INTERNATIONAL MONETARY FUND

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INDONESIA

June 2023

2023 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR INDONESIA

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2023 Article IV consultation with Indonesia, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its May 22, 2023 consideration of the staff report that concluded the Article IV consultation with Indonesia.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on May 22, 2023, following discussions that ended on March 17, 2023, with the officials of Indonesia on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on May 5, 2023.
- An **Informational Annex** prepared by the IMF staff.
- A **Statement by the Executive Director** for Indonesia.

The documents listed below have been or will be separately released.

Selected Issues

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PRESS RELEASE

PR23/229

IMF Executive Board Concludes 2023 Article IV Consultation with Indonesia

FOR IMMEDIATE RELEASE

Washington, DC – June 25, 2023: The Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with Indonesia on May 22, 2023.

Indonesia's forward-looking, and well-coordinated policies helped it close out the highly challenging global environment of 2022 with healthy growth, falling inflation, and a stable and profitable financial system. With the recovery underway, policies have been geared toward restoring the pre-pandemic macroeconomic policy frameworks and accelerating structural reforms, to reinforce macroeconomic stability and build policy space against future shocks. Going forward, Indonesia is well-placed for continued strong and inclusive growth, supported by broad-based reforms to promote an enabling business environment, diversify the economy, and mitigate climate change.

The Indonesian economy performed strongly in 2022, growing by 5.3 percent, driven by a recovery in domestic demand and solid export performance and amid high international commodity prices. Growth is projected to moderate slightly to 5 percent in 2023, given tighter policy settings and the normalization of commodity prices. Inflation, having peaked at 6 percent last year, is forecast to return to Bank Indonesia's target range (3±1 percent) in the second half of 2023. The current account balance stood at 1.0 percent of GDP in 2022, on the back of high commodity prices, and is projected to turn into a small deficit in 2023. Risks are broadly balanced in the near-term, but a highly uncertain global economic environment continues to cloud the outlook.

Executive Board Assessment[2]

Executive Directors noted that the Indonesian economy is performing strongly, inflationary pressures are moderating, and macroeconomic policies have been appropriately returned to their pre-pandemic settings. The outlook remains favorable, and risks are broadly balanced, but with considerable uncertainty related to the external environment.

Directors welcomed the authorities' achievement of the 3 percent deficit ceiling one year earlier than envisaged and commended their commitment to fiscal discipline. Directors emphasized the importance of a concrete medium-term fiscal strategy going forward, including efforts to increase revenue mobilization, implement energy subsidy reform and expand social protection.

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[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.IMF.org/external/np/sec/misc/qualifiers.htm.

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Directors noted that monetary policy has been tightened appropriately to preserve price stability. However, they emphasized the need for monetary policy to act decisively if inflation surprises on the upside. Directors also welcomed the end of the central bank primary market purchases of government bonds as scheduled.

Directors noted that the Indonesian financial sector remains resilient, but intensive supervision remains important to tackle vulnerabilities related to higher interest rates and the sovereign bank nexus. They agreed that crisis-related regulatory relief measures should not be extended when they expire in March 2024 to reduce risks, including those of delayed loss recognition.

Directors observed that Indonesia has ample policy space to respond to adverse shocks. They agreed that the exchange rate should play a shock-absorbing role, noting that the use of foreign exchange intervention may be appropriate under certain shocks and circumstances.

Directors welcomed the recently adopted legislation on job creation and the financial sector, while noting the importance of prompt implementation and continued reform momentum, to promote an enabling business environment, enhance financial deepening, and mitigate the scarring effects of the pandemic.

Directors noted Indonesia's diversification strategy focusing on downstream activities from its raw commodities, such as nickel. They welcomed Indonesia's ambitions to increase value added in exports, attract foreign direct investment, and facilitate transfer of skills and technology, and noted that policies should be informed by further cost-benefit analysis, and designed to minimize cross-border spillovers. In that context, Directors called for considering phasing out export restrictions and not extending the restrictions to other commodities.

Directors welcomed the steps taken by Indonesia to limit greenhouse gas emissions and deforestation. They noted that energy subsidy reform and carbon pricing are critical to facilitate a green transition, but also agreed that the transition needs to be managed carefully and that mobilizing private financing is critical.

Table 1. Indonesia: Selected Economic Indicators, 2020–25

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
Real GDP (percent change)	-2.1	3.7	5.3	5.0	5.1	5.0
Domestic demand	-3.8	2.9	3.8	4.6	5.0	5.1
Of which:						
Private consumption 1/	-2.7	2.0	4.9	4.9	5.1	5.1
Government consumption	2.1	4.2	-4.5	1.0	3.5	3.5
Gross fixed investment	-5.0	3.8	3.9	5.0	5.4	5.4
Change in stocks	-0.7	0.1	0.1	0.0	0.0	0.0
Net exports 2/	1.5	-0.4	0.8	0.6	0.4	0.3
Statistical discrepancy 2/	0.1	1.4	0.9	0.0	0.0	0.0
Output gap (in percent)	-3.4	-2.8	-1.1	-0.2	0.0	0.0
Saving and investment (in percent of GDP)						
Gross investment 3/	32.3	31.4	29.7	29.7	29.8	29.9
Gross national saving	31.9	31.7	30.7	29.5	29.1	28.8
Prices (12-month percent change)						
Consumer prices (end period)	1.7	1.9	5.5	3.2	2.8	2.7
Consumer prices (period average)	2.0	1.6	4.2	4.4	3.0	2.7
Public finances (in percent of GDP)						
General government revenue	12.5	13.6	15.2	14.5	14.5	14.6
General government expenditure	18.6	18.2	17.5	17.1	17.0	17.0
Of which: Energy subsidies	0.7	0.8	0.9	0.8	0.5	0.4
General government balance	-6.1	-4.6	-2.4	-2.6	-2.5	-2.4
Primary balance	-4.1	-2.5	-0.4	-0.6	-0.5	-0.4
General government debt	39.7	41.1	40.1	39.3	39.0	38.7
Money and credit (12-month percent change; end of period)						
Rupiah M2	12.5	14.0	8.4	7.6	6.6	6.3
Base money	0.4	19.3	23.9	8.6	7.4	7.8
Claims on private sector	-0.4	6.1	10.1	10.0	9.8	9.6
One-month interbank rate (period average)	4.5	3.6	4.2	...	...	...
Balance of payments (in billions of U.S. dollars, unless otherwise indicated)						
Current account balance	-4.4	3.5	13.2	-3.8	-11.2	-17.1
In percent of GDP	-0.4	0.3	1.0	-0.3	-0.7	-1.0
Trade balance	28.3	43.8	62.7	42.1	37.8	36.0
Of which: Oil and gas (net)	-5.4	-13.0	-24.8	-25.1	-21.3	-20.5
Inward direct investment	18.6	21.1	22.0	26.3	29.3	31.5
Overall balance	2.6	13.5	4.0	5.3	9.9	6.2
Terms of trade, percent change (excluding oil)	1.4	12.5	21.5	-9.5	-1.9	-0.8
Gross reserves						
In billions of U.S. dollars (end period)	135.9	144.9	137.2	142.5	152.5	158.6
In months of prospective imports of goods and services	7.5	6.4	5.9	5.5	5.3	5.0
As a percent of short-term debt 4/	209	244	206	208	207	198
Total external debt 5/						
In billions of U.S. dollars	416.9	414.0	396.8	403.8	419.1	441.4
In percent of GDP	39.2	34.9	30.1	29.0	27.8	27.1
Exchange rate						
Rupiah per U.S. dollar (period average)	14,529	14,297	14,874	...	...	...
Rupiah per U.S. dollar (end of period)	14,050	14,253	15,568	...	...	...
Memorandum items:						
Jakarta Stock Exchange (12-month percentage change, composite index)	-5.1	10.1	4.1	...	...	...
Oil production (thousands of barrels per day)	806	803	800	797	794	791
Nominal GDP (in trillions of rupiah)	15,443	16,977	19,588	21,459	23,229	25,048

Sources: Data provided by the Indonesian authorities; Bloomberg L.P.; and IMF staff estimates and projections.
1/ Includes NPISH consumption.
2/ Contribution to GDP growth (percentage points).
3/ Includes changes in stocks.
4/ Short-term debt on a remaining maturity basis.
5/ Public and private external debt.

INTERNATIONAL MONETARY FUND

INDONESIA

STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION

May 5, 2023

KEY ISSUES

Outlook and risks. The Indonesian economy performed strongly in 2022, driven by a recovery in domestic demand and solid export performance. Growth is projected to moderate slightly in 2023 amid tighter domestic policy settings and the normalization of commodity prices, while inflationary pressures are expected to subside, with inflation falling within BI's headline inflation target band in the second half of 2023. Risks are balanced, but a highly uncertain global economic environment continues to cloud the outlook. Continued high inflation and growth slowdown in major economies, lower commodity prices, and heightened volatility in global financial markets constitute key near-term risks.

Main Policy Recommendations

- Prudent fiscal management should continue, with the budget deficit ceiling of 3 percent of GDP as an anchor. A concrete medium-term fiscal strategy, underpinned by higher revenue mobilization, energy subsidy reform, and improved social protection is needed to support Indonesia's development agenda.
- Monetary policy tightening has been important to address increased risks to inflation and can be maintained at its current neutral stance. BI should stand ready to further tighten monetary policy if inflation surprises on the upside.
- With the recovery in place, regulatory forbearance measures should be tightened. Continued proactive supervision and provisioning of the banking sector should mitigate risks in sectors that were hard-hit by the pandemic and risks arising from corporates and banks' exposures to higher interest rates.
- Indonesia has strong fiscal and financial buffers to respond to adverse shocks. While the exchange rate should continue to play a shock absorbing role, the use of foreign exchange intervention may be appropriate under certain shocks and conditions.
- Broad-based structural reforms are critical to support medium-term growth and should go hand in hand with policies to diversify the economy. The potential long-term benefits of downstreaming will need to be weighed against their costs, which include negative cross-border spillovers; export restrictions should be avoided.
- The authorities' climate change mitigation strategy is appropriately focused on land use regulation in the near term, but broader reforms on energy subsidies and carbon pricing would be needed to achieve net zero emissions by 2060. To facilitate Indonesia's transition to renewable energy sources and promote a greener economy, mobilize private and international financing will be vital.

Approved By
Sanjaya Panth (APD) and Anna Ilyina (SPR)

Discussions took place in Jakarta during March 6−17, 2023. The mission comprised Cheng Hoon Lim (Head), Elif Arbatli Saxegaard, Yan Carrière-Swallow, Minsuk Kim, James Walsh (Senior Resident Representative) (all APD), Amr Hosny (FAD), Hou Wang (MCM), and Bruno Albuquerque (SPR). Rosemary Lim, Executive Director, Ferry Kurniawan, Advisor (all OED), and Sanjaya Panth (Senior Reviewer), joined the concluding meetings. Agnes Isnawangsih and Patricia Tanseco (both APD) contributed to the preparation of this report.

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CONTEXT

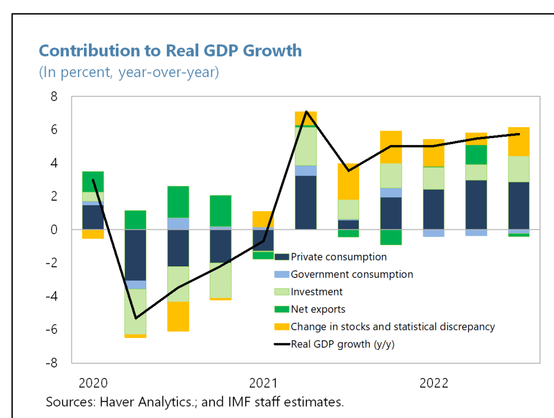
1. The Indonesian economy has emerged from the pandemic performing strongly but confronts an increasingly uncertain global economic environment. The easing of pandemic-related restrictions and the resulting improvement in mobility have underpinned a strong recovery in domestic demand. The post-pandemic rebound has been further bolstered by a surge in global commodity prices, which shielded the rupiah against capital outflows triggered by monetary policy tightening in advanced economies. In the near term, continued high inflation and weaker growth prospects in advanced economies, waning commodity prices, and heightened volatility in global financial markets will present headwinds for the Indonesian economy.

