Meanwhile, the publication of a white paper on Project Garuda, exploring the possibility of a central bank digital currency, is another step for BI to improve the efficiency of the payment system in fulfilling its mandate in the digital era. The project should be carefully designed to ensure its interconnectivity, interoperability and integration with existing domestic and cross-border payment systems and other financial market infrastructures. To that end, it is crucial that the project is properly organized, staffed, and financed.

23. AMRO welcomes the authorities' efforts to alleviate the rising costs of living. Supply-side policy measures to contain inflation should continue, notably efforts to enhance the

[36] The share of the population aged 65 years old and above is expected to reach 14 percent and 20 percent by 2050 and 2070, respectively.
[37] According to the AMRO mission's preliminary calculations using BPJS data in 2020-2021, the lump-sum (one-time) payout from the old-age savings fund is equivalent to 45-50 percent of annual current salary/income, while the annual pay-out from the mandatory pension fund is less than 20 percent of annual current salary/income. This may not be sufficient for pensioners should they rely solely on these pensions for post-retirement living, considering that a replacement ratio deemed adequate would be 60-75 percent.
[38] The central bank has developed more intervention tools with the launch of the DNDF market in 2018, which helped it mitigate the recent volatility in the capital (government bond) market relatively well. The size of DNDF outstanding increased from USD35 million per day on average in 2018 to USD208 million per day in 2022, of which the one-month tenor accounted for 86 percent of total outstanding and the three-month tenor and above, 8 percent. Recent efforts to deepen the DNDF market include the introduction of non-U.S. dollar currency settlements, such as the euro, Japanese yen and Singapore dollar, and instruments with longer tenors, so as to increase the transaction volume for these tenors.

domestic supply and distribution of key staples and food ingredients. AMRO supports the government's plan to taper fuel subsidies while increasing cash handouts and welfare subsidies for lower-income households, in a move to make the subsidy policy more focused. The pace of subsidy reform could speed up along with a strengthened capacity to target vulnerable groups going forward. In so doing, the authorities need to expand the integrated database of social welfare by connecting it with other government databases, such as the tax database, to enhance the screening of eligibility conditions (Selected Issue 1). At the same time, the authorities are encouraged to leverage digital payment platforms more, so as to increase timely and efficient disbursement of social protection programs. Support to low-income households should be reviewed for their continued relevance and gradually withdrawn when the economy recovers, to provide fiscal space for other emerging spending priorities.

24. Policy support to specific sectors and businesses could be further refined. In addition to the current KUR policy, initiatives to encourage proper bookkeeping among MSMEs would help them access bank financing. Financial inclusion for the unbanked and underbanked population could be improved through fintech development and cooperation between fintech companies and financial institutions. To that end, efforts to raise financial and digital literacy are crucial. In the face of downside risks to the global outlook amid a myriad of other uncertainties, banking supervisors should step up efforts to gather timely, comprehensive information to assess credit risks, especially on borrowers in vulnerable sectors, and ensure banks provide adequately for the risk of higher expected losses. As the loan restructuring program has been extended by one more year to March 2024 for MSMEs and several sectors, banks should be encouraged to prudently continue the program for viable borrowers only.

Authorities' Views:

25. The authorities shared their plan to continue strengthening the policy mix in response to changing domestic and external developments. In particular, the conduct of monetary policy in a well-calibrated, well-planned, and well-communicated manner needs to be continuously strengthened to support efforts to maintain stability and encourage growth, amidst the balanced risk of the Indonesian economy. Meanwhile, macroprudential policies, digitalization of payment systems, financial market deepening, as well as green and inclusive economic and financial programs continue to be directed toward boosting growth.

C.2 Further Rebuilding Fiscal Space

26. Fiscal space could be further rebuilt by implementing revenue-based measures, while maintaining efforts to improve spending efficiency and effective allocation to support structural reforms. Continued effective implementation of the 2021 tax reform package and the new central-regional government fiscal relationship law[39] are both important for the mobilization of additional revenue to rebuild the fiscal space. In particular, the government should continue its plan to implement a carbon tax and broaden excise duties on plastic products and sweetened beverages, as well as raise excise tax rates for tobacco products. In addition, the VAT registration threshold could be lowered to expand the tax base,[40] while taxes on excess profit in the form of progressive export levy could be levied on

[39] The new central-regional government fiscal relationship law was enacted in 2022 and is aimed to increase local governments' taxing power and spending capacity and quality, improve equality among local governments, and harmonize the central and local government fiscal policy.
[40] According to the **AMRO Annual Consultation Report on Indonesia 2020 (pp. 21-22)**, the VAT registration threshold in Indonesia has been high relative to most regional peers with similar or even higher income per capita.

sectors other than crude palm oil. Other measures may include streamlining tax incentives and introducing a qualified domestic minimum top-up tax (QDMTT).[41]

27. **On the expenditure front, efforts to increase spending efficiency and make public resource allocation and management more effective are welcomed.** Effective budget allocation to support sustainable growth and structural adjustment can be achieved through continued efforts to increase spending efficiency, including reforming price-based energy subsidies. Support to low-income households under the social security system should be more targeted with enhanced capacity to identify those in need in a timely manner. The government should allocate more budget resources for education, healthcare, and capital spending with a higher multiplier. The new central-regional government fiscal relationship law is also expected to increase local governments' spending capacity.[42]

28. The government should continue to strengthen its tax administrative capacity and enhance cash and debt management. The core-tax system and integration of the national identification number system into taxpayer identification, once implemented, are expected to expand the personal income tax base, and increase compliance. While excess financing[43] has increased recently, which could provide a fiscal buffer amid ongoing uncertainties, the cost of doing so is not trivial and can be minimized by enhanced cash and debt management. Both initiatives can benefit from the better use of a single public financial information management system that integrates all government databases and systems. Excess financing can be minimized by allowing the central bank to provide the government with a limited line of credit, repayable within the fiscal year, to address short-term liquidity needs. Government borrowing costs could be lowered with continued efforts to deepen the domestic capital market and broaden the domestic investor base for both retail and institutional investors.

Authorities' Views:

29. On enhancing the government's debt and cash management, the authorities shared that continued coordination between the government and the central bank is necessary. In particular, an increase in the maximum limit of the government's idle funds that can be invested in the financial markets to lower the cost of funds could be considered.

C.3 Accelerating Structural Reforms

30. Long-term perspectives should be taken into consideration in setting policy priorities in the future public financial management system. Efforts to increase public investment and productivity should be stepped up to boost Indonesia's growth potential and promote inclusive growth. The authorities should incorporate long-term perspectives of sustainable development, such as education, health, poverty, aging, and climate change, and their fiscal implications in the medium-term fiscal framework in a consistent manner.

31. Upholding policy credibility and effective communication with the market is crucial as Indonesia is revising the legal framework regulating the financial sector. The

[41] The introduction of QDMTT allows the Indonesia government to collect the top-up tax -- the difference between the global minimum tax rate of 15 percent and Indonesia's effective tax rate if it is lower than 15 percent – when the global minimum tax rule becomes effective. Otherwise, the tax could be paid to the foreign jurisdiction where the multinational enterprise (MNE) is from.
[42] In terms of local government spending capacity, the law requires a local government to spend at least 40 percent of its budget for infrastructure projects and at most 30 percent for personnel expenditure.
[43] Excess financing increased from about IDR53 trillion in 2019 to about IDR245 trillion in 2020. It remained elevated at IDR97 trillion and IDR119 trillion in 2021 and 2022, respectively. While bond issuance in 2022 was lower than budgeted, it was still considerably higher than actual financing needs, which moderated along with the strong revenue performance.

authorities have built up their credibility for abiding by fiscal discipline and maintaining central bank independence over the past few decades. The temporary lifting of the 3 percent fiscal deficit rule and the central bank's financing of the budget deficit via purchasing government bonds in the primary market during the pandemic, were effectively communicated to the market. The recently endorsed Omnibus Law on Development and Strengthening of Financial Sector allows the central bank to buy government bonds in the primary market only in a crisis situation declared by the President. Such operations should be transparent and time-bound to sustain market confidence in policymaking discipline and central bank independence.

32. The authorities are encouraged to act on their commitment to address climate change issues. To reduce overall emissions, government policies related to forestry and other land uses are welcomed, such as the regulation banning the conversion of forested land[44] and the presidential instruction ending the issuance of new permits for peatland use[45]. The energy transition should be continued in line with the government road map to achieve the NDC target. AMRO welcomes the authorities' plan to launch a carbon trading market for coal-fired power plants this year. The implementation could be expanded into other sectors going forward. On the expenditure side, the government should restore the budget for climate change mitigation, which has been declining as a result of the budget reallocation to COVID-19 spending in recent years. On the financing side, incentives have been given to green sectors, for instance, via the zero down payment policy for green property and electric vehicle loans. The inclusion of transition financing, such as to enhance the efficiency of coal fired power plants, in the green taxonomy, will help mobilize private money and narrow the funding gap for climate change.[46]

33. **Infrastructure development should continue as planned, funded by mobilizing private money.** As Indonesia still has a huge demand for infrastructure, the government should continue to raise funds from the private sector through public private partnerships. To induce a larger multiplier effect on the economy, infrastructure investment projects should be implemented with good planning, procurement, and delivery systems. Continued efforts to improve the investment climate and ease the cost of doing business will also facilitate infrastructure development in Indonesia.

34. An early overhaul of the mandatory national pension system will smoothen Indonesia's transition to an aged society. A strengthened pension system is also an important financing source for Indonesia's long-term development needs, including infrastructure projects, and supports the domestic capital market in times when foreign investors turn risk averse. AMRO welcomes the newly endorsed Omnibus Law on Development and Strengthening of Financial Sector, which seeks to reform the national pension system and deepen domestic financial markets. Policy measures to expand coverage of the pension system are highly recommended, including efforts to raise awareness among informal-sector workers and enhance pension adequacy by increasing the mandatory contribution rate. Other countries' experience suggests early policy adjustments, especially before or during the demographic dividend window that Indonesia is now enjoying, would help pension funds to accumulate assets at a faster pace and avoid drastic adjustments later on (Box C).

[44] Government Regulation No.104/2015
[45] Presidential Instruction No. 5/2019
[46] The Financial Services Authority, or OJK, issued Indonesia's Green Taxonomy 1.0 as guidance to classify all business activities based on their contribution to environmental aims and thresholds. In the taxonomy, investment in renewable energy is classified as "green," while transition financing, such as encouraging a coal phaseout and enhancing the efficiency of coal-fired power plants, is not regarded as "green" at the point of writing.

Box C. Pension System in Indonesia[47]

The evolving pension system in Indonesia consists of mandatory and voluntary earnings-related schemes. A typical pension system design is made up of three tiers: tax-funded, non-contributory pension schemes that usually aim to secure an absolute, minimum standard of living in retirement (Tier 1); mandatory, earnings-related pension schemes which are often publicly managed and contribute to easing the transition of one's consumption habits from working life to retirement (Tier 2); and voluntary, earnings-related pension schemes which are in general privately managed and supplement mandatory pension schemes (Tier 3). As shown in Table C1, Indonesia now has only Tier 2 and 3 schemes. The Tier 2 schemes include an old-age savings scheme mandatory for all private-sector employees and a pension scheme offered to private formal-sector employees only.[48] Both schemes are managed by a public entity known as BPJS Ketenagakerjaan (formerly PT Jamsostek). Other Tier 2 schemes are offered to civil servants and police and military officers, and are managed by the state-owned PT Taspen and PT Asabri, respectively. Tier 3 schemes consist of voluntary pension schemes offered by employers and/or financial institutions, which are mostly banks and insurance companies.