2. Policies have been geared toward restoring the pre-pandemic macroeconomic policy frameworks and accelerating structural reforms, in line with past Fund recommendations (Table 11). The macroeconomic policy support that was deployed during the pandemic has been largely withdrawn. By the conclusion of 2022, monetary policy rates had been raised decisively, the fiscal deficit had returned to the 3-percent fiscal deficit ceiling, and the authorities had ended monetary budget financing. In addition, crucial structural reforms were implemented, including the approval of the tax reform law in 2021, and the Financial Sector Omnibus Law (FSOL) and the Government Regulation in Lieu of Law (Perppu) on Job Creation in 2023.

3. Building upon its remarkable economic and social progress over the past decade, Indonesia is well-placed to take advantage of its high growth potential. Indonesia's young and expanding labor force, endowment of natural resources and strategic position as one of the largest and most populous economies in Asia offer important opportunities. Economic prospects in the medium-term will depend on the ability to generate high-quality jobs, upgrade infrastructure, improve education, and facilitate a transition towards a greener economy. The upcoming general election, slated for February 2024, could help mobilize political consensus around structural reforms critical to achieve Indonesia's development goals in Vision 2045.

RECENT DEVELOPMENTS AND OUTLOOK

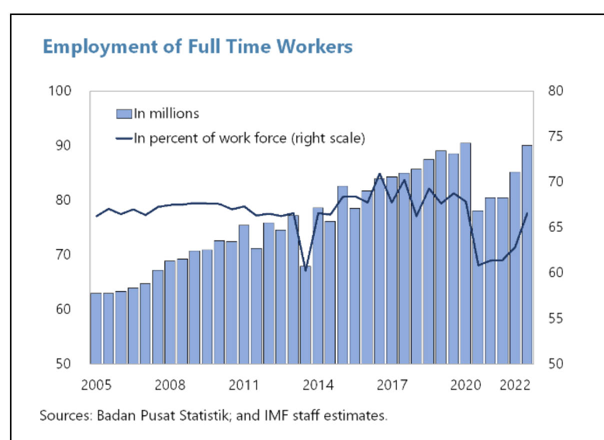
4. The post-pandemic recovery has been strong, supported by favorable global commodity prices. Real GDP grew by 5.3 percent in 2022, with sustained gains in domestic demand, as high global commodity prices boosted consumer confidence and improved the terms of trade. The manufacturing and services sectors performed well, and real exports of goods and services grew by 15 percent (y/y) in Q42022.



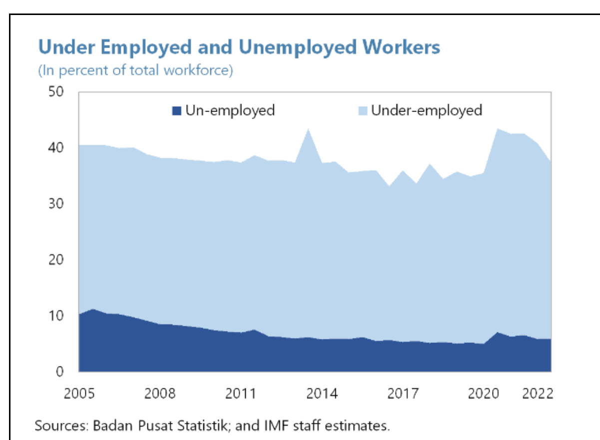
Sources: Haver Analytics.; and IMF staff estimates.

5. Labor market conditions are improving, but with variation across sectors and some signs of remaining economic slack. The unemployment rate fell from 7.1 percent at the peak of the pandemic to 5.9 percent in the second

half of 2022; and stands at slightly above its pre-pandemic range of 5-5.5 percent. However, broader measures of labor market conditions continue to suggest some slack, with the share of workers in full-time or formal employment still lower than pre-pandemic levels and the share of underemployed workers higher. Wage growth has picked up after two years of declines in real terms, with some variation across sectors. While wages in manufacturing and trade now exceed their 2019 levels in nominal terms, wages in the hospitality sector are not yet back to pre-pandemic levels.



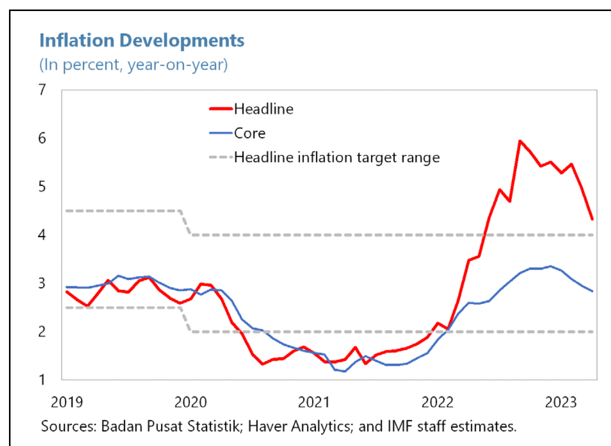
Sources: Badan Pusat Statistik; and IMF staff estimates.



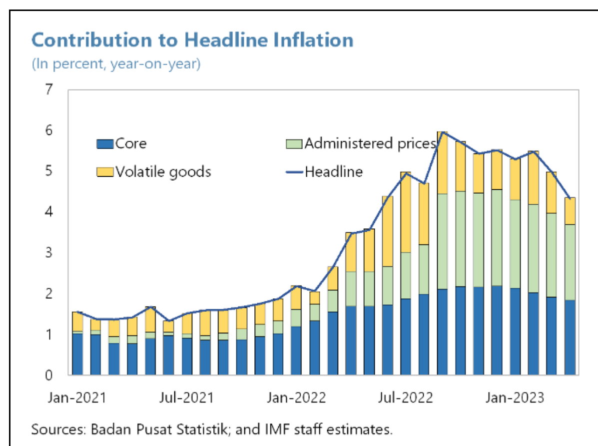
Sources: Badan Pusat Statistik; and IMF staff estimates.

6. Inflation picked up strongly during 2022, led by higher food and energy prices, but momentum has recently moderated. Soaring world commodity prices following Russia's invasion of Ukraine led food prices to accelerate to double digits by mid-2022, although the presence of administered end-user prices for major commodities such as fuel and other energy products (e.g., electricity) initially moderated its domestic impact. Headline inflation rose from 1.3 percent in June 2021 to 4.3 percent in June 2022, and peaked at 6.0 percent in September 2022, following a 30 percent adjustment in administered gasoline prices. Inflation expectations one-year-ahead peaked at 4.8 percent in October 2022 (above BI's headline inflation target range of 3±1 percent) before slowing to 4.2 percent by end-2022. Inflation momentum has eased in recent months, reflecting the downward trend in global commodity prices, limited second round effects on wages, and limited pass-through from the depreciation of the rupiah (Annex I).[1] Core inflation stands just below the mid-point of BI's headline inflation target range (2.8 percent as of April) and has declined modestly in recent months.

[1] Staff estimate that exchange rate pass-through to headline inflation is relatively low in Indonesia. Estimates based on panel analysis of Asian emerging market economies point to a fall in the rate of pass-through from the nominal exchange rate to headline inflation, which is partly associated with increased central bank credibility (Carrière-Swallow and others 2021). However, Carrière-Swallow and others (2023) find that pass-through rates rise with the level of inflation, and that pass-through is higher when the source of the exchange rate depreciation is a tightening of US monetary policy.



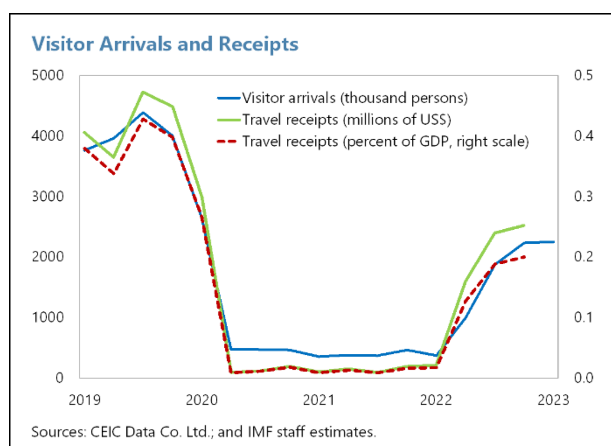
Sources: Badan Pusat Statistik; Haver Analytics; and IMF staff estimates.



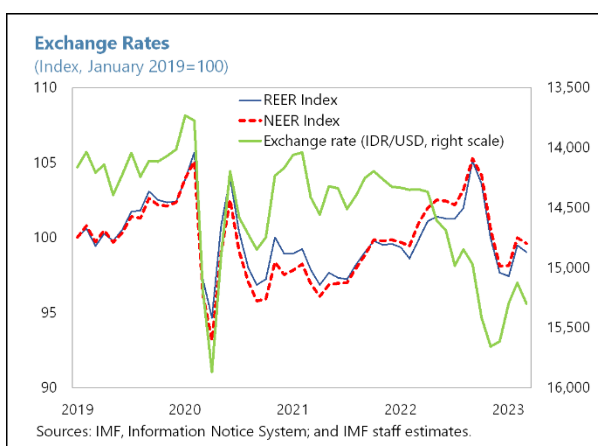
Sources: Badan Pusat Statistik; and IMF staff estimates.

7. While there are signs that economic slack remains, the size of the output gap is subject to considerable uncertainty. Staff's estimate of the output gap has been revised up over time reflecting the increasing role of supply-side factors, as well as the strong rebound in demand. Nevertheless, the output gap is estimated to have been negative at -1.1 percent in 2022, but with a large margin of error. Demand-driven inflationary pressures remain subdued, labor market indicators point to continued economic slack, and despite the recovery in mobility to pre-pandemic levels, capacity utilization remains below pre-pandemic levels in some key sectors like manufacturing and tourism.

8. The current account surplus increased further in 2022 despite strong import growth. The current account surplus stood at 1.0 percent of GDP in 2022, up from 0.3 percent in 2021, driven mainly by the non-oil and gas trade balance, on the back of higher commodity prices. At the same time, higher domestic demand led to a sizable increase in the imports of oil and gas as well as durable goods. The services account remained in deficit, reflecting lackluster travel and tourism receipts. Although the IDR/USD depreciated by 10.3 percent in 2022, the average REER appreciated by 3.3 percent due to higher commodity prices. Adjusting for COVID disruptions, the preliminary assessment of the 2022 external position indicated it was broadly in line with the level implied by medium-term fundamentals and desirable policies (Annex III).

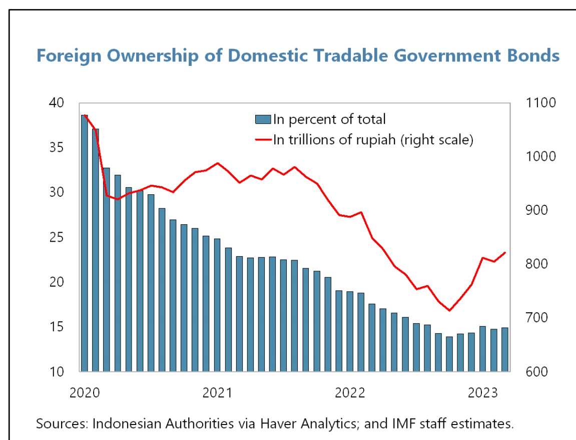


Sources: CEIC Data Co. Ltd.; and IMF staff estimates.

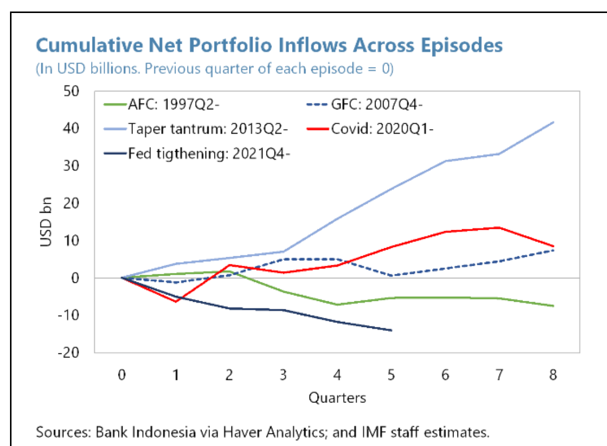


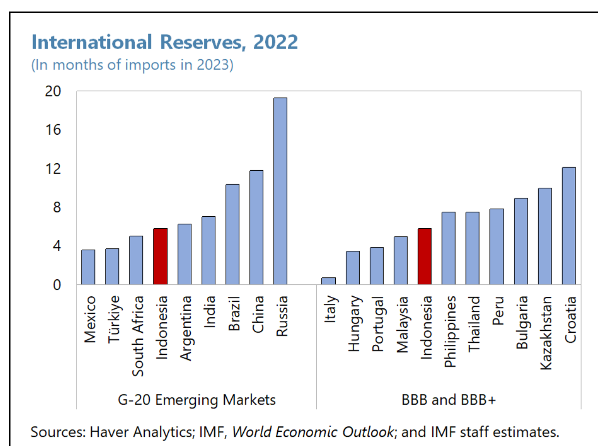
Sources: IMF, Information Notice System; and IMF staff estimates.

9. The improvement in the current account helped cushion the impact of large portfolio investment outflows on the exchange rate. Portfolio investment has recorded net outflows every quarter during 2021Q4-2022Q4, primarily in the local currency bond market,[2] with cumulative outflows reaching about 0.7 percent of 2022 GDP, a level not seen in previous stress episodes. The portfolio debt outflows, which were only partly offset by historically large equity inflows, resulted in a sharp decline in the share of non-resident holdings of government debt, from 37 percent in 2020 to 14.4 percent in 2022. However, foreign ownership still stands slightly above the median of selected EMs.[3] Despite the large portfolio investment outflows, the higher current account balance, together with FDI inflows translated into a BOP surplus of 0.3 percent of GDP in 2022.



10. Foreign reserves declined but remain adequate based on standard metrics. Official foreign reserves declined from US$145 billion in 2021 to US$137 billion in 2022, partly reflecting foreign exchange intervention (FXI) and valuation effects. BI's reserve assets position at end-2022 stood at 118 percent of the Assessing Reserve Adequacy (ARA) metric, slightly below the peer median in months of prospective imports (6.0). BI introduced in March an FX term deposit facility with maturities of 1-6 months, offering competitive interest rates to commercial banks collecting deposits from natural resource exporters. The purpose of the facility is to keep export receipts onshore and improve USD funding liquidity.





11. Domestic financial conditions have been broadly stable. While interest rates increased through 2022, bank lending rates have remained relatively unchanged, equity prices have been flat,

[2] There were net debt outflows due to both non-residents selling Indonesian government bonds but also due to residents increasing their net purchases of foreign debt assets.

[3] The sample is made up of 21 EMs from the Arslanalp and Tsuda (2014) dataset. Also see Selected Issues Paper "Not All Investors are the Same: Lessons for a Changing Investor Base in Indonesia."

and house prices declined in real terms (Figure 4). Banks sustained their balance sheet expansion—backed by a 12.1 percent increase in deposit funding (September)—with private sector credit growth at 11.3 percent (y/y) in November, a level close to pre-pandemic averages. Industrial loans grew at a slightly faster pace than household loans, led by robust growth in the mining, manufacturing, and wholesale/retail sale sectors. Loans to micro, small and medium enterprises (MSMEs), which constitute about one-fifth of total outstanding loans, also showed robust growth (10.4 percent in December). Non-bank financial institutions grew at a similar pace as banks, with fintech having a small, yet fast-growing presence.

12. Looking ahead, GDP growth is expected to moderate slightly given tighter domestic policy settings and external headwinds, while inflationary pressures are projected to subside.

- While China's reopening will provide a positive boost, slowing external demand in Indonesia's other trading partners, less favorable terms of trade, and elevated global economic uncertainty, is expected to moderate GDP growth from 5.3 percent in 2022 to 5.0 percent in 2023. The recovery in domestic demand in 2023 will also face some drag from the recent fiscal consolidation and tighter monetary policy stance, leading to slower credit growth.

- Headline inflation is expected to return to BI's target range in the second half of 2023 and decline to 3 percent by mid-2024. The moderation of global food and energy prices and the pronounced fall in shipping costs are expected to reduce import prices and headline inflation. Continued slack in the labor market will also dampen inflation pressures. The recent tightening of monetary policy is projected to keep inflation expectations anchored and core inflation at around 3.0 percent in 2023. The baseline outlook assumes the policy rate is kept constant until 2023Q4.

- Real exports are expected to expand at a slower pace of 10 percent with imports remaining strong and this, together with lower commodity prices, is expected to lead to small current account deficits in 2023 and 2024. Overall, the balance of payments surplus is expected to increase gradually, reflecting the pickup in FDI and a return of portfolio inflows, and a modest increase in foreign reserves.

13. The risks to the near-term economic outlook are broadly balanced (Annex II).

- On the upside, net exports could accelerate amid a stronger recovery in China, while a stronger boost from pent-up demand or a faster fall in inflation domestically or in Indonesia's key trading partners can lift economic prospects. Domestic demand may also surprise on the upside, including due to a more expansionary fiscal stance, leading up to the elections in 2024.

- On the downside, an abrupt global slowdown or recession can lead to a slowdown in trade and downward pressure on the prices of Indonesia's key commodity exports. Sharp swings in market sentiment and risk premia, including from fears of contagion from the recent financial turmoil in the U.S., could trigger a sudden tightening of financial conditions, capital outflows from emerging market economies, and depreciation of the rupiah. Intensification of geo-political conflicts and resulting economic sanctions could further disrupt supply chains and reinforce inflationary pressures.

14. Medium-term prospects continue to be impacted by economic scarring from the pandemic. The medium-term level of output is projected to be about 8 percentage points lower than what had been projected prior to the pandemic.[4] The pandemic has reduced the rate of physical capital accumulation and weakened the labor market as prolonged job losses and disruptions to schooling have led to an erosion of skills and delayed labor market entry for young workers.[5] Moreover, the increase in labor market informality since the pandemic, if it becomes persistent, could depress future incomes as informal workers earn lower wages and have less access to social safety nets, further widening income inequality. Staff estimates suggest that Indonesia's long-term potential growth is about 5 percent.

Authorities' Views

15. The authorities broadly shared staff's views on the economic outlook and assessment of risks, noting the strength of Indonesia's economic recovery despite the adverse global environment. Global economic developments are closely monitored to assess their impact on Indonesia's economy, including the positive impact of China's reopening on Indonesia's external sector performance. The risk of higher volatility in global financial markets is also being monitored, in particular from potentially higher for longer policy rates in advanced economies, including the US, which could exacerbate pressure on capital flows and exchange rates. Going forward, the authorities see Indonesia's potential growth rate rising higher than 5 percent as their structural reform agenda progresses.

POLICY DISCUSSIONS

- *Discussions centered on the policy mix to sustain macroeconomic and financial stability as well as reforms needed to transition to a more efficient, high-value-added, and greener economy*.
- *The normalization of fiscal and monetary policies towards their pre-pandemic settings will facilitate a handover from public to private sector-led growth and remains appropriate in the near-term given a closing output gap, elevated inflation, and tighter global financial conditions.*
- *Against the backdrop of higher interest rates, financial sector policies should guard against systemic risks and strengthen banking system resilience, thus ensuring that the financial sector can continue to support inclusive growth.*
- *Enhancing revenue mobilization and reforming energy subsidies will be critical to enhance fiscal space to support Indonesia's development agenda and facilitate investments that can propel growth in the medium-term.*
- *Broad-based structural reforms to promote an enabling policy framework and business environment should go hand-in hand with the government's industrial policy to increase economic diversification.*

[4] See 2022 Indonesia Article IV Report.

[5] G20 Background Note on Minimizing Scarring from the Pandemic, April 2022.

A. Fiscal Policy

16. Fiscal performance was stronger than expected in 2022, restoring the pre-pandemic 3 percent of GDP deficit ceiling one year earlier. The fiscal deficit narrowed to 2.4 percent of GDP at end-2022, well below the budget's target of 4.4 percent of GDP. Revenues increased, including due to the windfall from higher global commodity prices (about 1.0 percent of GDP from oil, gas, and mining), greater revenue intake from the VAT rate hike in April 2022 (0.3 percent of GDP), and a one-off tax amnesty (0.3 percent of GDP). Tax buoyancy improved, as tax administration measures enhanced efficiency gains and VAT exemptions were reduced under the 2021 tax reform law. Lower current expenditures on COVID-related items (including smaller allocations and realization of the National Economic Recovery Program (PEN)[6]) were more than offset by higher energy subsidies (including compensations to SOEs) as global oil prices surged. A 30-percent hike in administered fuel prices in September limited further increases in subsidies and was accompanied by reallocations to social spending including cash transfers to low-income households.

Central Government Operations, 2021–2023
(In percent of GDP, unless otherwise indicated)

	2021	2022		2023	
		Budget	Est.	Budget	Proj.
Revenues and grants	11.8	9.4	13.4	11.5	12.7
Oil and gas revenues	0.9	0.7	1.2	0.9	0.9
Non-oil and gas revenues	11.0	8.7	12.2	10.6	11.8
of which Income tax	3.7	3.2	4.7	4.1	4.5
VAT	3.3	2.8	3.5	3.5	3.7
Expenditure and net lending	16.4	13.9	15.8	14.3	15.4
Current expenditure	9.3	8.1	9.6	8.8	9.3
of which Subsidies	1.4	1.1	1.3	1.4	1.3
Compensations to SOEs	0.3	0.1	1.9	0.6	0.6
Development expenditure	2.4	1.8	2.0	1.6	1.8
Transfers to local governments	4.6	3.9	4.2	3.8	4.2
Overall balance	-4.6	-4.4	-2.4	-2.8	-2.6
Memorandum items:					
Primary balance	-2.5	-2.4	-0.4	-0.7	-0.6
Cyclically-adjusted primary balance	-2.1		-0.2		-0.5
General government debt	41.1		40.1		39.3

Sources: Indonesian authorities; and IMF staff estimates.

17. The 2023 budget aims to keep the fiscal deficit below the 3 percent ceiling, which is appropriate and feasible given the ongoing recovery. The authorities' 2023 budget targets a deficit of 2.8 percent of GDP. But with the significant frontloaded consolidation in 2022 and a closing output gap, we project a slightly lower deficit with a broadly neutral fiscal stance in 2023 (a -0.3 change in the cyclically adjusted primary balance). Revenues are expected to decline somewhat from the previous year due to lower commodity prices but otherwise track the cyclical recovery and continue to benefit from recent tax reforms, while expenditures are projected to fall with the expiration of the PEN program and a lower subsidy burden. A broadly neutral stance, while keeping the deficit below the ceiling, is appropriate given the cyclical position and strikes a good balance between Indonesia's significant development needs amid its low debt and securing policy credibility.