Table C1. Overview of Indonesia's Pension System

	Tier	Scheme	Members			Scheme type*	Administrator	Contribution (% of pensionable wage)	Pensionable age**	Benefit
			Public sector	Private sector: Formal	Private sector: Informal					
1		Non-existent in Indonesia								
2	Mandatory, earnings-related	Mandatory old-age savings		Yes	Yes	DC	BPJS Ketenagakerjaan (formerly PT. Jamsostek)	5.7% of income for formal workers (employee: 2.0%, employer: 3.7%); 2% of income for informal sector workers, paid by recipients/workers only	56 or 5 years of contributions of termination	Lump-sum payment of cumulative contributions plus declared rate of returns
		Mandatory social pension		Yes		Funded DB	BPJS Ketenagakerjaan (formerly PT. Jamsostek)	3% for formal sector workers (employee: 1%, employer: 2%)	56 or age 50 with 20 years of service	Annuity benefit for life, equal to 1% of total contribution times number of contributing years times career ratio indexed to inflation; In case of early withdrawal (upon a minimum of 5 years of contribution before withdrawal and being unemployed for at least 6 months), payment is made in lump sum similar to mandatory old-age savings
			Yes (police and military)			PAYG DB	PT Asabri		56 or age 50 with 20 years of service	Annuity benefit for life, with maximum benefit of 75% of basic salary
			Yes (civil servants)				PT Taspen		56 or age 50 with 20 years of service	Annuity benefit for life, with maximum benefit of 75% of basic salary
3	Voluntary, earnings-related	Voluntary occupational private pension		Yes		Funded DB/DC	Employer pension fund/Financial institution pension fund	DB: 2.5% per year; DC: 20% per year	Mostly: 55, max: 60	20% lump sum, 80% monthly pension for life
		Voluntary individual savings			Yes	DC	Financial institution	-	-	-

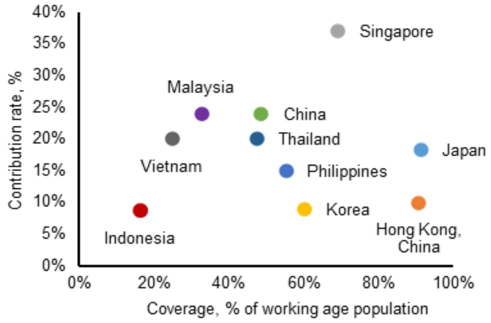
Notes: */ DC stands for defined contribution; DB stands for defined benefit; PAYG stands for pay as you go. **/ Pensionable/retirement age will increase by an additional year every three years until it reaches 65 in 2043.
Source: BPJS Ketenagakerjaan; Muliati (2013)

The mandatory pension system is modest in coverage and size. The old-age savings scheme managed by BPJS Ketenagakerjaan has about 30.7 million active participants, accounting for 16.5 percent of the working-age population. This is a small proportion compared to other ASEAN+3 economies (Figure C1). Indonesia's large informal sector,[49] coupled with a lack of retirement financial awareness, is among key challenges facing BPJS in expanding the coverage of its schemes. Only 10 percent of informal workers reportedly participate in the BPJS old-age savings scheme, compared to 50 percent of formal-sector workers. Besides the low coverage, low contribution rates have underpinned BPJS pension funds' modest total size of IDR542 trillion, or about 3.2 percent of GDP, relative to several ASEAN economies, such as Malaysia's Employment Provident Fund (EPF) and

[47] This box is prepared by Phiengphathai (Nyai) Maniphone, Associate, and Nguyen Thi Kim Cuc, Deputy Group Head and Senior Economist. The terms "pension system" and "retirement-income" system are used interchangeably here to indicate the overall formal system that provides an income upon retirement.
[48] According to literature, the formal private sector in Indonesia consists of large business groups, state-owned enterprises, and foreign investors generally engaged in the commodities, retail, or property segments. By comparison, according to the International Labor Organization's definition, the informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes for the people concerned. These units typically operate at a low level of organization and on a small scale, with little or no division between labor and capital as factors of production. Labor relations—where they exist—are based mostly on casual employment, kinship, or personal and social relations rather than contractual arrangements with formal guarantees.
[49] In Indonesia, the informal sector is estimated to account for about 80 percent of total employment.

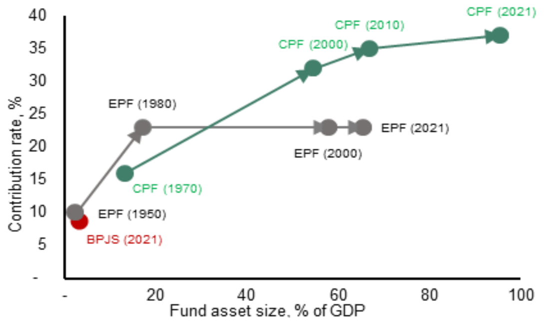
Singapore's Central Provident Fund (CPF) (Figure C2). The total contribution rate of BPJS mandatory retirement-income schemes is 8.7 percent, of which 5.7 percent is for the old-age savings scheme and the remaining 3 percent is for the pension scheme. Current regulations that allow BPJS participants to withdraw funds before retirement, provided they have made contributions for a minimum of five years and are unemployed for at least six months, have reportedly also eroded BPJS funds.[50]

Figure C1. Mandatory Pension Coverage and Contribution Rate in Selected Economies



Source: OECD (various years); Swiss Re (2021); national authorities

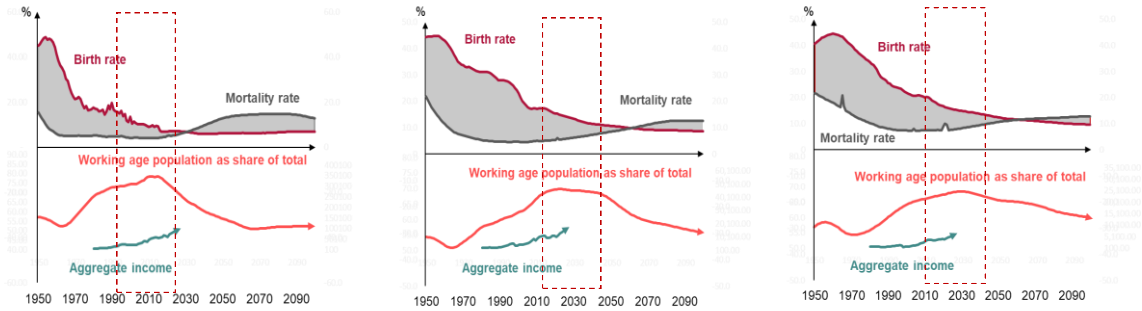
Figure C2. Size and Contribution Rate of Mandatory Pension Funds in Selected Economies



Source: Annual reports of BPJS Ketenagakerjaan, EPF and CPF (various years); Asian Development Bank (ADB)(2011)
Note: EPF stands for Malaysia's Employment Provident Fund, and CPF stands for Singapore's Central Provident Fund.

Figure C3. Demographic Dividend in Selected ASEAN Economies

a. Singapore b. Malaysia c. Indonesia



Source: UNDP; IMF; national authorities; CEIC; AMRO staff calculations
Note: The red-dotted frame indicates the demographic dividend window. Aggregate income is measured as nominal GDP per capita in USD terms, reported by the IMF.

The government has stepped up efforts to strengthen the national pension system. Policies to expand pension coverage were implemented as early as the 1990s by issuing Law 3/1992, also known as the Jamsostek Law, to make the old-age savings program mandatory among formal-sector employees, and again in 2004 with the issuance of Law 40/2004, also called the National Social Security System Law, to expand the program to informal-sector workers. To prepare for an aging population, the pensionable/retirement age has been raised from 55 by one additional year every three years since 2014 and will continue until it reaches 65 in 2043. Most recently, the Omnibus Law on Development and Strengthening of Financial Sector, approved by parliament in 2022, has sought to redesign the mandatory pension schemes into a two-account system, of which the larger account can be drawn down only upon pensionable/retirement age, among other policy measures.[51] The new design aims at preventing people from fully withdrawing their pension funds before they reach retirement age. It is also a welcome move that Indonesia has discussed efforts to expand the coverage of mandatory pension schemes[52] and raise their contribution rates. The experiences of

[50] Weaknesses in fund management or regulations prevent state-linked fund managers from selling underperforming assets to reduce realized losses, and such loopholes have also been associated with slow asset accumulation.
[51] The law also seeks to enhance pension fund governance and investment policy by requiring fund managers to have adequate expertise and experience. In addition, fund actions to cut losses, including unrealized losses, will not be classified under state financial losses provided these measures meet certain criteria. Policies to enhance the voluntary pension schemes include shariah-compliant pension products and efforts to unify pensionable/retirement ages among voluntary pension schemes.
[52] Examples of these policy initiatives include measures to raise awareness and provide incentives for informal workers; measures to enforce compliance, such as cooperation with state agencies like the police or the Deputy Attorney General for Civil and State Administration (Jamdatun) regarding data and information exchange; and non-compliance handling and follow-up action with business entities which fail to report their workforce for participation in BPJS programs.

neighboring countries indicate that early policy initiatives to raise coverage and contribution rates[53] help pension funds to reap the benefits of the demographic dividend window[54] and foster rapid asset growth (Figures C2, C3a&b). Timely action on these fronts is urgently needed as Indonesia is now enjoying its demographic dividend, with the share of working-age people in the national population expected to peak around 2025-2030 (Figure C3c). An overhaul of the national pension system, such as providing a minimum level of support for the poorest old population (Tier 1), in parallel with improved labor market flexibilities, could be considered in the long run.

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[53] Malaysia's EPF raised the contribution rate to 23 percent in 1980 after keeping the rate unchanged at 10 percent since the fund was established in 1950 and has broadly maintained the elevated rate ever since. Singapore's CPF adopted a more aggressive pace of raising the contribution rate from 10 percent in 1955 to 50 percent in 1980, which was subsequently lowered. It now stands at 37 percent.

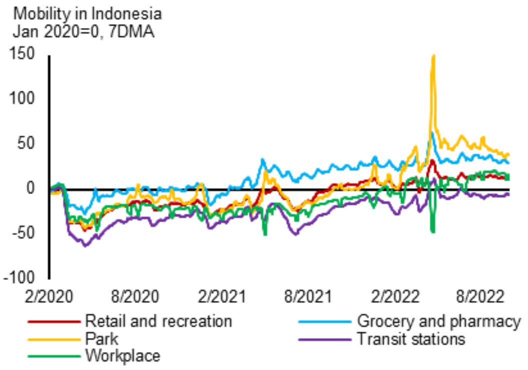
[54] The demographic dividend window is defined as the period surrounding the peak in the share of working-age people in the total population along with a decline in both birth and death rates, which would result in accelerated economic growth and increased aggregate income.

Appendices

Appendix 1. Selected Figures for Major Economic Indicators

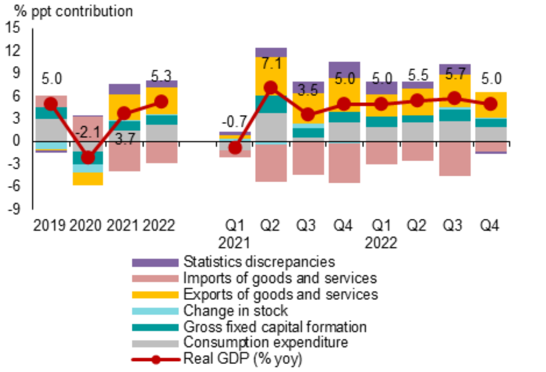
Figure 1.1. Real Sector

Mobility has resumed stably as the COVID-19 pandemic moves into an endemic phase…



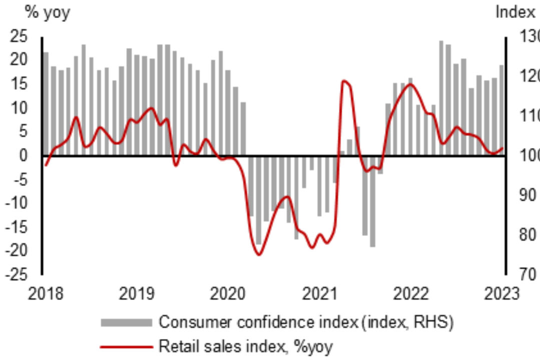
Source: Google Mobility Database; AMRO staff calculations
Note: Daily data obtained up to October 15, 2022.

… supporting domestic demand to rebound, which, along with strong exports, underpinned a pickup in GDP growth in 2022.



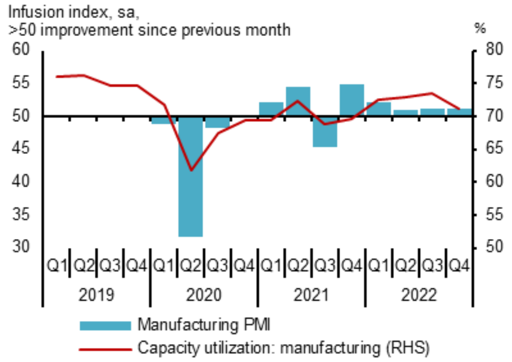
Source: Statistics Indonesia (BPS); CEIC; AMRO staff calculations

Retail sales growth moderated in recent months while consumer confidence remained resilient.



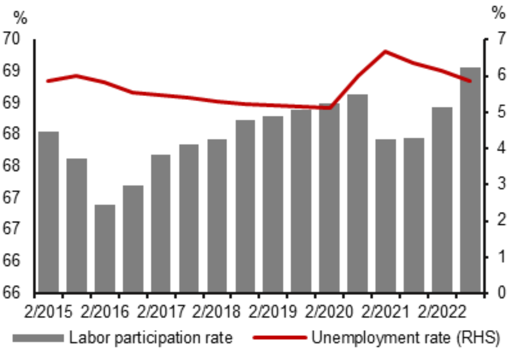
Source: Bank Indonesia (BI); AMRO staff calculations
Note: Monthly data obtained up to January 2023.

Investment strengthened as capacity usage in manufacturing activities recovered…



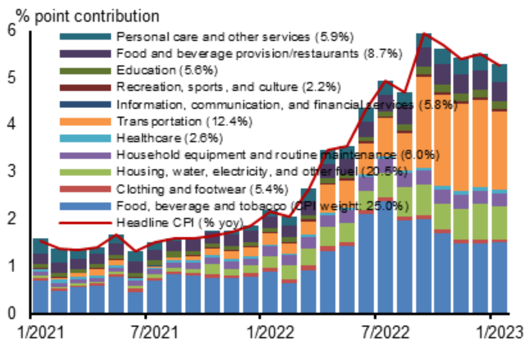
Source: S&P Global; BPS; CEIC

… supporting the labor market to normalize from the pandemic shock.



Source: BPS; CEIC; AMRO staff calculations
Note: Data is on biannual basis, obtained up to August 2022.