[6] The National Economic Recovery Program (PEN) allocation for 2022 was IDR455.6trn, and realization as of end-December reached IDR414.5trn or 91 percent.

18. Debt sustainability risks are well contained. With the deficit anchor back in place, public debt is expected to gradually decline from 40.1 percent of GDP in 2022 to 37.4 percent of GDP over the medium-term, driven mostly by a favorable interest rate-growth differential. Gross financing needs are projected to remain around 5 percent of GDP over the medium-term. The Sovereign Risk and Debt Sustainability Framework (SRDSF) points to an overall "low" risk of sovereign stress (Annex IV).

19. While public debt is relatively low, the significant and rapid change in the investor base warrants close monitoring. The drop in the share of non-resident holdings of local-currency debt—by more than 20 percentage points within two years—has improved the debt profile by reducing rollover risks but has also increased the interdependence between the government and banks, the so called "sovereign-bank nexus", that could expose banks to losses and cuts in bank lending if the market value of government debt declines.[7] As of end-2022, banks held 8.8 percent of GDP in government debt, of which 4.8 percent of GDP has been accumulated since 2019. So far, banks flushed with liquidity have been able to absorb additional government debt without crowding out lending to the private sector. But as yields adjust to more normal market conditions and BI ends primary market purchases, banks' capacity to absorb more government debt could be tested if non-resident investors are slow to return. As the SRDSF shows, banks' claims on government are high relative to peers limiting the space to act as residual financier to the government under shock scenarios (Annex IV). In this regard, developing a diverse domestic investor base that includes pension funds and insurance companies, would deepen the bond market. Continued adherence to the deficit ceiling, underpinned by sound debt management and adequate cash buffers, would ensure the sovereign-bank nexus remains secure.

20. A concrete medium-term fiscal strategy will be needed to support Indonesia's development agenda. With the deficit ceiling serving as an appropriate and credible anchor, the strategy should clarify medium-term budget objectives, risks, and contingency policies. The strategy should also identify measures to raise additional revenues and areas for further rationalization of current spending, including energy subsidies. This is important to free up resources that could be used to finance high-priority development expenditures, while staying within the deficit ceiling.

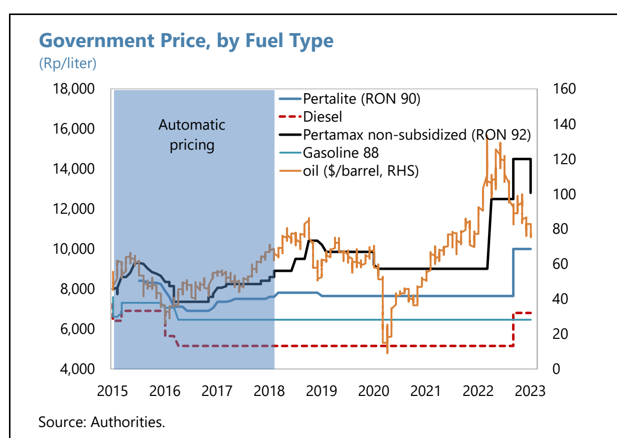
- ***Revenue mobilization***. The 2021 tax reform law was an important first step toward addressing Indonesia's low revenue intake, where the tax-to-GDP ratio remains below emerging market peers. In line with earlier capacity development work by the Fund[8], additional tax policy measures to broaden the tax base could include harmonizing sector-based special regimes in the CIT system, introducing alternative minimum taxes for businesses, lowering the VAT registration and basic PIT exemption thresholds, and expanding excise taxes to include plastics and sweetened beverages. Additional tax administration reforms could involve improving compliance of specific taxpayer segments especially high-net-worth individuals and professionals. Over the medium-term, staff estimate that measures implemented under the tax

[7] Also see Selected Issues Paper "Not All Investors are the Same: Lessons for a Changing Investor Base in Indonesia."

[8] See Appendix V of the 2022 AIV and Appendix IV of the 2020 AIV.

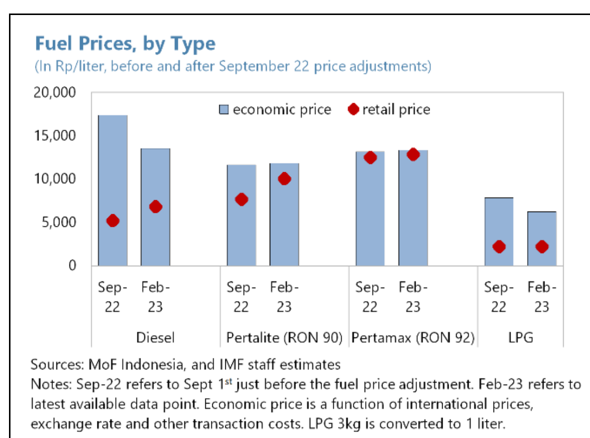
reform law could yield about 1-1.5 ppts of GDP in revenues, while additional measures to broaden the tax base and improve tax administration could double this estimate.

- ***Energy subsidy reform***. As global oil prices surged, expenditures on energy consumer subsidies and compensations to producers more than tripled compared to the original 2022 budget (increased by about 2 percentage points of GDP). Below market pricing and delayed compensations have affected cost recovery in SOEs, particularly Pertamina and PLN. A transition back to regular adjustments in fuel and electricity prices—potentially by reviewing the existing but unused semi-automatic pricing formula[9]—would save fiscal resources, allow cost recovery in the fuel and electricity sectors, anchor expectations, and depoliticize price adjustments by making them less discretionary.[10] Finally, subsidy reform is essential to change incentives in the energy sector and help achieve climate objectives (Section F).



Government Price, by Fuel Type
(Rp/liter)

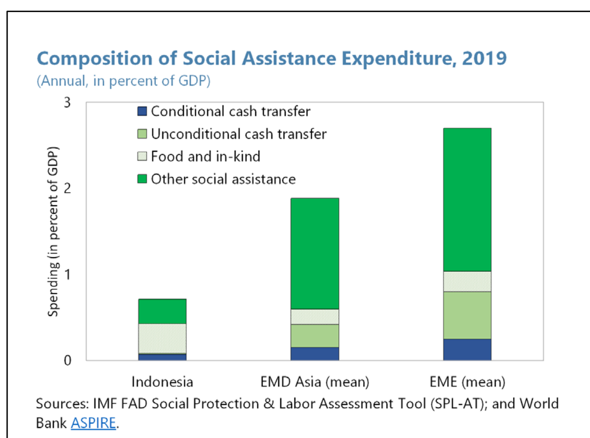
Source: Authorities.



Fuel Prices, by Type
(In Rp/liter, before and after September 22 price adjustments)

Sources: MoF Indonesia, and IMF staff estimates
Notes: Sep-22 refers to Sept 1st just before the fuel price adjustment. Feb-23 refers to latest available data point. Economic price is a function of international prices, exchange rate and other transaction costs. LPG 3kg is converted to 1 liter.

- ***Social protection***. Coverage of social protection programs remains low compared to peers, in part due to the large informal workforce. Government social assistance expenditure is also relatively low and discretionary, predominately in-kind, and the method of payment of government transfers is more cash-based than peers. Moving from commodity-based to people-based assistance, improving the automaticity and targeting of social assistance, and expanding both benefits and coverage, would help



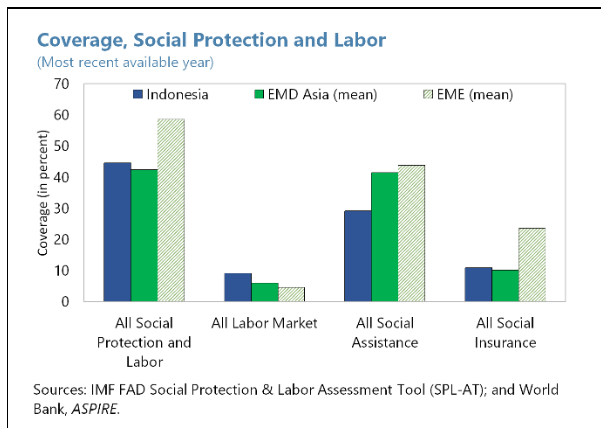
Composition of Social Assistance Expenditure, 2019
(Annual, in percent of GDP)

Sources: IMF FAD Social Protection & Labor Assessment Tool (SPL-AT); and World Bank ASPIRE.

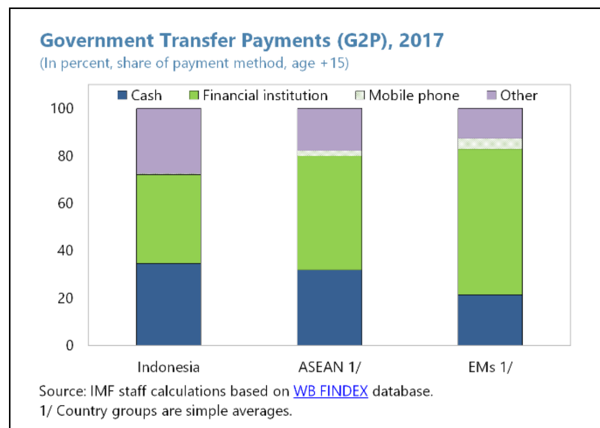
[9] A pricing formula was introduced in 2015, based on an international oil price index, exchange rate and other tax and distribution costs. Prices were initially adjusted every month, then every 3-months at end-2015, then adjustments ceased in 2017-18.

[10] Energy subsidy reform is discussed in Box 1 of Chapter 7 of *Indonesia: Selected Issues* for the 2020 AIV.

strengthen the social safety net. Enhancing social protection is also critical in facilitating energy subsidy reform while protecting the poor.[11]



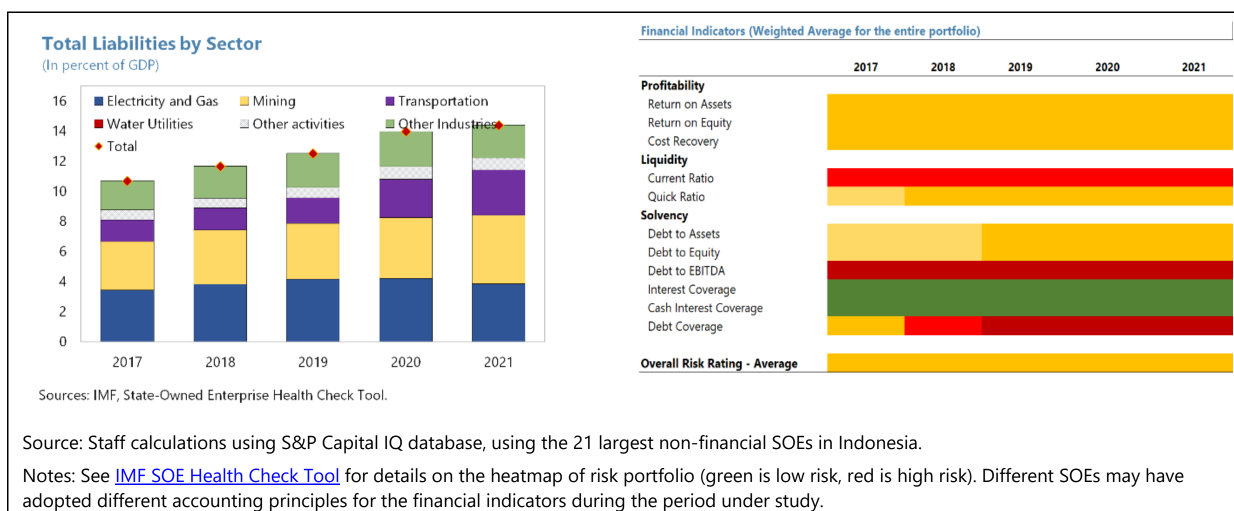
Sources: IMF FAD Social Protection & Labor Assessment Tool (SPL-AT); and World Bank, *ASPIRE*.



Source: IMF staff calculations based on WB FINDEX database.
1/ Country groups are simple averages.

- ***Fiscal transparency***. With the expiration of the PEN program, preparing and publishing a comprehensive ex-post evaluation would be important to assess the effectiveness of COVID-related fiscal incentives, including procurement audits and tax expenditures.

- ***Fiscal risks and SOEs***. Staff analysis suggests that overall risks from SOEs are moderate. Ongoing reforms such as restructuring SOEs under the SOE 2020-24 roadmap, are welcome.[12] The risk analysis of SOEs in budget documents is comprehensive but a consolidated public sector balance sheet that includes SOEs could be prepared to further improve fiscal transparency and governance.



Source: Staff calculations using S&P Capital IQ database, using the 21 largest non-financial SOEs in Indonesia.

Notes: See IMF SOE Health Check Tool for details on the heatmap of risk portfolio (green is low risk, red is high risk). Different SOEs may have adopted different accounting principles for the financial indicators during the period under study.

[11] This is in line with World Bank (2020) "Investing in People: Social Protection for Indonesia's 2045 Vision".
[12] For further details, also see Ministry of SOEs 2021 annual report.

Authorities' Views

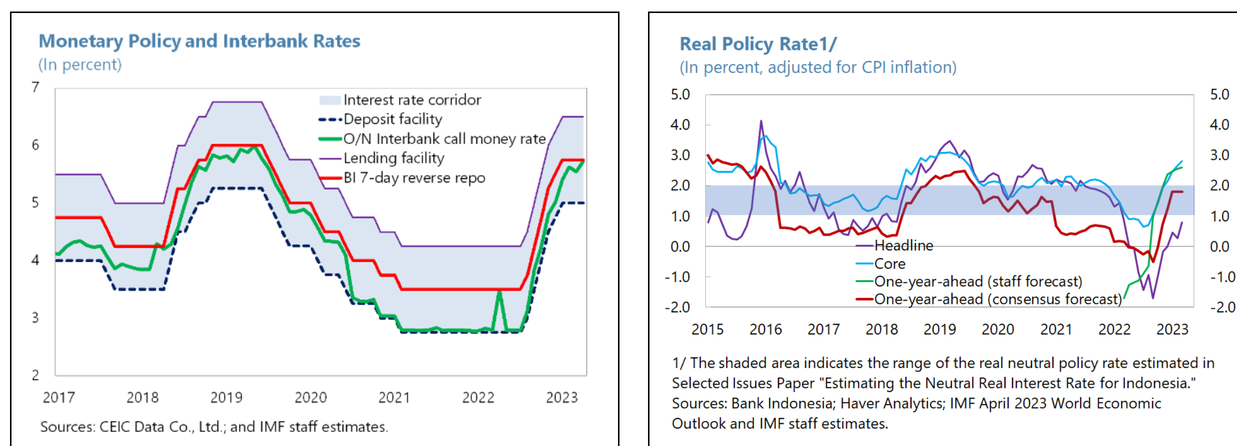
21. The authorities are committed to the 3 percent deficit ceiling, which they see as an important policy anchor. They emphasized that the 2023 budget is underpinned by conservative commodity price assumptions. With the expiration of the PEN program, the authorities will prioritize development expenditures to support the recovery, focusing on education, social protection, and infrastructure. Public spending related to the construction of the new capital, while limited, is intended to act as a catalyst for more private sector involvement. The authorities are frontloading financing to take advantage of benign conditions where possible; and have arrangements in place with line ministries and regional governments, as well as adequate cash buffers, to cushion against unexpected shocks. They agreed that strengthening the domestic institutional investor base and continued adherence to the deficit ceiling would ensure the sovereign-bank nexus remains manageable.

22. The authorities concurred with the importance of medium-term revenue and expenditure reforms. They expect the integration of national ID and taxpayer numbers, which started in early 2023, to improve tax compliance. They plan to launch a new IT core tax system early next year, which will further digitize the tax administration process and strengthen risk-based auditing. Planned tax policy measures include finalizing implementation decrees on excise taxes on plastics and sweetened beverages by 2024 and increasing the VAT rate to 12 percent in 2025 as envisaged under the tax harmonization law. On the expenditure side, the authorities continue to improve the quality and coverage of the unified social registry database to facilitate the transition to a more targeted and people-based social safety net. They also recently accelerated energy compensation payments to SOEs to be made at a quarterly instead of bi-annual frequency. The authorities continue to improve fiscal transparency by publishing tax incentives, including those under the PEN program, as part of the MoF's annual Tax Expenditure Reports and welcomed the staff's recommendation to publish a comprehensive ex-post evaluation of the PEN program.

B. Monetary and Exchange Rate Policies

23. BI has been vigilant in monitoring inflation developments, tightening its monetary policy stance to address increased risks to inflation. BI raised its policy rate by a cumulative 225 basis points (bps) during August 2022–January 2023 to 5.75 percent—above the pre-pandemic level of 5 percent at end-2019. These policy rate adjustments were complemented by a gradual increase in the reserve requirement ratio (RRR) for banks from 3.5 percent to 9 percent over February-September 2022 and reverse repo transactions that withdrew about IDR 36.6 trillion of banking system liquidity in 2022. Furthermore, BI used "operation twist" that involves selling short-term and purchasing long-term government bonds, with tenors of 5 years and above. Operation twist is intended to improve monetary policy transmission and facilitate an increase in short-term market rates, in line with monetary policy tightening, while ensuring there is sufficient credit to the economy for long-term growth. Private sector credit-to-GDP ratio collapsed after the Asian Financial Crisis, from about 62 percent in 1995 to 26 percent in 2002, and has only increased

modestly since then. At 41 percent, private sector credit relative to GDP remains relatively low.[13] The increase in the policy rate along with these measures have raised the short end of the curve and narrowed the gap between the market interbank and policy rate. As a result, the real policy rate has risen to 1.8 percent, within the staff's estimated range of the neutral rate (1-2 percent).[14] Moving the monetary policy stance to a neutral position have helped contain inflation pressures emerging from the strong economic recovery and the second-round effects of the subsidized fuel price hike in early September. It also helped ease depreciation pressures in 2022 and mitigated the passthrough to inflation.



24. The current neutral monetary policy stance remains appropriate and is expected to facilitate a decline in inflation towards BI's target, but BI should act decisively if inflation pressures re-emerge. In the baseline, maintaining a neutral monetary policy stance is expected to bring inflation within BI's headline inflation target range in the second half of 2023, given well-anchored inflation expectations, a consistent downward trend in headline inflation, core inflation already at the middle of the headline inflation target range, and no signs of demand-related inflationary pressures. Nevertheless, risks to inflation are tilted to the upside, and BI should maintain a tightening bias in its monetary policy stance, while closely monitoring for signs of underlying inflation pressures. BI should raise the policy rate promptly if inflation surprises on the upside (e.g., increases in core inflation from levels above the midpoint of BI's headline inflation target range).

25. Having successfully maintained price and financial stability through the challenging pandemic period, BI could take further actions to enhance monetary policy effectiveness. The end of BI's primary market purchases under the BI-MOF burden sharing agreement is welcome. Any future primary market purchases by BI should be confined to periods of significant financial stress and as a last resort solution. As in the pandemic, these operations should be time-bound, modest in scale, disclosed in a transparent way, and accompanied by a set of well-defined conditions for exit. This will help preserve BI's financial autonomy and reduce risks to monetary policy independence. Finally, reinstating and improving surveys of inflation expectations would provide better information

[13] Private non-financial sector credit-to-GDP ratio reported by the Bank for International Settlements (BIS) is used to show credit developments over a long period.

[14] Real rate estimate is based on the Consensus Forecasts expected inflation rate for 2023. For real neutral rate estimate, see Selected Issues Paper "Neutral Rate of Interest in Indonesia."

to policymakers and price setters. These surveys could be published at a monthly frequency, with a forecast horizon most relevant for monetary policy (e.g., 12-18 months ahead).

26. The exchange rate should continue to play its role as a shock absorber. Along with other major emerging market currencies in Asia, the rupiah has recovered some ground after depreciating against the U.S. dollar in 2022 due to net portfolio outflows driven by Fed tightening and reduced risk appetite of foreign investors. The exchange rate should continue to be allowed to move in line with market forces, with FXI appropriate under certain shocks and circumstances (as discussed in Section D).

Authorities' Views

27. The authorities reiterated their readiness to respond to external shocks as necessary and are taking steps to strengthen monetary policy. The current broadly neutral monetary policy stance is appropriate, consistent with BI's baseline projection of core inflation remaining in the range of 3±1 percent in 2023 and headline inflation returning to the target range of 3±1 percent by 2023H2. BI stands ready to counter downside risks by strengthening the monetary policy mix, while allowing the exchange rate to move in line with market forces. Exchange rate policy will be used to smooth excessive exchange rate volatility and maintain Rupiah stability in line with its fundamental value. BI's future primary market government purchases will be limited to "emergency" situations, which will be assessed by an inter-agency committee (KSSK, "Financial System Stability Committee") based on a set of pre-determined criteria. Finally, the authorities credited the inflation control program, which involves coordinated efforts between BI and central and regional governments, for successfully addressing supply bottlenecks across the archipelago and keeping volatile food prices in check, including reducing the second round effects from recent fuel price adjustments.

C. Financial Sector Policies

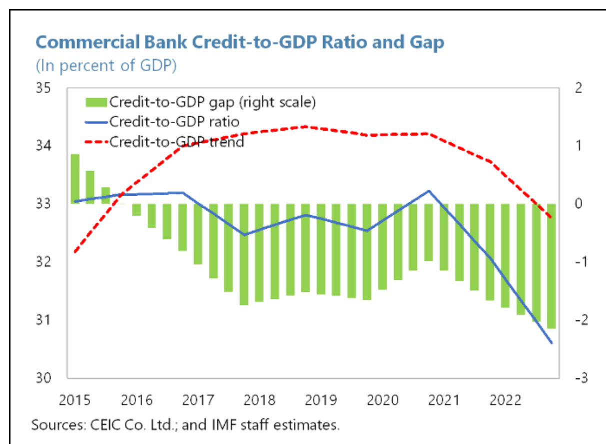
28. The financial system appears to be resilient, emerging from the pandemic with strong buffers, improving asset quality, and healthy credit growth. Indonesia's banking system is well-capitalized, with a regulatory capital ratio of 26.0 percent as of February 2023. Banks also have ample liquidity and FX exposures appear to be limited.[15] Credit growth continues to recover to pre-pandemic levels, supported by accommodative monetary and macroprudential policies. The ratio of non-performing loans and loans-at-risk—which also captures restructured loans—have declined further in December 2022 to 2.4 and 14 percent of total loans respectively, with the latter having peaked at 24.2 percent in early 2021.

29. Systemic risk is assessed to be moderate and broadly unchanged relative to last year. Despite double-digit credit growth, the credit to GDP gap is still estimated to be negative (-2 percent as of 2023Q1). Bank lending to households is expanding at a pace that is still below pre-pandemic levels, real house price growth is negative, and household debt to GDP has remained

[15] Banks' liquid asset ratio is 15.4 percent (in February), liquidity coverage ratio is 242.6 percent (in December), and net open position is around 2.9 percent of capital (in December), well below the prudential requirement of 20 percent.