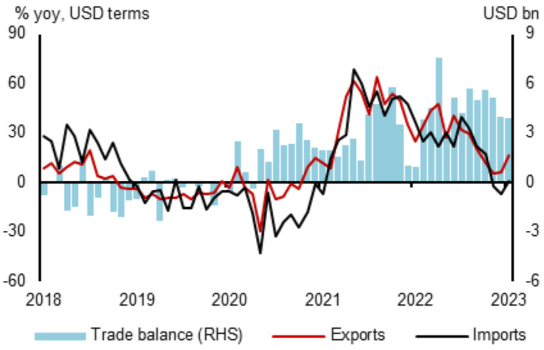
Higher global commodity prices were passed on to domestic prices and lifted inflation, which has nevertheless moderated recently.



Source: BPS; CEIC; AMRO staff calculations
Note: Monthly data obtained up to January 2023.

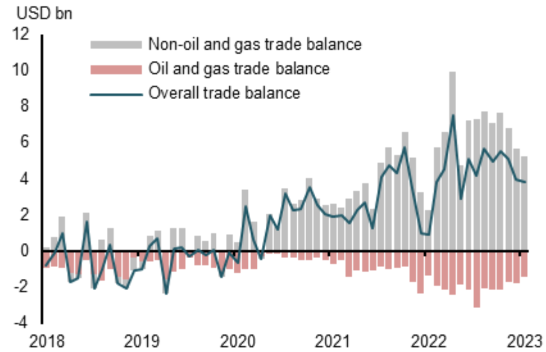
Figure 1.2. External Trade

Both export and import growth eased in recent months, while trade surpluses were sustained…



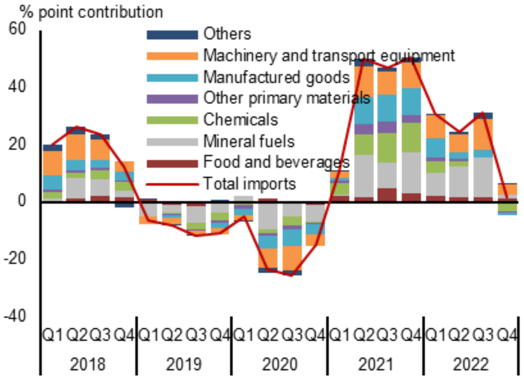
Source: BPS; AMRO staff calculations
Note: Monthly data obtained up to January 2023.

… driven by non-oil and gas surpluses that remained strong.



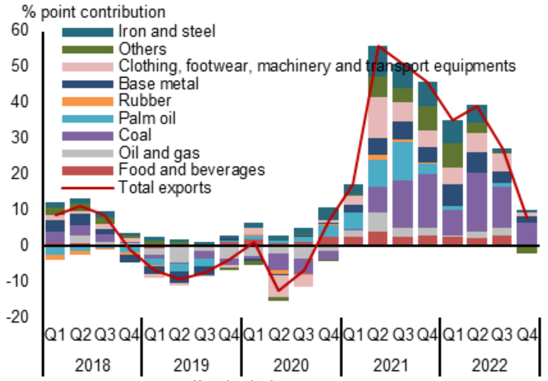
Source: BPS; AMRO staff calculations
Note: Monthly data obtained up to January 2023.

Import growth was driven in part by larger fuel imports amid higher global fuel prices.



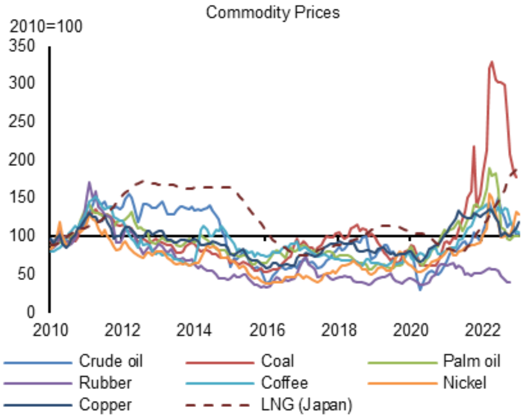
Source: BPS; AMRO staff calculations

At the same time, Indonesia also saw increased exports of key commodities.



Source: BPS; AMRO staff calculations

Regardless, the trade outlook is weighed down by easing commodity prices except for gas…



Source: World Bank; CEIC; AMRO staff calculations
Note: Monthly data obtained up to January 2023. LNG stands for liquefied natural gas.
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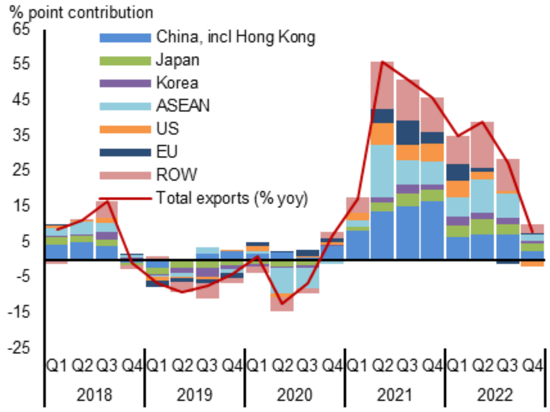
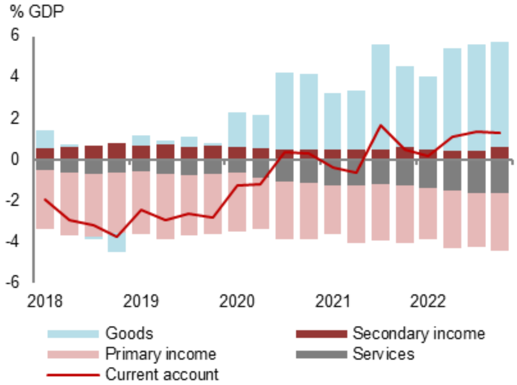
… and the growth slowdown across major export markets.



Source: BPS; AMRO staff calculations

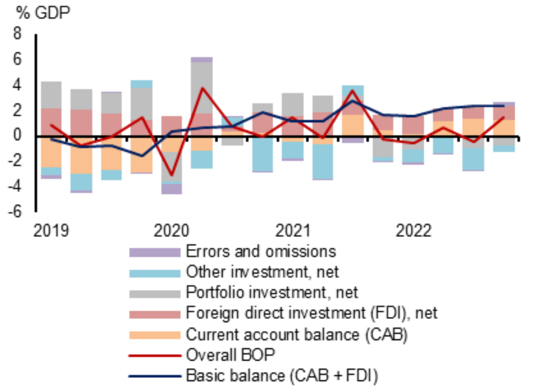
Figure 1.3. External Sector

Strong goods trade surpluses underpinned the current account surplus in 2022…



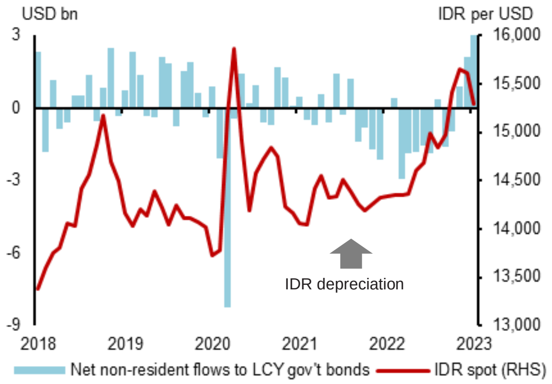
Source: BI; CEIC; AMRO staff calculations
Note: Quarterly data obtained up to Q4 2022.

… which, combined with sustained foreign direct investment inflows, supported the overall BOP.



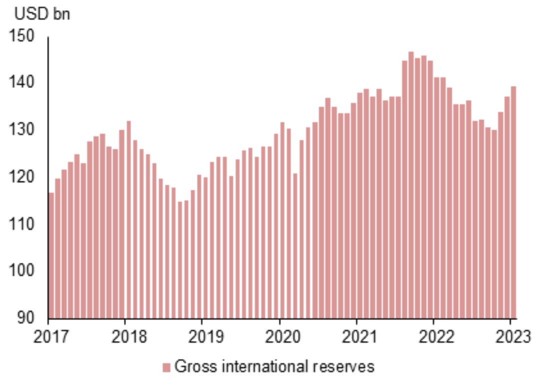
Source: BI; CEIC; AMRO staff calculations
Note: Quarterly data obtained up to Q4 2022.

Bond outflows have reversed in recent months and helped lift pressure on the rupiah.



Source: Ministry of Finance; Jakarta Stock Exchange, BI, CEIC; AMRO staff calculations
Note: Monthly data obtained up to January 2023. Exchange rate data are monthly averages.

Gross international reserves also rebounded and remained elevated relative to pre-pandemic levels.



Source: BI; CEIC; AMRO staff calculations
Note: Monthly data obtained up to January 2023.

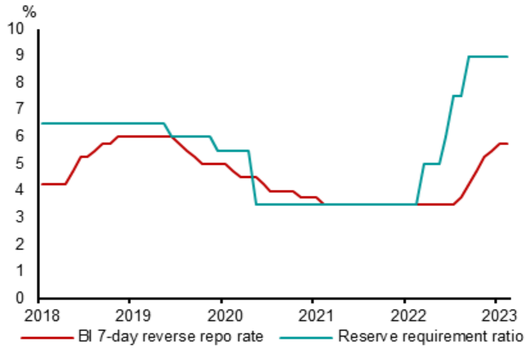
Indonesia's external debt declined steadily as both the government and corporate sector reduced external borrowings; the size of short-term external debt also remained manageable.

in billions of USD, unless otherwise indicated	2018	2019	2020	2021	2022			
	Dec	Dec	Dec	Dec	Mar	Jun	Sep	Dec
External Debt: Total	375.4	403.6	416.9	414.0	410.5	402.7	395.1	396.8
in percent of GDP	*36.0*	*36.1*	*39.3*	*34.9*	*33.6*	*31.8*	*30.3*	*30.1*
External Debt: Government	183.2	199.9	206.4	200.2	196.2	187.3	182.3	186.5
o/w LCY bonds and notes held by non-residents	61.7	76.4	69.0	62.4	59.1	52.4	47.9	48.9
o/w FCY bonds and notes	66.3	69.1	77.7	81.3	80.3	80.7	82.0	82.0
o/w FCY loans	55.2	54.4	59.6	56.5	56.9	54.2	52.3	55.6
External Debt: Bank Indonesia	3.1	3.0	2.9	9.0	8.9	8.6	8.2	9.2
External Debt: Private	189.2	200.7	207.7	204.8	205.4	206.8	204.6	201.2
External Debt: Banks	34.4	35.2	33.6	32.9	32.9	35.3	34.4	33.9
External Debt: Private: Non Bank	154.8	165.4	174.1	171.9	172.5	171.5	170.2	167.3
External Debt: Non-bank financial corporates	10.6	11.4	9.6	8.5	8.4	7.0	6.6	6.4
External Debt: Non-financial corporates	144.2	154.1	164.5	163.4	164.1	164.5	163.6	160.9
o/w LCY bonds and notes held by non-residents	1.4	0.6	0.3	0.1	0.1	0.1	0.1	0.1
o/w FCY bonds and notes	34.0	38.5	46.6	48.4	47.9	49.6	48.4	47.6
o/w FCY loans	95.5	100.0	104.9	99.5	99.9	98.2	99.1	97.8
o/w trade credit	12.0	13.7	11.0	13.7	14.7	15.2	14.7	14.0
o/w other borrowings	1.2	1.2	1.6	1.6	1.5	1.3	1.3	1.4
External debt: short-term by remaining maturities	60.2	63.3	65.1	59.4	62.8	66.7	62.6	66.6
in percent of total external debt	*16.0*	*15.7*	*15.6*	*14.4*	*15.3*	*16.6*	*15.8*	*16.8*
in percent of gross international reserves	*49.9*	*49.0*	*47.9*	*41.0*	*45.2*	*48.9*	*47.8*	*48.6*

Source: BI; CEIC; AMRO staff calculations

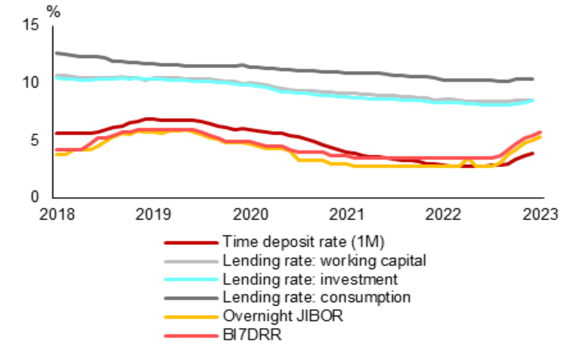
Figure 1.4. Monetary and Banking Sector

Bank Indonesia normalized its monetary policy stance by raising RRR and policy rates in 2022.



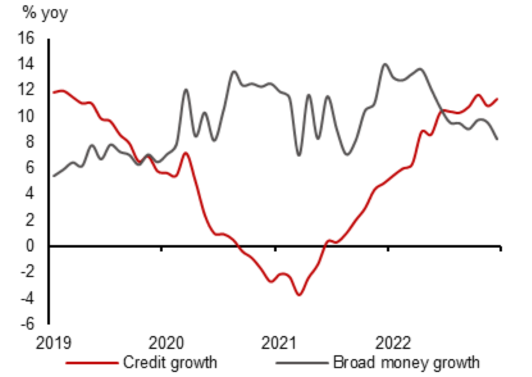
Source: BI; CEIC
Note: Monthly data obtained up to February 2023.

Interbank and deposit rates picked up in tandem with the policy rate hikes; lending rates also showed signs of edging up.