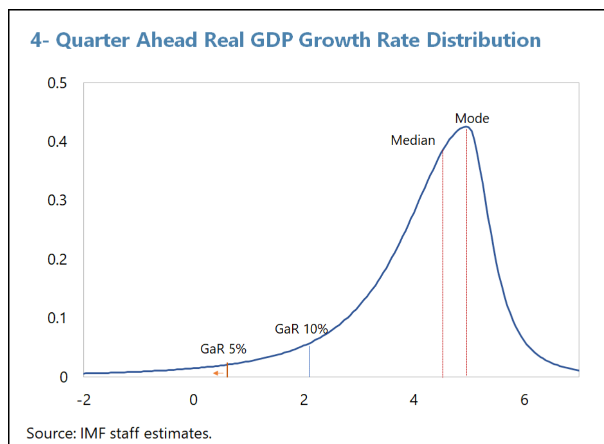
constant at about 17 percent of GDP for several years. A "growth-at-risk" analysis, linking macro-financial conditions to the probability distribution of future real GDP growth, also suggests moderate and stable downside risks to growth. With financial stability risks well contained, keeping the macroprudential policy stance broadly unchanged this year, with the aim of moving toward a more neutral stance in 2024 as the credit gap narrows to zero, is appropriate.

Commercial Bank Credit-to-GDP Ratio and Gap
(In percent of GDP)



Sources: CEIC Co. Ltd.; and IMF staff estimates.

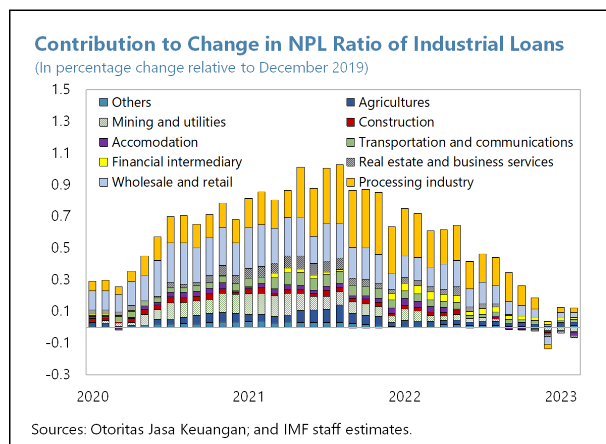
4- Quarter Ahead Real GDP Growth Rate Distribution



Source: IMF staff estimates.

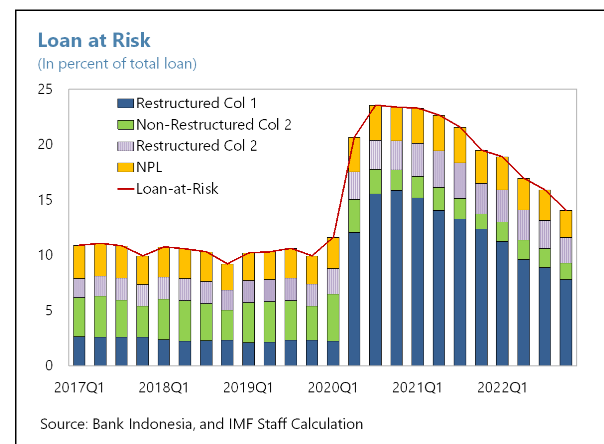
30. But rising interest rates can increase vulnerabilities for banks and corporates. Problem loans have been concentrated in sectors that were hit hard by the pandemic (processing industry, wholesale and retail trade, and accommodation). Although corporate debt is relatively low (38.4 percent of GDP), staff's analysis of listed firms shows that firms would be sensitive to the cumulative increase in the policy rate since 2022, with the share of debt held by vulnerable firms—"debt-at-risk" where the interest coverage ratio (ICR) is less than one—rising from 21 to 28 percent.[16] Banks have been increasing loan loss provisions (214 percent of NPLs as of January) to insure against asset quality risks while rebalancing their government bond portfolio from available-for-sale (AFS) to hold-to-maturity (HTM) to reduce mark-to-market losses.[17]

Contribution to Change in NPL Ratio of Industrial Loans
(In percentage change relative to December 2019)



Sources: Otoritas Jasa Keuangan; and IMF staff estimates.

Loan at Risk
(In percent of total loan)



Source: Bank Indonesia, and IMF Staff Calculation

[16] The listed firms used in the analysis account for about a quarter of the outstanding non-financial corporate debt in Indonesia.

[17] According to the authorities' estimates, Indonesian banks held about 8.8 percent of GDP assets in government bonds as of January, of which more than half (5.2 percent of GDP) were in the form of held-to-maturity.

31. The IMF's Global Bank Stress Test (GST) Tool is used to assess the solvency risk of the banking system. Under an adverse shock scenario, where growth deteriorates significantly (by 3 percentage points), interest rates increase (by 200 basis points), and asset prices decline (by 10 percent) relative to the baseline, the GST shows the banking system capital adequacy ratio could decline by about 4.3 percentage points relative to the baseline, assuming no other offsetting factors, but remain sufficiently above the minimum regulatory requirement (Annex VI). Banking system liquidity is sufficient, but small and medium sized banks may be more vulnerable given their relatively higher share of AFS securities, limited access to the bond market, and the lack of collateral to participate in the money market. Overall, the banking system appears to have adequate buffers to withstand adverse shocks.

32. With the recovery in place, regulatory forbearance measures and incentives should be tightened, and supervision should remain vigilant to emerging vulnerabilities.

- The relaxation of loan classification standards which was set to expire in March 2023 has been extended for another year. While its coverage has been tightened, it remains fairly broad, covering loans extended to MSMEs (which accounts for around 30 percent of restructured loans) and companies in certain pandemic-hampered or labor-intensive sectors (accommodation, food and beverage, textile, and footwear). With the recovery well entrenched, banks should be in a good position to assess credit risk. Extending forbearance continually increases the risks of moral hazard, delays recognition of losses, and prolongs the existence of "zombie" firms. Staff recommends that the relaxation of loan classification should not be extended again when it expires in March 2024 and welcomes the authorities' enhanced supervisory scrutiny over restructured loans.

- Macroprudential instruments have been geared towards encouraging bank lending. As the financial cycle picks up and credit growth continues to recover, macroprudential policy could be gradually tightened to restore pre-pandemic settings for the loan-to-value limits (property and car loans) and scale back some reserve requirement incentives, while the macroprudential intermediation ratio should be regularly reviewed to ensure it supports a sustainable path for credit growth, including to SMEs.

- The increase in banks' exposure to government debt necessitate regular asset quality reviews and strict supervision to guide adequate levels of bank capital commensurate with the risks associated with the sovereign bank nexus.

33. The authorities made notable progress on financial sector reform but continued strengthening of the regulatory and institutional framework will be important. The authorities passed a comprehensive Financial Sector Omnibus Law (FSOL) in January 2023 that integrates 17 institutional and sectoral laws to strengthen financial efficiency and resilience. Notably, the law authorizes BI with a macroprudential policy mandate, expands the role of the Indonesia Deposit Insurance Corporation (IDIC), and strengthens OJK's supervisory and regulatory framework, in line with past FSAP recommendations (Table 12). It also set the legal foundation for a central bank digital currency (CBDC). Nevertheless, some gaps remain, and future reforms could include reducing

inaction bias with troubled banks—by further clarifying rules for when supervisors should act—and establishing a clear funding mechanism as a key element of a recovery strategy to minimize fiscal liabilities. Reforms to strengthen the insolvency and creditor rights framework is also important to support the readiness of the bankruptcy system to deal with a potential surge in corporate defaults. The upcoming FSAP presents a good opportunity to follow-up on these issues in more detail and other recommendations to enhance financial sector resilience.

Authorities' Views

34. The authorities agreed with staff's assessment of systemic risk and the future direction of financial sector policies. The banking system is resilient, but vigilance is needed to monitor risks from increases in interest rates. The macroprudential policy stance will remain accommodative in the near-term to support the momentum in economic recovery but will be tightened as the credit gap closes. The authorities acknowledged the importance of not extending the forbearance measures beyond 2024, but they also noted that the extension should not increase financial stability risks, given the small and targeted coverage as well as the authorities' heightened supervision and banks' increased provisions.

Indonesia: Macroprudential Policy Instruments in 2020-23

Macroprudential Policy Instrument	2020	2021	2022	Beginning-2023
Macroprudential Intermediation Ratio	Removed RR penalty if banks' ratio falls short of the 84-94% target range.	Reinstated the RR penalty with a wider target range of 75-94% from May 2021; 80-94% from September 2021. Added export bills to corporate securities owned.	Restored the pre-pandemic range of 84-94% and RR penalty.	Same as previous year.
Macroprudential Liquidity Buffer	Raised the share of minimum securities in IDR that must be maintained by conventional banks from 4% to 6% (can be used for repos).	Same as previous year.	Same as previous year.	Same as previous year.
Down Payment Ratio	Lowered the minimum down payment requirement on green automotive loans to 0%.	Lowered the minimum down payment requirement on all new motor vehicle loans to 0%.	Same as previous year.	Same as previous year.
Loan-to-Value (LTV) Ratio Limit		LTV ratio on property loans is increased from 85-95 percent depending on property type and banks NPL, to a maximum of 100% on all property types for banks meeting specific NPL criteria.	Same as previous year.	Same as previous year.
Macroprudential Inclusive Financing Ratio (RPIM)		Banks are required to channel 30% of their loans to MSMEs by 2024.	Banks allowed to set individual targets each year and meet the requirement by purchasing securities for sustainable development, and securities issued by non-bank corporates.	Same as previous year.
Reserve Requirement Incentives	0.5% for loans to priority sectors and MSMEs.	Same as previous year.	1.5% for loans to priority sectors (expanded from 38 to 46), 0.5% for fulfilling RPIM, with a total incentive up to 2.0%.	Added to previous year's incentives an additional 0.5% for fulfilling RPIM, 0.3% for green financing, resulting in a total incentive up to 2.8%.
Countercyclical Capital Buffer (CCB)	Unchanged at 0%			

* Macroprudential Intermediation Ratio = (loans + corporate securities owned)/(deposit + securities issued + loans received). Banks incur a penalty, in the form of a higher reserve requirement (RR), if the banks' intermediation ratio falls outside the target.

D. Managing Short-Term Risks

35. Indonesia has ample policy space, strong financial buffers and favorable initial conditions to respond to adverse shocks. Risks to public debt sustainability are low (Annex IV), the recent tightening in monetary policy has created room for maneuver, foreign reserves remain adequate, and the banking sector has good capital and liquidity buffers. At the same time, the closing of the output gap, a declining trend in inflation, and well-anchored inflation expectations constitute favorable initial conditions.

36. Policies need to remain nimble, using the available policy space effectively, and supported by enhanced communication.

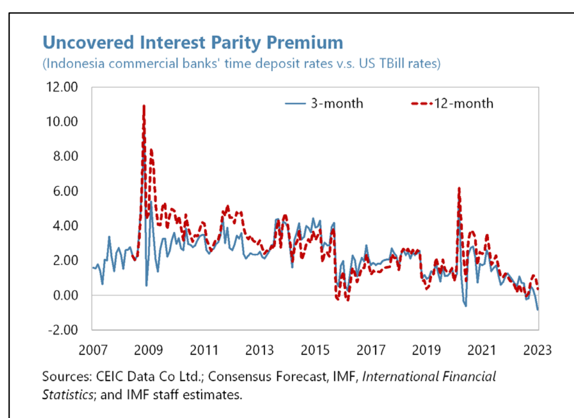
- Under risk scenarios, fiscal policy can play a counter-cyclical role. If growth surprises on the upside, improvement in revenues can be saved to enhance fiscal space. Under downside shocks, available fiscal space should be used in a targeted way, preserving support for vulnerable households and other priority development spending. If adverse shocks warrant going above the deficit ceiling, it would be important to clearly communicate the reasons and the path for returning to the deficit ceiling, with a view to securing medium-term fiscal sustainability.