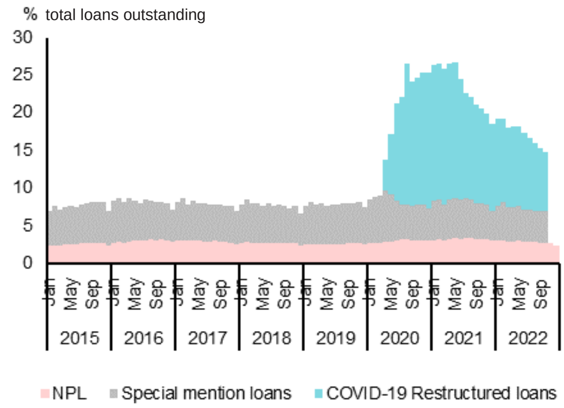
Source: BI; CEIC; AMRO staff calculations
Note: Monthly data obtained up to December 2022 for deposit and lending rates, and up to January 2023 for policy and interbank rates.

Credit growth rebounded; broad money growth slowed recently but remained elevated relative to pre-pandemic levels.



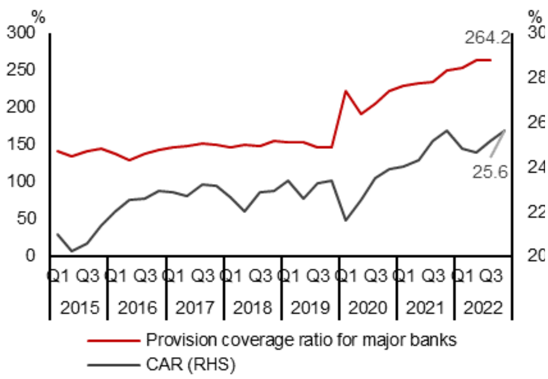
Source: OJK; BI; CEIC; AMRO staff calculations
Note: Monthly data obtained up to December 2022.

Bank loan quality improved in recent months, backed by the economic recovery.



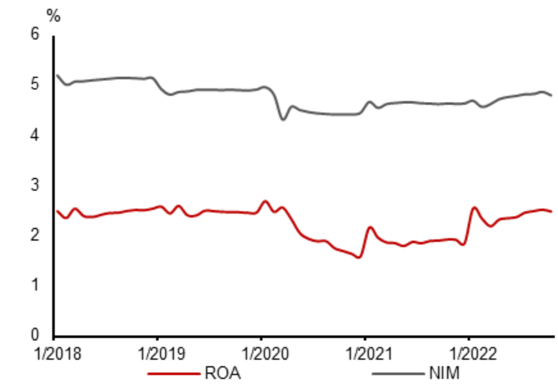
Source: OJK; BI; CEIC; banks' financial reports; AMRO staff calculations
Note: Monthly data obtained up to December 2022 for NPL and October 2022 for special mention loans and COVID-19 restructured loans.

At the same time, banks maintained strong capital buffers and elevated provisioning.



Source: OJK; BI; CEIC; Moody's; banks' financial reports; AMRO staff calculations
Note: Quarterly data obtained up to Q3 2022 for provision coverage of NPLs and Q4 2022 for CAR.

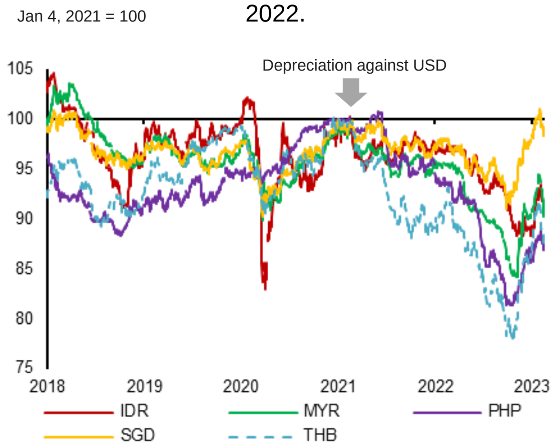
Lower funding costs and positive loan growth lifted banks' profits, as reflected in improved net interest margins and return on assets.



Source: OJK; CEIC; AMRO staff calculations
Note: Monthly data obtained up to October 2022.

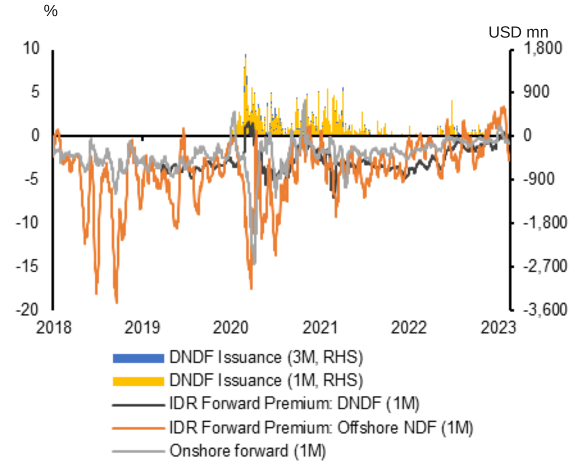
Figure 1.5. Forex and Financial Markets

In line with regional peers, the rupiah rebounded against the USD recently after depreciating in 2022.



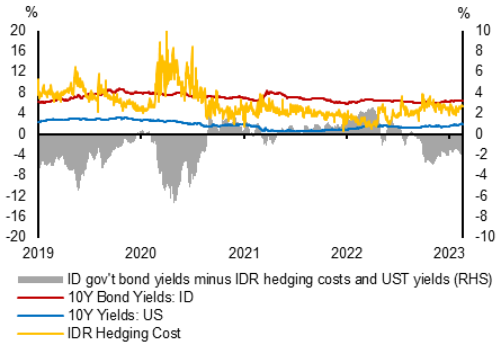
Source: CEIC; AMRO staff calculations
Note: Daily data obtained up to mid-February 2023.

BI continued its interventions in the DNDF market…



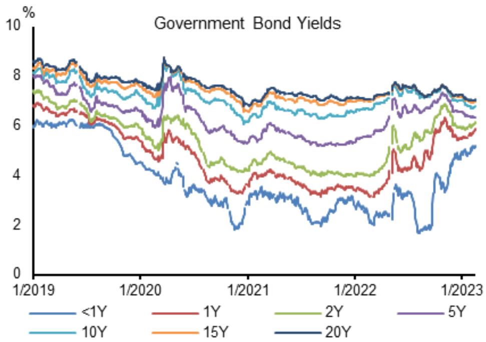
Source: Bloomberg; BI; CEIC; AMRO staff calculations
Note: Daily data obtained up to mid-February 2023. The forward premium is calculated as the annualized difference between the forward and spot rates of a currency. A negative value indicates an expected depreciation in the currency in the future.

… to contain rupiah hedging costs and support the attractiveness of rupiah-denominated assets.



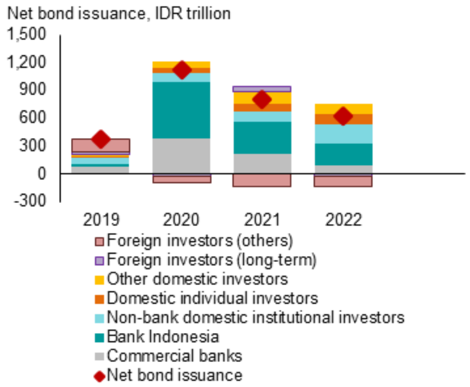
Source: Bloomberg; BI; Ministry of Finance; CEIC; AMRO staff calculations
Note: Daily data obtained up to mid-February 2023. The rupiah hedging cost is calculated as the three-month offshore NDF-implied interest rate.

BI also tweakedits interventions in the secondary government bond market to smoothen excessive exchange rate volatility, which, in turn, affected government bond yield movements.



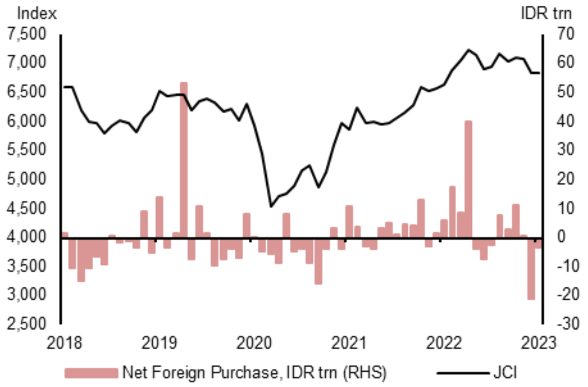
Source: Indonesia Bond Pricing Agency; CEIC
Note: Daily data obtained up to mid-February 2023.

Solid demand from domestic non-bank investors also supported the government bond market in 2022.



Sources: Ministry of Finance; AMRO staff calculations

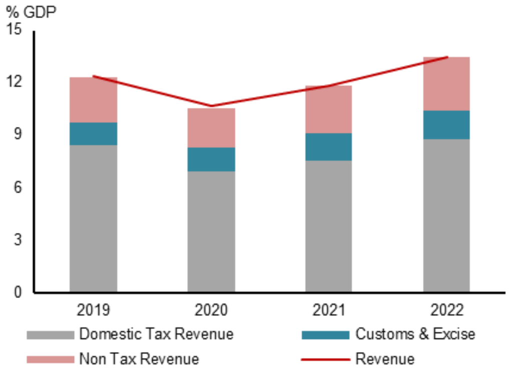
Improved performance among listed firms, combined with several large IPOs, underpinned a rally in the JCI and inflows to the stock market.



Source: Jakarta Stock Exchange; CEIC; AMRO staff calculations
Note: Monthly data obtained up to January 2023.

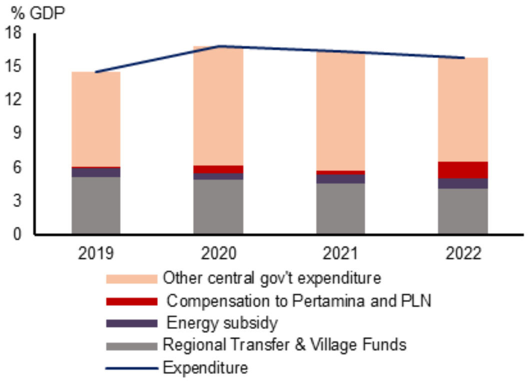
Figure 1.6. Fiscal Sector

Strong revenue performance on the back of tax measures, a commodity windfall ...



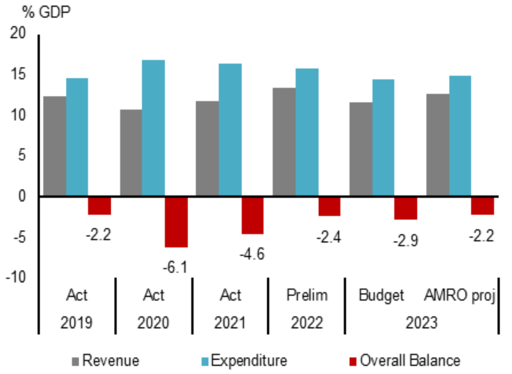
Source: Ministry of Finance; CEIC; AMRO staff calculations
Note: 2022 data is preliminary.

… and contained expenditure, notwithstanding increased subsidies to absorb the global commodity price shock…



Source: Ministry of Finance; CEIC; AMRO staff calculations
Note: 2022 data is preliminary.

… led to a faster-than-budgeted fiscal consolidation in 2022…



Source: Ministry of Finance; CEIC; AMRO staff projections

… allowing the government to lower gross bond issuances vis-a-vis its original plan.

IDR tn	'19 Act	'20 Act	'21 Act	'22 Pre	2022 Budget Ori	2022 Budget Outlook
Gross bond issuance	902	1,532	1,302	1,054	1,300	1,165
Gross IDR bonds	753	1,373	1,144	941	1,138	1,019
Regular auctions	681	761	797	585	805	696
Average bond issuance per 2 weeks	*28*	*32*	*33*	*24*	*34*	*29*
Retail bonds	48	77	97	107	91	82
Private placement	24	535	250	248	241	241
o/w with BI	*0*	*398*	*215*	*224*	*224*	*224*
Gross FCY bonds	149	159	158	112	163	146

Source: Ministry of Finance; AMRO staff calculations

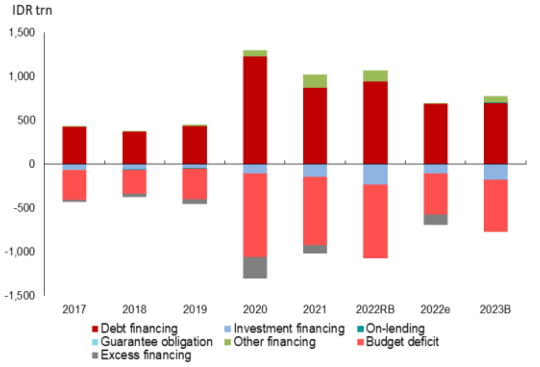
Implementation of the 2021 tax reform package should continue.