- Monetary policy should carefully balance risks to inflation, output, and financial stability. With monetary policy maintaining a tightening bias, a more accommodative stance would be appropriate if growth decelerates substantially, and inflationary pressures subside faster than expected. If faced with persistent shocks that push inflation higher, monetary policy may need to be tightened sharply, creating a tradeoff between price and financial stability.

- Financial sector policies should be adjusted to mitigate risks to financial stability. Calibrated and targeted relaxation of prudential policies may be appropriate to weather a severe downturn, but these should be time-bound, and coupled with enhanced supervision and an assessment of risks.

37. While allowing the exchange rate to play a shock absorbing role remains a key principle, the use of FXI may be appropriate under certain shocks and circumstances. The IMF's integrated policy framework (IPF) outlines country characteristics, including financial frictions and vulnerabilities, and the nature of shocks that could warrant the use of FXI (Annex V).

- ***Indonesia's shallow FX markets may warrant the use of FXI in response to financial shocks triggered by sudden changes in investor risk appetite***. In shallow markets, such a shock is usually accompanied by a surge in capital outflows that amplify exchange rate depreciation and lead to excessive volatility, exemplified by a sharp increase in the country's uncovered interest parity (UIP) premium. Indeed, BI's use of FXI



Sources: CEIC Data Co Ltd.; Consensus Forecast, IMF, *International Financial Statistics*; and IMF staff estimates.

appears to coincide with periods of spiking UIP premia; since 2008, BI interventions are estimated to average about 0.6 percent of GDP (US$4.2 billion) on the seven occasions in which the UIP premium spiked to more than 3 percent.[18] Under such circumstances, the use of FXI could be desirable to help restore domestic and external balance.

- ***A model-based analysis is used to assess the use of FXI as part of a policy response to a downside scenario for the Indonesian economy***.[19] In this scenario, global supply shocks lead to higher inflation and prompt a further tightening of monetary policy in advanced economies, which are modelled as a one percentage point increase in core inflation and about 80 basis points hike in the policy rate in the representative foreign economy. Global financial conditions tighten and a "risk-off" sentiment among foreign investors—proxied by one standard deviation shock to Indonesia's UIP premium, trigger capital outflows from emerging market economies, a sharp depreciation of their currencies, and a spike in domestic inflation.

- **Under these supply and exchange rate shocks, stabilizing domestic inflation by tightening monetary policy presents output and financial stability tradeoffs**. Illustrative scenarios are used to highlight the coordinated use of interest rate, FXI and fiscal policies to minimize tradeoffs.

  - In the first scenario (blue line), monetary policy is tightened with a hike in the policy rate (by 90 basis points). The exchange rate depreciates (by about 5 percent), inflation rises (by 1.2 percent) while output is lower (by about 1 percent) relative to the baseline. If no policy action were taken, inflation would rise by significantly more.

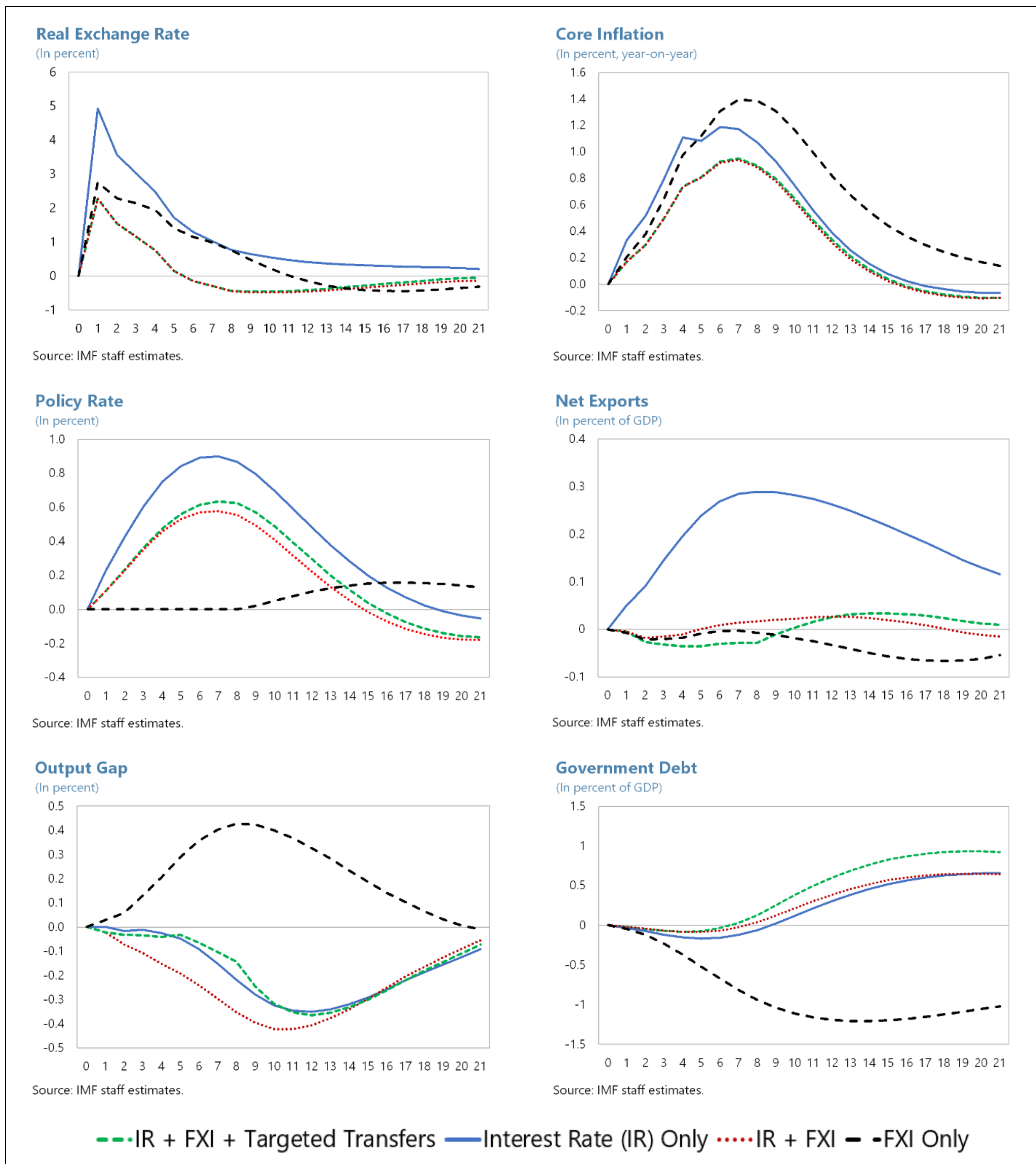
  - In the second scenario, where the interest rate hike is delayed and only FXI is used (of about 2 percent of GDP over a year, black dashed line), the inflation outcome is similar in the near-term because FXI reduces the initial exchange rate depreciation by about half. The impact on output is positive as the rise in inflation expectations causes the real interest rate to decline, which stimulates domestic demand. Nevertheless, the sustained use of FXI comes at the cost of lower reserves, reducing its scope to mitigate persistent inflationary shocks.

  - Given these constraints and to further stabilize inflation, the third scenario combines the use of interest rate and FXI policies (red dotted line). The exchange rate depreciation is less pronounced compared to the second scenario, reflecting the impact of higher interest rates. The use of FXI allows monetary policy to tighten by a smaller extent (by only 55 basis points) than in the first scenario, while also reducing inflation (by 0.3 percentage points). However, output is also lower as lower net exports more than offset the positive impact of lower interest rates on domestic demand. Although not captured in the model, lower interest rates in this scenario would mitigate financial stability risks and an increase in debt-at-risk.

[18] FXI estimates are from Adler and others (2021).

[19] The model used is a linearized variant of Adrian and others (2021), estimated using Indonesian data and Bayesian techniques. Similar models are used as part of the IMF's capacity development engagement with the Indonesian authorities, to develop model-based analysis of IPF policies.

- In the last scenario (green dashed line), fiscal stimulus—through targeted transfers to households—is layered on top of the monetary and FXI response. This mitigates the decline in output, but at the cost of a marginally higher interest rate and a small increase in government debt (of 1 percent of GDP in five years).

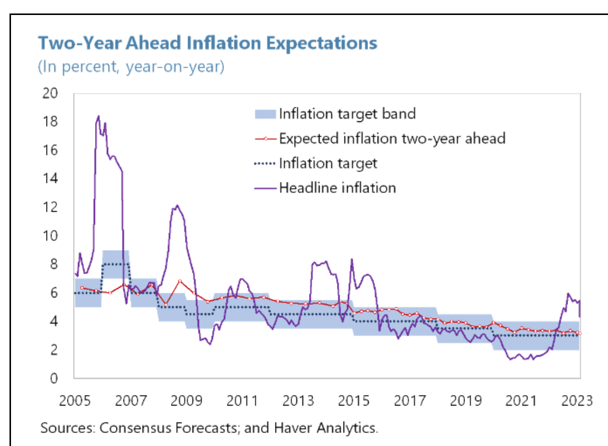


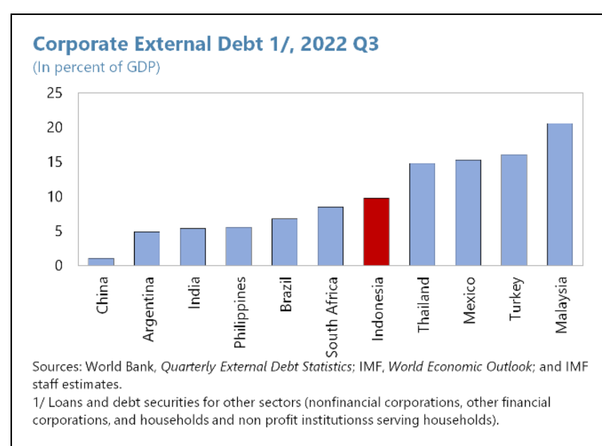
38. Given policy tradeoffs, determining the appropriate policy response will depend on several factors: initial conditions, policy priorities, size of the shock, and effectiveness of FXI. Weighing these factors together suggest that FXI may be useful if concerns about financial stability

risks become prominent or if the shock threatens to de-anchor inflation expectations. The decline in the share of foreign investors in Indonesia's domestic bond market and efforts to increase FX market depth would lessen the need to resort to FXI.

- *Initial conditions and policy priorities.* The increase in interest rates so far has raised debt-at-risk in the corporate sector. In the event of a UIP shock, as illustrated by the scenario analysis, the use of FXI can ease the burden on monetary policy. By preventing an additional sharp increase in the policy rate, FXI can mitigate risks to financial stability, including by avoiding a further rise in debt-at-risk with implications for private investment.

- *Size of shock*. The size of the shock also matters, as price and financial stability considerations become more pertinent under very large shocks, even if inflation expectations are well anchored and FX exposures on private sector balance sheets are limited. FX currency mismatches could become binding due to partial hedging of FX exposures,[20] and inflation expectations could de-anchor if the shock raises core inflation above BI's target. In such a scenario, the use of FXI, coordinated with monetary policy tightening, can help stem capital outflows, and prevent a further weakening of the exchange rate, thus mitigating risks to price and financial stability.