Tax type	2021 Tax Reform Package	Implementation Progress
Value-added tax (VAT)	• Raise standard VAT rate from 10% to 11% in 2022, and to 12% in 2025 • Remove VAT exemptions (but keep the tax on necessity goods and services, including staples and medical, social and education services)	• Increased VAT rate to 11% in April 2022. IMOF estimated higher VAT raised tax revenue by IDR44 trillion in 2022. • Not implemented yet.
Income tax	• [Personal Income Tax] Introduce new annual personal income bracket of IDR5 billion and above, with 35% tax rate (on top of existing four income brackets and tax rates ranging from 5-30%) • Raise upper threshold of lowest taxable income bracket from IDR50 million to IDR60 million • [Corporate Income Tax] Cancel planned reduction of CIT rate from 22% to 20% in 2022	• Implementing • Implementing • Implementing
Excise	• Expand coverage from alcoholic beverages and tobacco to include plastic products	• Not implemented yet
Carbon tax	• Impose carbon tax on goods containing carbon and/or on activities that cause carbon emissions at the rate of IDR30 per kg of CO_2e, equivalent to USD2.10 per ton of CO_2e using the current exchange rate. During the initial stage starting April 1, 2022, the carbon tax applies to the coal-fired power plant sector under a cap-and-tax scheme.	• Postponed twice. No new implementation timeline has been announced yet.
Voluntary Disclosure Program (VDP)	• Impose final tax rate on undisclosed assets, depending on when the assets were acquired, either by December 31, 2015, or between 2016-2020, and whether they would be invested in government securities instruments between January-June 2022.	• Completed. One-off increase of IDR61 trillion to tax revenue in 2022. About 248,000 taxpayers joined the program with declared assets of IDR596 trillion.

Source: Ministry of Finance; AMRO staff compilation

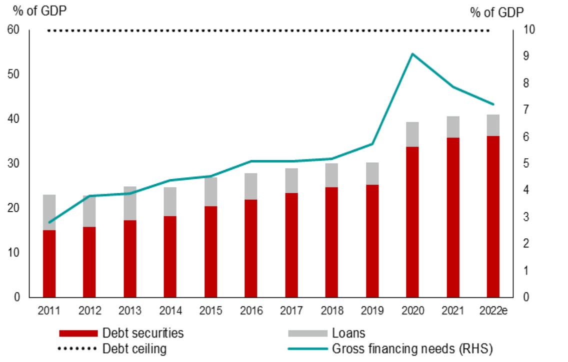
Figure 1.7. Debt Sustainability Analysis

A smaller-than-expected budget deficit in 2022 due to the commodity windfall resulted in to a lower debt financing …



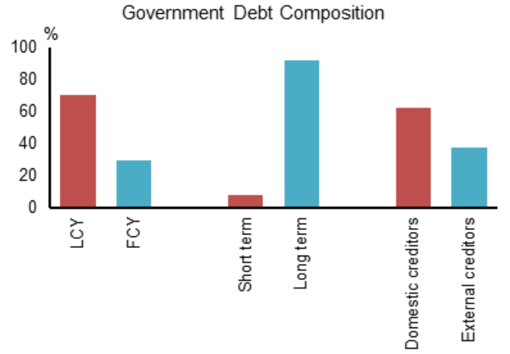
Sources: IMOF; CEIC; AMRO staff projections
Note: 2022's numbers are still preliminary.

… and a relatively stable central government debt-to-GDP ratio.



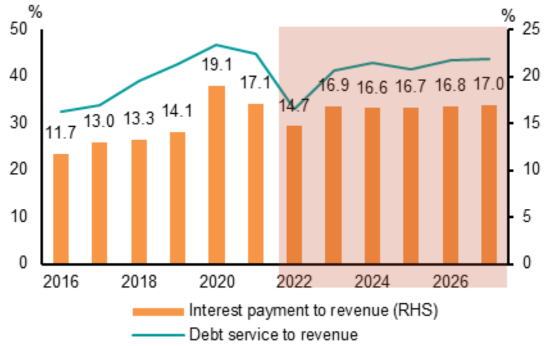
Sources: CEIC; IMOF; AMRO staff projections
Note: Loans, debt securities, and gross financing needs are based on the preliminary realizations as of December 2022, while nominal GDP for 2022 is projected by the AMRO's projection.

Debt structure is still sound…



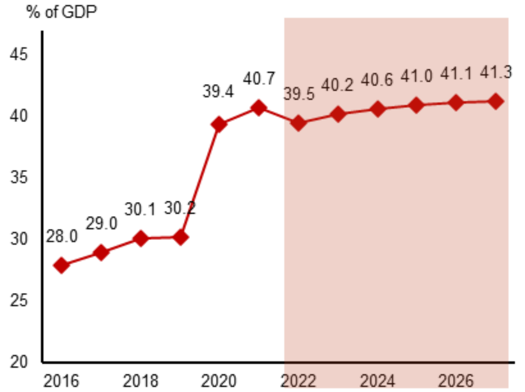
Source: IMOF; CEIC; AMRO staff projections
Note: As of September 2022. In this chart, government debt is categorized as (i) local currency (LCY) denominated versus foreign currency (FCY) denominated debt, (ii) short-term versus long-term debt by remaining maturities, and (iii) debt held by domestic versus external creditors.

…. but, the interest burden remains quite high. The end of the burden-sharing program may not contribute to interest payment savings anymore.



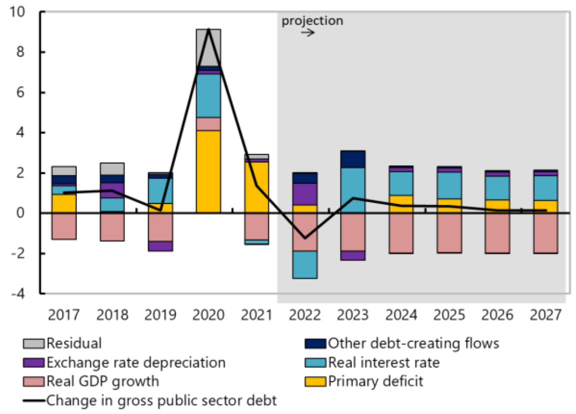
Sources: CEIC; AMRO staff projections
Note: Shaded areas are AMRO staff projections.

Projection of the debt path is, however, still far below the ceiling.



Sources: IMOF; CEIC; AMRO staff projections
Note: Shaded areas are AMRO staff projections.

But the risk remains mainly from real interest rate dynamics and GDP growth. Further deepening of the domestic debt market is also crucial.



Sources: CEIC; AMRO staff projections
Note: Shaded areas are AMRO staff projections. For the calculation of the impact of exchange rates on the debt level, end-of-year exchange rates are used.

Appendix 2. Selected Economic Indicators for Indonesia

	2018	2019	2020	2021	2022	2023*
Real GDP (percent change yoy)	5.2	5.0	-2.1	3.7	5.3	5.0
Household consumption	5.1	5.0	-2.6	2.0	4.9	4.7
Government consumption	4.8	3.3	2.1	4.2	-4.5	1.9
Gross fixed capital formation	6.7	4.5	-5.0	3.8	3.9	3.8
Exports	6.5	-0.5	-8.4	18.0	16.3	0.3
Imports	12.1	-7.1	-17.6	24.9	14.7	0.6
Balance of payments (percent of GDP)						
Current account balance	-2.9	-2.7	-0.4	0.3	1.0	-0.5
Trade balance	0.0	0.3	2.7	3.7	4.8	2.3
Oil and gas	-1.1	-0.9	-0.5	-1.1	-1.9	-1.6
Non-oil and gas	1.1	1.2	3.2	4.8	6.6	3.8
Service trade balance	-0.6	-0.7	-0.9	-1.2	-1.5	-0.8
Exports	3.0	2.8	1.4	1.2	1.8	2.8
o/w travel	1.6	1.5	0.3	0.0	0.5	1.1
Imports	3.6	3.5	2.3	2.4	3.3	3.6
o/w travel	1.0	1.0	0.2	0.0	0.5	0.7
Financial account balance	2.4	3.3	0.7	1.1	-0.7	0.7
Direct investment (net)	1.2	1.8	1.3	1.5	1.1	1.3
Portfolio investment (net)	0.9	2.0	0.3	0.4	-0.7	-0.1
Other investment (net)	0.3	-0.5	-0.9	-0.9	-1.1	-0.5
Overall balance	-0.7	0.4	0.2	1.1	0.3	0.0
Central government (percent of GDP)						
Revenue and grant	13.1	12.4	10.7	11.7	13.4	12.8
Expenditure	14.9	14.6	16.8	16.4	15.8	14.9
Budget balance	-1.8	-2.2	-6.1	-4.6	-2.4	-2.2
Central government debt	30.1	30.2	39.4	40.7	39.5	40.2
Money and credit (percent change yoy)						
Broad money	6.3	6.5	12.5	14.0	8.4	9.2
Private sector credit	12.5	5.5	-1.7	5.4	10.6	9.1
Memorandum Items:						
Headline inflation (yoy, end of period)	3.1	2.7	1.7	1.9	5.5	3.4
Headline inflation (yoy, period average)	3.2	3.0	2.0	1.6	4.2	4.6
BI Policy Rate	6.00	5.00	3.75	3.50	5.50	5.75
Exchange rate (rupiah/USD, period avg)	14,246	14,237	14,582	14,308	14,850	15,147
Exchange rate (rupiah/USD, end of year)	14,497	14,018	14,173	14,329	15,615	15,105
Gross foreign reserves (USD bn)	120.7	129.2	135.9	144.9	137.2	137.9
External debt (percent of GDP)	36.0	36.1	39.3	34.9	30.1	30.7
Nominal GDP (USD bn)	1,042	1,119	1,059	1,187	1,319	1,354
Nominal GDP (IDR trn)	14,839	15,833	15,443	16,977	19,588	20,512
Oil prices (Brent crude)	72	64	43	71	101	89

Source: BPS; Bank Indonesia; Ministry of Finance; CEIC; AMRO staff calculations
Note: */ Data for 2023 are AMRO staff projections, except for the BI policy rate, which is actual data as of February 2023.

Appendix 3. Balance of Payments

in % of GDP, unless otherwise indicated	2017	2018	2019	2020	2021	2022
Current Account	-1.6	-2.9	-2.7	-0.4	0.3	1.0
Goods	1.9	0.0	0.3	2.7	3.7	4.8
Exports	16.6	17.4	15.1	15.4	19.6	22.2
Oil	0.7	0.8	0.4	0.3	0.5	0.6
Gas	0.8	0.9	0.7	0.5	0.6	0.7
Non-Oil & Gas	15.1	15.7	14.0	14.6	18.5	20.9
Imports	14.8	17.4	14.7	12.7	15.9	17.4
Oil	2.0	2.5	1.7	1.1	1.8	2.8
Gas	0.3	0.3	0.2	0.3	0.4	0.4
Non-Oil & Gas	12.5	14.6	12.7	11.4	13.7	14.3
Services	-0.7	-0.6	-0.7	-0.9	-1.2	-1.5
Primary Income	-3.2	-3.0	-3.0	-2.7	-2.7	-2.7
Secondary Income	0.4	0.7	0.7	0.6	0.5	0.5
Capital Account	0.0	0.0	0.0	0.0	0.0	0.0
Financial Account	2.8	2.4	3.3	0.7	1.1	-0.7
Direct Investment, net	1.8	1.2	1.8	1.3	1.5	1.1
Portfolio Investment, net	2.1	0.9	2.0	0.3	0.4	-0.7
Other Investment, net	-1.1	0.3	-0.5	-0.9	-0.9	-1.1
Net Error & Omissions	-0.1	-0.2	-0.1	-0.1	-0.2	0.0
Overall Balance	1.1	-0.7	0.4	0.2	1.1	0.3
Memorandum items:						
International reserves (USD bn)	130.2	120.7	129.2	135.9	144.9	137.2
External debt	34.7	36.0	36.1	39.3	34.9	30.1
Exchange rate (rupiah/USD)	13,385	14,246	14,237	14,582	14,308	14,850
Nominal GDP (USD bn)	1,015	1,042	1,119	1,059	1,187	1,319

Source: Bank Indonesia; BPS; CEIC; AMRO staff calculations

Appendix 4. General Government Budget Performance and Budget Financing

In IDR trillion, unless otherwise indicated	2019	2020	2021	2022
	Actual	Actual	Actual	Prelim
Revenues and grants	**1,961**	**1,648**	**2,011**	**2,626**
% yoy	1	-16	22	31
Tax revenues	1,546	1,285	1,548	2,035
% yoy	*2*	*-17*	*20*	*31*
Income tax	772	594	697	998
% yoy	*4*	*-23*	*17*	*43*
VAT	532	450	552	688
% yoy	*-1*	*-15*	*23*	*25*
Excises	172	176	196	227
% yoy	*8*	*2*	*11*	*16*
Import-export tariff	41	37	74	91
% yoy	*-11*	*-11*	*101*	*23*
Non-tax revenues	409	344	459	588
% yoy	*0*	*-16*	*33*	*28*
Expenditure	**2,309**	**2,595**	**2,786**	**3,091**
% yoy	*4*	*12*	*7*	*11*
Central government expenditure	1,496	1,833	2,001	2,275
% yoy	*3*	*22*	*9*	*14*
Subsidies	202	196	242	253
Direct energy subsidies	137	97	140	172
Compensation to Pertamina and PLN	7	91	48	293
Regional transfers and village funds	813	763	786	816
% yoy	*7.3*	*-6.2*	*3.0*	*3.9*
Budget deficit (-)/surplus (+)	**-349**	**-948**	**-775**	**-464**
% of GDP	*-2.20*	*-6.14*	*-4.57*	*-2.38*
Budget financing	402	1,192	872	584
Financing surplus (+)/deficit (-)	53	245	97	119
Gross bond issuance	**902**	**1,532**	**1,302**	**1,054**
Gross IDR bonds	**753**	**1,373**	**1,144**	**941**
Auctions	681	761	797	585
Average bond issuance per two weeks	*28*	*32*	*33*	*24*
Retail bonds	48	77	97	107
Private placement	24	535	250	248
o/w with Bank Indonesia	-	*398*	*215*	*224*
Gross FCY bonds	**149**	**159**	**158**	**112**

Source: Ministry of Finance; CEIC; AMRO staff calculations
Note: */ 2022 budget realization data is preliminary.

Appendix 5. Climate Change Policy Fact Sheet[55]

<table>
<tr><th>Item</th><th>Sub-item</th><th colspan="5">Note</th></tr>
<tr><td rowspan="16">Nationally Determined Contribution (NDC)</td><td>Submission</td><td colspan="5">• September 2022 (Enhanced NDC)</td></tr>
<tr><td>Emission reduction target</td><td colspan="5">• 31.89 percent (unconditionally) of business-as-usual (BAU) scenario by 2030
• 43.20 percent (conditionally with international support) of BAU scenario by 2030</td></tr>
<tr><td rowspan="8">Emission reduction target by sector</td><td rowspan="2">(Unit: Mt-CO2)</td><td rowspan="2">2010</td><td colspan="3">2030</td></tr>
<tr><td>BAU</td><td>Unconditional</td><td>Conditional</td></tr>
<tr><td>Forestry and other land uses</td><td>647</td><td>714</td><td>214</td><td>-15</td></tr>
<tr><td>Energy</td><td>453</td><td>1,669</td><td>1,311</td><td>1,223</td></tr>
<tr><td>Agriculture</td><td>111</td><td>120</td><td>110</td><td>108</td></tr>
<tr><td>Waste</td><td>88</td><td>296</td><td>256</td><td>253</td></tr>
<tr><td>Industrial processes and product use</td><td>36</td><td>70</td><td>63</td><td>61</td></tr>
<tr><td>Total</td><td>1,335</td><td>2,868</td><td>1,954</td><td>1,630</td></tr>
<tr><td rowspan="5">Energy mix target</td><td></td><td colspan="2">2025</td><td colspan="2">2050</td></tr>
<tr><td>New and renewable energy</td><td colspan="2">at least 23%</td><td colspan="2">at least 31%</td></tr>
<tr><td>Oil</td><td colspan="2">less than 25%</td><td colspan="2">less than 20%</td></tr>
<tr><td>Coal</td><td colspan="2">minimum 30%</td><td colspan="2">minimum 25%</td></tr>
<tr><td>Gas</td><td colspan="2">minimum 22%</td><td colspan="2">minimum 24%</td></tr>
<tr><td>Long-term strategy</td><td colspan="5">• Long-term Strategy for Low Carbon and Climate Resilience 2050 (LTS-LCCR) indicates the target of reaching peak GHG emissions in 2030 with a net sink in forestry and land uses, and then rapidly progressing toward net-zero emissions in 2060 or sooner.</td></tr>
<tr><td rowspan="3">Fiscal Policy</td><td>Carbon pricing</td><td colspan="5"><u>Carbon tax</u>
• The carbon tax has been approved at a minimum tariff of USD2.14/tCO2e. It will be integrated with an emissions trading system under a cap and tax scheme. In the first phase, the tax will be imposed on the coal-fired power sector. The initial schedule was to implement it in April 2022, but this has been delayed until an appropriate time.
<u>Carbon trading market</u>
• The carbon trade market is expected to come into operation at the beginning of 2023, starting with coal-fired power plants. A discussion is ongoing regarding the carbon economic value of coal-fired power plants, which measures the carbon price in the carbon market. Two mechanisms are being considered for the carbon market: a mandatory emissions trading system (ETS) and a voluntary carbon market system.</td></tr>
<tr><td>Government revenue and expenditure</td><td colspan="5"><u>Revenue</u>
• The IMOF provides tax facilities, such as tax holidays and tax allowances, to support the development of geothermal and other renewable energy industries.
<u>Expenditure</u>
• The IMOF implements the Climate Budget Tagging both at national and regional levels to determine the budget’s contribution to climate change issues.
• Between 2016 and 2021, average government expenditure on climate change was IDR83.8 trillion, 3.7 percent of total expenditure per year.</td></tr>
<tr><td>Green taxonomy</td><td colspan="5">• The green taxonomy is a guideline for information disclosure in the financial sector and can be used as a reference to create innovative sustainable financial products for climate change.
• OJK has a role in developing green taxonomy regulations.</td></tr>
<tr><td rowspan="2">Climate Finance</td><td>Financial needs</td><td colspan="5">• To achieve the unconditional reduction target by 2030, the financial requirements until that year are estimated at USD281 billion.
• The government estimates that the government sector will cover 27 percent of the financial requirements and the private sector will provide 33 percent; still, a funding gap of 40 percent remains.</td></tr>
<tr><td>Private sector</td><td colspan="5">• The private sector is estimated to have contributed USD21.3 billion in climate finance from 2015 to 2019.
• Debt financing accounts for 70 percent, while the rest comes from equity finance.</td></tr>
</table>

[55] This appendix is prepared by Sota Nejime, Associate Researcher.

Item	Sub-item	Note
		• Most of the private climate finance was dedicated to the renewable energy sector. In particular, the appetite was mainly for small hydropower and geothermal energy as it is less risky.
	International support	• Between 2016 and 2019, Indonesia received financial support of USD1.57 billion based on bilateral agreements, and USD1.53 billion based on multilateral agreements. • The energy and transport sectors received 72 percent of the total bilateral and multilateral support. Loans made up 97 percent of the funding, while the remaining 3 percent was received in the form of grants.
	Climate fund	Climate funds under government initiatives • SDG Indonesia One (SIO): a funding platform established by PT SMI aiming to provide a blended finance scheme to support SDGs in Indonesia. • Indonesia Environment Fund (IEF): manages and provides funds for 13 priority programs, including environmental and forestry protection and climate change mitigation and adaptation. • Indonesia Climate Change Trust Fund (ICCTF): a funding entity aiming to link international financing sources with national climate investment strategies. Since its establishment, the ICCTF had managed 88 projects as of end-2021. International climate funds • Green Climate Fund (GCF): established within the framework of the United Nations Framework Convention on Climate Change (UNFCCC). As of end-2022, Indonesia has received financing worth USD296.4 million for 11 projects. • Global Environment Facility (GEF): established as a trust fund of the World Bank. It allocates funds for the energy and forestry sector, totaling about USD358 million as of end-2022. • Climate Investment Funds (CIF): has worked with six multilateral development banks such as ADB. It allocates funds to the energy and forestry sector, totaling about USD516 million as of end-2022. • Adaptation Fund: finances water, agricultural and coastal projects.
	Green sukuk/ Green bond	Government • In the international market, sovereign green sukuk has been issued annually by Indonesia from 2018 to 2022. The total amount of global green sukuk issued since 2018 has reached USD5 billion. • In the domestic market, retail green sukuk has been issued since 2019, reaching IDR22 trillion to date. Private sector • PT SMI issued the first corporate green bond in Indonesia in July 2018, supported by the World Bank. However, green bonds are not yet popular among private Indonesian companies, partly due to their limited track record.

Source: Indonesia ENDC; Ministry of Finance; Center for Climate Finance and Multilateral Policy; Bank Indonesia; OJK; World Bank; PT SMI; IEF; ICCTF; GCF; GEF; CIF; Adaptation Fund; AMRO staff compilation

Annexes: Selected Issues

1. Energy Subsidies in Indonesia: Balancing Act Between Stabilization and Distribution Functions of the Budget[56]

The recent high energy and food prices have pushed countries worldwide, including Indonesia, to take bold measures to stabilize the inflationary shock and protect low-income families from the loss of purchasing power. The current selected issue aims to provide a brief account of how Indonesia has been trying to reform its energy subsidies and use the budget as a balancing act between stabilization and distribution. Potential policy measures to make the subsidy more targeted are also discussed.

Introduction

1. **Indonesia's government has taken bold measures to contain inflation and, at the same time, reduce the mounting pressure on the government budget due to rising energy subsidies**.[57] The revised 2022 budget increased allocation to energy subsidies and compensation, showing the government's effort to use the budget as a shock absorber amid rising global inflationary pressures. This stabilization function of the budget is aimed at maintaining the people's purchasing power to support the economy's recovery momentum. To reduce the pressure on the budget, the government also decided to raise subsidized fuel prices while providing financial support to people directly affected by the price increases. Such financial support comes in the form of additional social protection programs, such as cash transfers to poor households and wage subsidies for lower-wage workers.

2. **The budget records two types of energy subsidy spending: subsidy and compensation.**[58] The former, also known as an ax-ante subsidy, is a direct payment to energy producers, namely the national oil and natural gas company Pertamina and the national electricity company PLN. Payment to Pertamina is predetermined according to an agreed quota of fuel consumption, while payment to PLN depends on the electricity usage of the subsidized customer groups. Meanwhile, spending on compensation is called an ex-post subsidy. It is a payment to compensate for revenue losses suffered by both energy companies for fulfilling the government's mandate to provide energy supplies to the people at reasonable retail prices. The compensation is paid after determining the actual volume of energy consumed and taking into account exchange rate and international crude oil price fluctuations. The ex-ante subsidy is recorded in the budget under the *Subsidy* account, while the ex-post subsidy or compensation is recorded under the *Other Expenditures* account.

3. **To absorb the inflationary shock, energy subsidy spending increased significantly in 2022, higher than outlays in 2018-2021.** The realization of energy compensation of IDR379.3 trillion was higher than its appropriation in the initial 2022 budget of IDR18.5 trillion, while energy subsidies of IDR171.9 trillion were higher than the appropriated IDR134.0 trillion (Figure A1.1). The energy subsidy was 17.8 percent of total government expenditure in 2022, much higher than the previous year's outlay of 7.2 percent and slightly lower than the mandatory allocation of 20 percent to education. The size of energy subsidies in Indonesia is the largest in the ASEAN+3 region. In nominal values, Indonesia's energy subsidy spending

[56] Prepared by Andriansyah, Fiscal Specialist.
[57] The budget provides two types of subsidies: energy and non-energy subsidies. Energy subsidies support the use of fuel, liquefied petroleum gas (LPG) and electricity. Non-energy subsidies help pay for fertilizers, public service obligations, program credit interest, taxes, and the people's business credit interest.
[58] According to the Government Finance Statistics Manual 2014, subsidies are defined as current nonrefundable transfers that government units make to enterprises to influence the level of production, the prices at which the output is sold, and the profits of the enterprises. The subsidies are, therefore, payable to producers, not to final consumers or the people.

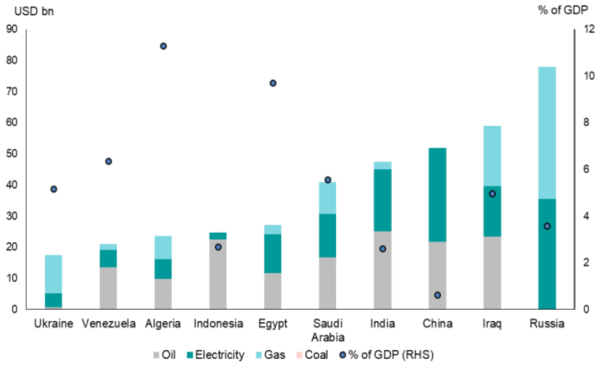
was among the top 10 countries in the world, amounting to USD24.7 billion in 2021; in terms of percentage of GDP, its energy subsidies constituted 2.69 percent (Figure A1.2).

Figure A1.1. Energy Subsidy and Compensation in the Budget, 2018-2022 (IDR trn)

	2018	2019	2020	2021	2022B	2022RB	2022
Subsidy	**153.5**	**136.9**	**108.8**	**140.4**	**134.0**	**208.9**	**171.9**
• Fuel and LPG	97.0	84.2	47.7	83.8	77.5	149.4	115.6
• Electricity	56.5	52.7	61.1	56.6	56.5	59.6	56.2
Compensation	**-**	**7.5**	**91.1**	**47.9**	**18.5**	**293.5**	**379.3**
• Fuel	-	-	45.7	30.0	18.5	252.5	307.2
• Electricity	-	7.5	45.4	17.9	-	41.0	72.1
Total	**153.5**	**144.4**	**199.9**	**188.3**	**152.5**	**502.4**	**551.2**

Source: IMOF
Notes: The 2022 statistics are preliminary figures. B denotes budget, while RB denotes revised budget.

Figure A1.2. Energy Subsidies in Top 10 Countries, 2021



Source: IEA Fossil Fuel Subsidies Database
Note: The IEA uses the price-gap approach to estimate energy subsidies by comparing average consumer prices with reference prices reflecting the total supply cost. The estimates may differ from official numbers used by authorities.

Energy Pricing and Subsidy Schemes

4. **Pertamina subsidizes and sells two types of fuel: unleaded gasoline with a minimum research octane number of 90 (RON 90), called Pertalite, and diesel fuel with cetane number 48 (CN 48), called Solar**.[59] Pertalite, which replaced Premium as an assigned fuel in 2021, and Solar are sold at retail prices determined by the government, which are below their economic prices that reflects the commercial prices if there were no subsidies. The government then pays Pertamina the price difference. The government, through the Ministry of Energy and Mineral Resources (MEMR), sets caps on all fuel prices.[60] Cost-sharing schemes for Solar offer both subsidies and compensation, while for Pertalite only compensation is payable. The Solar subsidy is fixed at IDR500 per liter and aimed only at public transport, fishermen with a maximum gross tonnage of 30 tonnes, and poor farmers.

5. **Subsidized LPG 3kg is sold only to households, registered micro-enterprises, and boats for small fishermen**. The MEMR sets the basic price for LPG 3kg. However, the retail price varies across regions because LPG 3kg comes under a two-step pricing mechanism. First, the MEMR determines the distributor retail price, which is fixed at IDR4,500 per kg or IDR12,750 per cylinder. Second, local governments decide on the maximum retail price at sub-distributors, which is usually higher than the MEMR price. The subsidy paid to Pertamina will depend on the actual distribution by sub-distributors. Ideally, only targeted beneficiaries, identified using the Integrated Social Welfare Database (*Data Terpadu Kesejahteraan Sosial*, or DTKS), can buy LPG 3kg. This database is built by the Ministry of Social Affairs and contains the data of 40 percent of the poor and vulnerable in Indonesia.

[59] Pertamina sells the non-subsidized fuels CN 51 (Dexlite), CN 53 (Pertamina Dex), RON 92 (Pertamax), RON 98 (Pertamax Turbo) and RON 100 (Pertamax Racing). It also sells Pertamax below market price as the Pertamax price is set by the government. However, there is no cost-sharing scheme for Pertamina, meaning that it fully bears the revenue losses.
[60] The latest pricing formula is set through a Minister of MEMR decree dated 11 October 2022, as follows: $Fuel\ price = MOPS + Constant + Margin$, where $MOPS$ is the Mean of Platts Singapore, the average of a set of Singapore-based oil products reported by the price assessment agency Platts and used as a benchmark price for refined products in the Asian market. $Constant$ is the price per liter reflecting the costs of procurement, storage, and distribution, and $Margin$ is the profit margin allowed to be earned by distributors. For subsidized fuels, $Constant$ is set at IDR1,800 per liter, and $Margin$ is set at $10/90 \times (MOPS + Constant)$.

6. Electricity tariffs for most customer groups in Indonesia are still subsidized. The PLN tariff consists of 37 groups, of which only 13 are non-subsidized.[61] In particular, subsidies apply to small customers with 450 volt-ampere (VA) or 900 VA capacity. Since 2017, the government has implemented a targeted electricity subsidy policy for all households with 450 VA capacity and for poor households with 900 VA capacity, both of which are already included in the DTKS database. The electricity subsidy scheme covers both subsidies and compensation. PLN is eligible to claim them from the government to compensate for the difference between the lower tariff charged to households and the average cost of electricity generated.[62] A summary of energy subsidy and pricing schemes is provided in Figure A1.3.

Figure A1.3. Energy Subsidy and Pricing Schemes

	Subsidy	Compensation	Retail Price
Fuel			
Solar (diesel)	Available with a fixed IDR500/liter	Available to compensate for the price gap when the retail price is lower than the economic price	Administered by the central government
Pertalite	Not available	Available to compensate for the price gap when the retail price is lower than the economic price	Administered by the central government
Pertamax	Not available	Not available	Administered by the central government with price adjustments
Other non-subsidized fuel	Not available	Not available	Administered by the central government with price adjustments
LPG			
LPG 3kg	Available	Available to compensate for the price gap when the retail price is lower than the economic price	Administered by the central and local governments
LPG 12kg	Not available	Not available	Administered by Pertamina with price adjustment
Electricity tariff			
450 VA Customers	Available	Available to compensate for the price gap when the tariff is lower than the production cost	Administered by the central government
900 VA customers	Available	Available to compensate for the price gap when the tariff is lower than the production cost	Administered by the central government

Source: AMRO staff compilations.

Subsidy Reforms

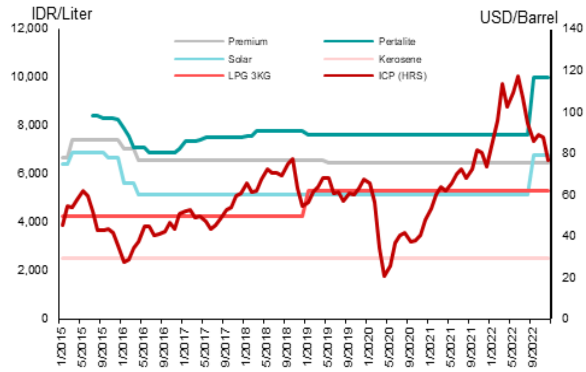
7. Indonesia has been undertaking continual energy subsidy reforms. Energy subsidies have existed since 1966, and reform efforts have taken place continually by reducing the

[61] These tariff groups are classified into seven classes, namely, social services (seven groups), households (six groups, five of which are not subsidized), businesses (six groups, five being unsubsidized), industries (eight groups, two unsubsidized), government offices and road lights (seven groups, three unsubsidized), traction (one group), precipitation (one group), and special purposes (one group, unsubsidized). The non-subsidized tariff is adjusted monthly although in practice, the adjustment is conducted quarterly. The latest tariff adjustment was made in Q3 2022 for five customer groups only. The MEMR sets the adjustment formula by taking into account three indicators: the exchange rate of the U.S. dollar against the rupiah, the Indonesian crude oil price, and the inflation rate. The adjusted tariff is not necessarily higher and may even be lower than the current one. The adjusted tariff, however, will reflect the basic cost of the electricity supply.

62 The subsidy is calculated based on the formula $S = \{C \times (1 + m) - T\} \times V$, where S is the subsidy, T is the average electricity tariff, C is the main operating cost, m is the margin set by the MEMR, and V is the sales volume. PLN receives the monthly subsidy in the subsequent month after the subsidy calculation is verified, and the remaining will be received quarterly. Outstanding subsidy receivables are paid after the Supreme Audit Board has audited the budget.

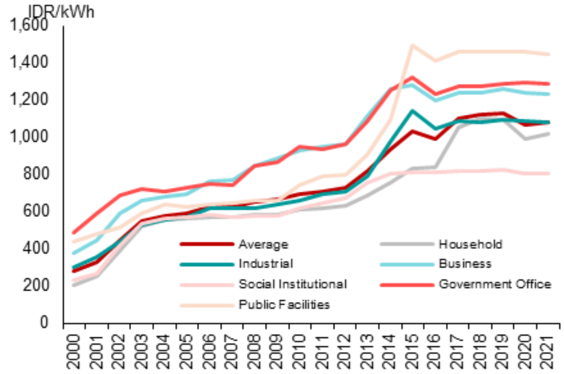
subsidy amount, increasing subsidized energy prices (Figures A1.4, A1.5), or other measures (Figure A1.6). The savings from the reforms were used to fund financial aids provided to compensate poor households, so as to mitigate the adverse effects of the initial price rise. Government Regulation No. 79/2014 lays out the latest legal basis for the energy reform, stipulating that energy prices must be based on their economic prices and that the subsidy must be fair and targeted at the poor and vulnerable only. The government plans to integrate LPG and electricity subsidies into social protection programs (IMOF, 2021).

Figure A1.4. Subsidized Energy and Indonesia Crude Oil Prices



Source: CEIC, AMRO staff calculation

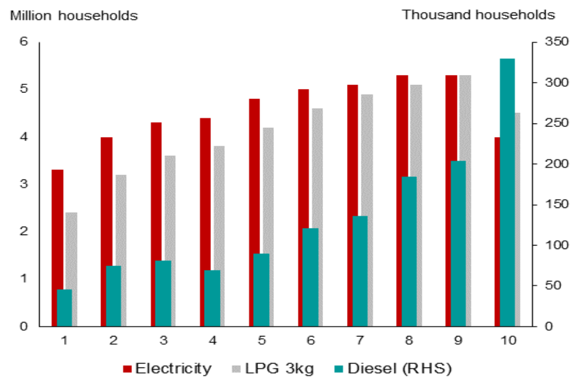
Figure A1.5. Electricity Tariffs



Source: CEIC, AMRO staff calculation

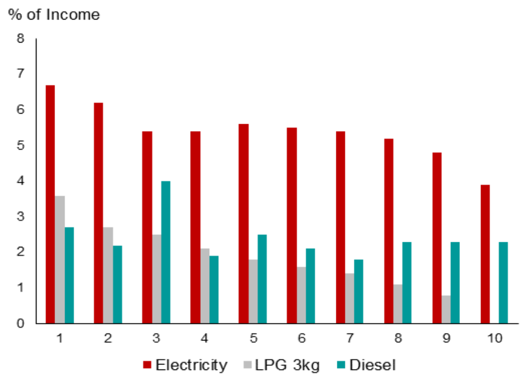
8. Inequitable distribution of energy subsidy benefits causes the government to rationalize and phase out inefficient fossil-fuel subsidies while providing targeted support to the poor and vulnerable. The beneficiaries of energy subsidies are, in practice, not the ones who most need them. Figure A1.7 shows that energy subsidies are enjoyed mainly by higher-income households in the three higher-income decile groups. Lower-income households, which are the ones that really spend a more significant portion of their income on energy use (Figure A1.8), do not benefit much from the subsidies. Therefore, rationalizing distortionary subsidies is essential for fiscal adjustment in Indonesia. Money saved from rationalizing distortionary subsidies can be used to strengthen structural reform agenda, such as improving labor market competitiveness and developing future-ready human capital.

Figure A1.7. Energy Subsidies Beneficiaries by Income Deciles



Source: Aulia *et al.* (2016)

Figure A1.8. Value of Energy Subsidies in Percentage of Income by Income Deciles



Source: Aulia *et al.* (2016)

Figure A1.6. Major Energy Subsidy Reforms and Corresponding Measures to Protect the Poor and Vulnerable since 2001

2001-2003

- Removed subsidies for marine fuel oil and industrial and marine diesel oil in 2001.
- Subsidized only 450 VA customers (5 classes) in 2003.
- Introduced formula-based periodic fuel adjustment system in 2003 but abandoned it due to public opposition.
- Launched benefit schemes in 2003: rice subsidies (IDR500 bn), health and social welfare (1.85 trn) scholarships and supports for teachers (IDR1.86 trn), transportation (IDR 190 bn), water infrastucture (IDR250 bn), revolving fund for micro business and fishermen (IDR174 bn).

2005

- Removed fuel subsidy for the industrial. Subsidized only Premium, diesel fuel and kerosene.
- Subsidized all electricity customers (37 classes).
- Launched benefit schemes: direct cash assistance (IDR23 trn), school operational assistance (IDR12 trn), healthcare for the poor (IDR2.9 trn), rural infrastructure project (IDR569 bn).

2007-2010

- Initiated kerosene-to-LPG conversion program in 2007.
- Increased fuel prices in 2007 and lowered them in 2008-2009.
- Allowed fuel retailers other than Pertamina to sell subsidized fuels.
- Launched benefit schemes in 2008: direct cash assistance (IDR14.1 trn), rice subsidy for the poor (IDR4.2 trn), loan-interest subsidy for small enterprises (IDR1.0 trn).
- Initiated public transportation conversion from gasoline to compressed natural gas in 2010.

2013

- Excluded four customer classes from the subsidy (large residential, two businesses, and government customers).
- Adjusted all tariff, except for 450-900 VA households, by 15 percent on average.
- Launched benefit schemes: temporary community direct assistance (IDR9.3 trn), supplementary hopeful family program (IDR0.7 trn), supplementary scholarship for the poor (IDR7.5 trn), supplementary rice subsidy for the poor (IDR4.3 trillion), and infrastructure funding (IDR7.5 trn).

2014-2015

- Removed subsidy for Premium in 2015, but maintained fixed subsidies for Solar of IDR1,000 per liter and fixed kerosene price of IDR2,500 per liter.
- Updated Premium and diesel fuel prices regularly according to to market prices in 2015.
- Excluded another eight classes were excluded from the subsidy. Continued subsidizing the other 25 classes.
- Adjusted tariffs for 400-900 VA households.

2016-2018

- Havled fixed subsidy for diesel fuel from IDR1,000 to IDR500 per liter in 2016, and increased to IDR2,000 per liter in 2018.
- Introduced one-fuel-price policy in 2017.
- Excluded non-poor 900 VA households from the subsidy and adjusted their tariffs in 2017. Implemented electricity tariff adjustment in 2017.
- Introduced xaps on non-subsidized fuel prices in 2018.

2020-2022

- Halved fixed subsidy for diesel fuel from IDR2,000 to IDR1,000 in 2020 and then to IDR500 per liter in 2021.
- Stopped selling Premium in 2021. Replaced Premium with Pertalite as assigned fuel and provided governent compensation to Pertamina. Relaxed Pertamax price controls.
- Subsidy allocation increase, followed by increasing subsidized fuel prices in 2022.
- Launched benefit schemes in 2022: cash transfer (IDR12.4 trn), wage subsidy (IDR9.6 trn), and regional government support (IDR2.17 trn).

Sources: GOI (2019), OECD (2019), ADB (2015), AMRO staff compilations

Policy measures

6. **The existing DTKS database can be integrated with other government databases under the One Data Indonesia policy to improve the ability to target vulnerable groups.** The government plans to integrate LPG and electricity subsidies into social protection programs. The integration process will include using the DTKS database to determine the subsidy beneficiaries.[63] For instance, LPG 3kg and electricity tariff support will mainly target people identified in the DTKS, in consistency with social assistance programs. The DTKS database can be further integrated with the taxation database, which will benefit the current process of using NIK (*Nomor Induk Kependudukan* or citizen identification number) as a taxpayer identification number and the development of the core tax system to better screen eligibility conditions by minimizing inclusion or exclusion errors. A plan to use the *myPertamina* app should continue from the current registration stage to the implementation phase. These efforts are also essential to avoid shifting from non-subsidized fuels to subsidized ones, which may push up quotas for subsidized fuel consumption.

7. **Due to the negative externalities,[64] all energy subsidies should be reviewed for continued relevance and gradually withdrawn when the economy recovers, to provide fiscal space for emerging spending priorities**. However, it is essential to clearly define "inefficient energy subsidy" and how to measure it. Other forms of subsidy, namely production subsidies, such as tax code provisions, need to be included in the definition. The total cost of all the various forms of subsidy can be high. For instance, Geddes et al. (2020) estimated that the average government support for fossil fuel in 2017-2019 was USD28 billion per year, consisting of USD8 million in direct transfers, USD317 million in tax expenditure, USD23 billion in induced transfers and USD4.6 billion of SOE investment. With a precise definition, energy subsidy reforms can be aligned with industrial and employment policies without hurting the poor and vulnerable. In addition, a current annual tax expenditure report can be expanded to cover energy subsidy costs. Subsidy reforms are also essential to level the playing field for green and renewable energy alternatives, so as to promote a smooth transition to a green economy and net-zero carbon emissions.

[63] The DTKS database contains the names, addresses, NIK (citizen identification numbers) and basic socioeconomic information of households and individuals from around 25 million households in Indonesia.
[64] Subsidies have negative economic implications for growth and the balance of payments by reducing incentives for investment in renewable energy, discouraging public spending and hindering a complete pass-through of international prices.

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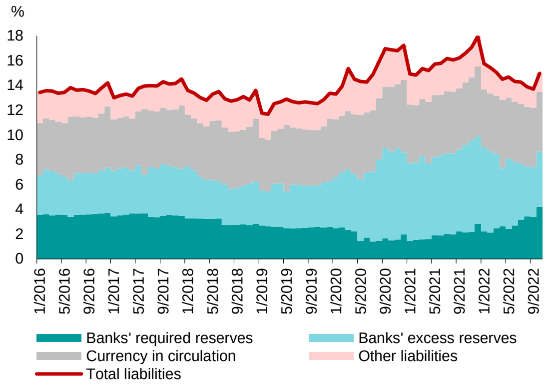
2. Liquidity and Credit Analysis Based on Bank Indonesia's Balance Sheet[65]

Liquidity was ample among banks during the pandemic, reflected in enlarged excess reserves deposited at Bank Indonesia (BI) as its balance sheet expanded on the back of the purchase of government bonds since the onset of the pandemic. In 2022, thanks to better fiscal performance and BI's timely policy adjustment, BI's balance sheet and banks' excess reserves shrank, which could reduce the risk of excessive credit expansion in the future. Moving forward, the central bank needs to continue monitoring the excess reserves to achieve proper credit growth to support the economy while maintaining financial stability.

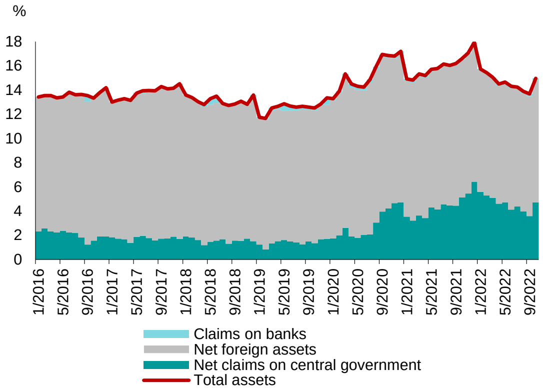
1. Excess liquidity in the banking system declined in 2022. The declined is reflected in a decline in excess reserves[66] that banks park at BI, from the peak of 7.3 percent of GDP at end-2021 to 4.5 percent in October 2022, approaching the pre-pandemic level of 3.7 percent (Figure A2.1). This can be mainly attributed to two reasons. First, the size of BI's balance sheet shrank in 2022 from the 2021 peak, mainly driven by a decline in BI's net claims on the central government (Figure A2.2). Indeed, the government had delivered a better fiscal performance and hence relied less on BI's support for financing in 2022. Second, BI gradually increased the reserve requirement ratio (RRR) to 9 percent in September 2022 from the historical low of 3.5 percent, leading to an accumulation of required reserves to 4.2 percent of GDP in October 2022 from below 2 percent during the pandemic (Figure A2.1).

Figure A2.1. BI's Liabilities as percentage of GDP



Source: BI; CEIC; AMRO staff calculations

Figure A2.2. BI's Assets as percentage of GDP

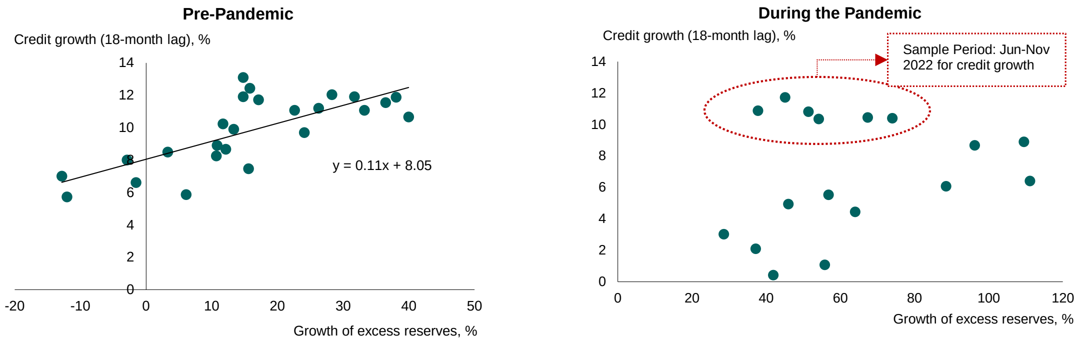


Source: BI; CEIC; AMRO staff calculations

2. BI's policy to reduce excess reserves is appropriate in mitigating the risk of excessive credit expansion in the future. In normal times with robust loan demand, a higher level of excess reserves may lead to faster credit growth. Historical data suggests the growth in excess reserves was positively correlated with credit growth with an 18-month lag[67] before the pandemic (Figure A2.3a), although this relationship did not hold during the pandemic amid weak loan demand and a weak economic outlook (Figure A2.3b). With the economy on the recovery path and loan demand picking up, credit growth rebounded strongly in 2022 (Figure A2.4). In this regard, BI's recent hike of the RRR is in the right direction to reduce excess liquidity among banks and lower their excess reserves, which would mitigate the risk of excessive credit expansion in the future.

[65] This selected issue is prepared by Yang Chunyu, Associate Economist, with contribution from Nguyen Thi Kim Cuc, Deputy Group Head and Senior Economist.
[66] To be more concise, excess reserves in this context means claims on the central bank other than the required reserves, which also include the banks' holding of central bank securities.
[67] We examined the correlation between the excess reserve growth and credit growth using different lags of 6 months, 12 months, and 18 months. We found the coefficient for the 18-month lag was the highest and significant (p-value equals to 0.00).

Figure A2.3. Correlation between Excess Reserve Growth and Credit Growth



Source: BI; CEIC; AMRO staff calculations
Note: The data range of the excess reserves is from July 2016 - July 2018. The data range of the credit growth is from Jan 2018 - Jan 2020.

Source: BI; CEIC; AMRO staff calculations
Note: The data range of the excess reserves is from Jan 2020 – May 2021. The data range of the credit growth is from July 2021 – Nov 2022.

3. At the same time, BI adjusted its macroprudential policies which are related to reserve requirements, to support the recovery momentum. While raising the standard RRR to 9 percent in 2022, BI allowed banks that were lending to selected priority sectors and MSMEs to enjoy a lower RRR, provided they met the central bank's criteria related to loan disbursement to these sectors and MSMEs (Table A2.1). More recently, as the economy returned to a more solid footing, BI lowered the RRR incentives related to bank lending to priority sectors by raising their loan disbursement thresholds, at the same time increasing the incentives for MSME financing and introducing the incentives for green financing. Effective April 1, 2023, banks can enjoy an RRR as low as 6.2 percent if they meet all these requirements, compared to the current 7 percent (Table A2.1 and Figure A2.5).

Table A2.1. Incentives for Banks Disbursing Loans

Announcement Date: May-22
Effective Date: Sep-22

Sector	Threshold	Incentive (bps)
Resilient Sectors (14 sectors)	≥ 1%-6%	20
	> 6%-8%	30
	> 8%	40
Growth Drivers (25 sectors)	≥ 1%-4%	40
	> 4%-6%	50
	> 6%	60
Slow Starters (7 sectors)	≥ 1%-3%	30
	> 3%-4%	40
	> 4%	50
Maximum Incentives for Priority Sectors		150
MSME Sector	≥ 10%-20%	20
	> 20%-30%	30
	> 30%	50

Overall Maximum Incentives	**200**

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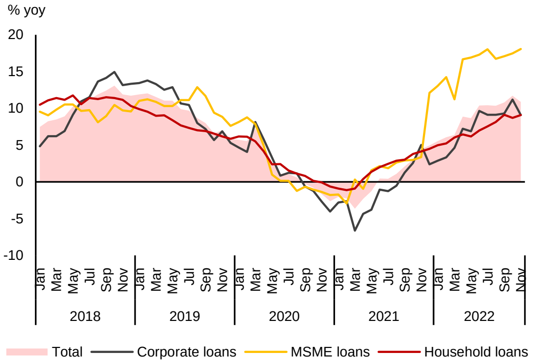
Announcement Date: Dec-22
Effective Date: Apr-23

Sector	Threshold	Incentive (bps)
Resilient Sectors (16 sectors)	≥ 5%-10%	20
	> 10%-15%	30
	> 15%	40
Growth Drivers (26 sectors)	≥ 3%-8%	40
	> 8%-10%	50
	> 10%	60
Slow Starters (4 sectors)	≥ 1%-3%	30
	> 3%-6%	40
	> 6%	50
Maximum Incentives for Priority Sectors		150
MSME Sector	≥ 10%-20%	10
	> 20%-30%	40
	> 30%-50%	60
	> 50%	100
Green Financing	> 0%-5%	15
	> 5%	30

Overall Maximum Incentives	**280**

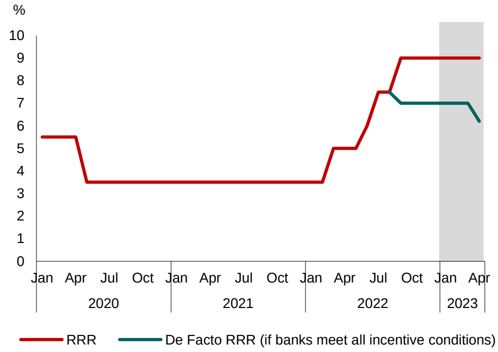
Source: BI

Figure A2.4. Credit Growth



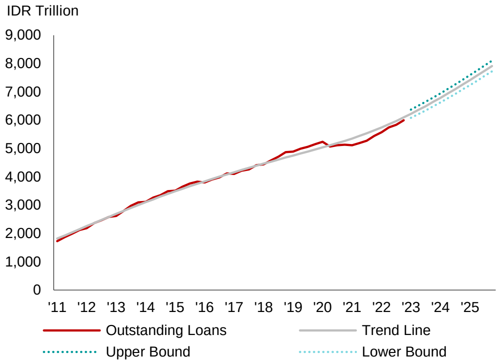
Source: BI; CEIC; AMRO staff calculations

Figure A2.5. Required Reserve Ratio



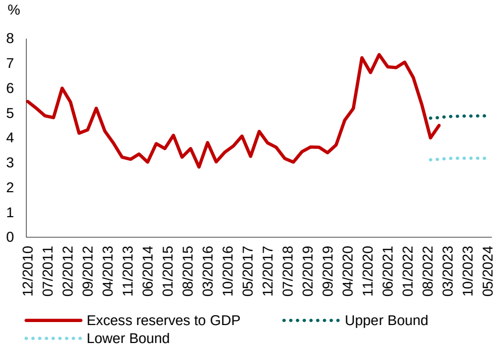
Source: BI; AMRO staff calculations
Note: The gray area indicates the projection.

Figure A2.6. Outstanding Loans



Source: BI; CEIC; AMRO staff calculations
Note: The trend line is calculated based on the data, with some adjustments. The upper and lower bounds are one standard deviation from the trend line.

Figure A2.7. Excess Reserves-to-GDP Ratio



Source: BI; CEIC; AMRO staff calculations
Note: The upper and lower bounds are calculated using the outstanding loans' upper and lower bounds and the correlation relationship before the pandemic.

4. BI should continue to closely monitor liquidity and credit conditions. Bank credit, which contracted during the pandemic, has rebounded and is approaching the trend line (Figure A2.6). Moving forward, it is crucial to ensure credit growth continues to support the domestic economy amid rising global recession risks without affecting financial stability. To achieve that, BI should monitor the impact of its RRR-related incentive policy to maintain the liquidity condition in terms of the size of excess reserves within a proper range (Figure A2.7), taking into account the positive correlation between excess reserves and credit growth.

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