- *Effectiveness of FXI.* The scope for using FXI relies on its effectiveness in stabilizing the exchange rate, which may be subject to significant uncertainty. While the effectiveness of FXI is broadly related to the shallowness of the FX market, it could be time-varying, depending on the nature and size of the shock. In some cases, having a meaningful impact on the exchange rate may require the use of large amounts of reserves, making FXI costly, and infeasible if reserves are limited. In practice, policymakers may need to use a combination of tools, as they try to mitigate excessive volatility, because it is difficult to discern the nature of shocks in real time. Finally, the

[20] There are prudential regulations that limit banks' net open FX positions and corporates are subject to a minimum hedging requirement of 25 percent that applies to their short-term net foreign currency liabilities and a minimum FX liquidity ratio of 70 percent that applies to their liquid foreign currency assets as share of short-term foreign currency liabilities (with maturities less than three months). The hedging and liquidity requirements on non-bank corporates have been assessed as both capital flow management measures as well as macroprudential policy measures (i.e., CFM/MPMs) under the Fund's Institutional View.

policy target horizon matters, as FX intervention is often used to smooth high-frequency intraday volatility in the exchange rate, which is not well captured by macro models.

Authorities' Views

39. The authorities welcomed the analysis using the IPF, while emphasizing the need to consider a broader set of policies. They underscored the importance of using quantitative models comprising a wider set of policy instruments including monetary policy, FXI, capital flows management, and macroprudential policy, which they see as essential to guide an appropriate policy package in response to macroeconomic and financial shocks. BI's IPF model includes these instruments and additional financial variables such as credit growth to allow considerations for the financial cycle. Regarding FXI, they view that the current implementation of FXI as part of BI's policy mix has been effectively maintaining the stability and supporting the recovery. They noted the importance of maintaining reserves at prudent levels and expected the newly introduced FX deposit facility to help increase the supply of FX liquidity in domestic financial markets to strengthen external sector stability.

TACKLING LONG-TERM CHALLENGES

A. Structural Reform Policies

40. In 2020, Indonesia articulated a medium-term development plan to boost economic growth and resilience.[21] The authorities' strategy seeks to boost the share of manufacturing and services in GDP and encourage diversification to reduce Indonesia's strong dependence on the export of abundant raw commodities. Over the long term, the plan seeks to boost potential growth, which is rightly seen as crucial to achieving the objective of becoming a high-income economy by 2045. The pick-up in structural reform momentum to implement the plan in recent years is welcome, given the significant scarring effect of the pandemic on Indonesia's level of potential output.

41. The authorities have increasingly focused their diversification strategy on developing downstream activities. A feature of the plan identifies priority sectors that are down the value chain from Indonesia's raw commodities, to increase value added in exports and contribute to regional development. Investment in these sectors is promoted through tax holidays and restrictions on the export of certain raw materials. In the case of nickel, of which Indonesia holds large reserves, there has been an increase in foreign direct investment to process nickel ore as well as an increase in export value (Box I). Following the experience gained with nickel ore, the authorities are open to extending their downstreaming policies to other minerals such as copper, bauxite, and tin, and agricultural commodities. Eventually, the authorities see an opportunity to develop domestic manufacturing of batteries for electric vehicles, which would further increase value added in exports.

[21] See Republic of Indonesia, "The National Medium-Term Development Plan for 2020-2024" (Appendix to Presidential Regulation 18/2020).

42. The potential long-term benefits of downstreaming policies will need to be weighed against their costs, which include cross border spillovers. The success of the strategy rests on creating new jobs in the formal sector and positive spillovers within and across sectors, as foreign direct investment brings in technology and skills that can be used to boost productivity in local industries.[22] A regular cost-benefit analysis should inform assessments of whether downstreaming policies are working or should be extended to other minerals. Fiscal costs in terms of annual forgone revenue currently appear small and should be monitored as part of this cost-benefit assessment.[23] Industrial policies should also be designed in a way that does not hinder competition and innovation, while minimizing negative cross border spillovers. In this context, the authorities should consider domestic policies that achieve their objectives of increasing value added in production, while phasing out export restrictions and not extending the restrictions to other commodities.[24]

43. A durable economic transformation will require broad-based reforms. Achieving Indonesia's objective to develop and diversify its economy will hinge on advancing complementary policies that promote an enabling business environment and investment climate. Priority areas include:

- *Labor market efficiency and investment climate*. Prompt implementation of the presidential decrees reforming the labor market and easing the regulatory burden of doing business are needed to facilitate the continued recovery of the labor market and boost long-term investment. In particular, the new regulations would help reduce informality by easing labor market restrictions in the formal sector, reformulate the calculation of minimum wages and introduce unemployment benefits, establish a new working hours arrangement to accommodate jobs in the digital economy, and simplify licensing requirements to make it easier to start businesses.[25] In addition, ensuring legal and policy certainty and removing non-tariff trade measures could help attract foreign direct investment.[26]

[22] There is a growing literature on the economics of industrial policies. Liu (2019) presents a theory of which sectors industrial policies should target, under the presence of cross-sector linkages and market imperfections. Cherif et al. (2022) present the rationale for industrial policies motivated by coordination failures and learning externalities.

[23] Tax expenditures averaged 1.66 percent of GDP per year over 2016-2022, according to the MoF annual Tax Expenditure Reports. These are mostly expenditures on VAT (by tax type), households (by beneficiary), and the processing industry (by sector). The existing framework allows for certain tax holidays in pioneer industries and vary depending on location and investment value. The mining sector accounts for only 1 percent of total tax incentives on average, while the processing sector (including downstreaming activities plus other activities like textiles, food, furniture, etc.) account for 24 percent of total incentives on average, which is about 0.4 percent of GDP per year.

[24] IMF (2023) describes the IMF's role in global trade and highlights the negative consequences of unilateral trade measures, including export restrictions.

[25] IMF (2022) provides a comprehensive discussion of the omnibus law's main reforms and how they are expected to affect the macroeconomy. After a procedural challenge from the Constitutional Court, the government has presented a modified version of the omnibus law as a presidential decree in 2022. The proposed Government Regulation in Lieu of Law on Job Creation was passed in the Indonesian House of Representatives in March 2023. The decrees depart somewhat from the original law, with adjustments to the setting of minimum wages—giving provinces more discretion—and modifications to liberalize service sector licensing requirements.

[26] World Bank (2022) presents analysis linking Indonesia's non-tariff measures to the underperformance of its manufacturing sector, which has seen slower long-term growth in exports than other ASEAN economies.

- *Human capital development*, including training more engineers and other professionals, and improving the quality of education with a greater focus on analytical and digital skills, so that foreign investments lead to higher wages and technological transfer. Developing a centralized system to monitor and evaluate the quality of technical and vocational education and training would also help promote upskilling and reskilling. In the absence of offsetting investments, lengthy school closures during the pandemic are likely to have long-lasting impacts on human capital, particularly in more remote regions where poor internet connectivity precluded effective remote education.

- *Infrastructure investment,* to address substantial gaps and bottlenecks. Modernization of infrastructure governance and public investment management are needed to ensure infrastructure investment fully deliver their expected economic benefits. To this end, the IMF's June 2019 Public Investment Management Assessment made recommendations to strengthen the planning, allocation, and implementation of capital projects, which could be applied to guide the recently established sovereign wealth fund (Indonesia Investment Authority), which has attracted substantial co-investments from foreign investors to channel capital to priority infrastructure projects.

- *Financial deepening, to* mobilize more domestic resources to finance economic growth and the transition towards a low-carbon development path, lessen the reliance on volatile external financing, and strengthen the capacity of the financial system to absorb shocks. Financial deepening is also critical to ensure that the benefits from other reforms are fully realized. FSOL provisions will facilitate the development of a liquid market for risk hedging and broaden the scope for mobilizing long-term IDR financing.[27] Further developing the money and repo market along the lines of the authorities' Blueprint for Money Market Development 2025 will also establish reliable infrastructure, offer a wide range of instruments, foster high market integrity, and create a well-informed investor base.[28] BI's initiative to integrate Indonesia's digital payments system with those of other ASEAN members is welcome and will contribute to regional integration and support digitalization.

Authorities' Views

44. The authorities agreed with the importance of advancing broad-based structural reforms. They will continue to advance their reform agenda, building on recent achievements with the passage of important tax, financial, and job creation reforms. Notwithstanding, they see their industrial policies as a way to jump-start the diversification of the economy by revitalizing the manufacturing sector. Positioning Indonesia in an ecosystem of supply chain surrounding electric vehicle manufacturing is seen as a strategic priority that will allow the country to achieve a higher level of development. By improving the trade balance and the current account, downstreaming activities will strengthen the resilience of the Indonesian economy against commodity boom-bust cycles and reduce the country's reliance on portfolio financing. The authorities see the attraction of

[27] World Bank, Third Financial Sector Reform Development Policy Financing, January 2023.

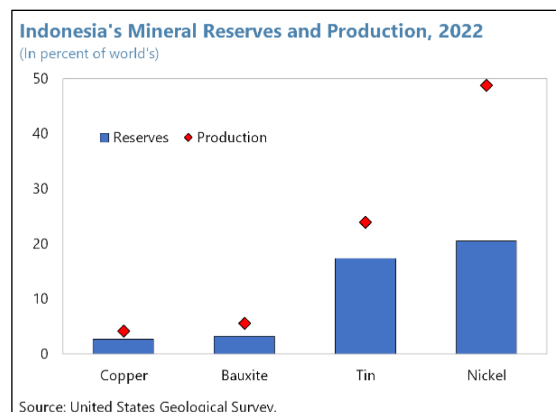
[28] Selected Issues Paper, 2021.

foreign direct investment and the creation of jobs in remote areas from downstreaming as successes and part of a broader regional development strategy that will reduce income inequality and unemployment, and improve economic welfare in the medium to long-term.

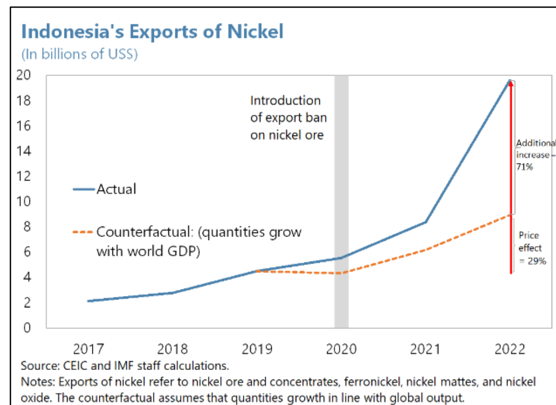
Box 1. Early Experience with Indonesia's Downstreaming Policies

Over the last decade, Indonesia's government has used industrial policy with the aim of increasing the value added in its commodity exports and to increase productivity and competitiveness of the economy. The authorities have focused particularly on nickel ore, of which Indonesia is the world's largest producer—accounting for nearly half of global output in 2022—and holds the largest reserves. While Indonesia also plays a significant role in the global market for tin, its global market shares of copper and bauxite are much smaller.

The authorities first imposed an export tariff on nickel ore in 2012, and an export ban on all raw nickel in 2014. These measures did not attract significant FDI to develop the smelter capacity that is needed to process the raw nickel. As such, exports of refined nickel remained limited, and the authorities lifted the export ban in 2017, opting to reimpose an export tariff. In January 2020, Indonesia reinstated the export ban and imposed a domestic processing requirement on raw nickel ore.[1]



Since the export ban was re-introduced, overall FDI has performed well despite the challenges of the pandemic, increasing to US$22 billion in 2022. In particular, foreign investment realization increased by 47 percent in 2022 led by sectors related to downstreaming and with almost half of the increase accounted for by China and Hong Kong. Moreover, several foreign investors have built smelters in the remote provinces of Central Sulawesi and North Maluku, with some raising equity on the Jakarta stock exchange. Investment realization in nickel and bauxite smelters during 2021-22 has reached about US$5.5 and US$3 billion respectively. Today there are 11 nickel smelters, an increase from 3 in 2014 (UNCTAD 2017), and a further 19 are expected to be built. Exports of nickel have surged from US$4.5 billion in 2019 to $19.6 billion in 2022.[2]



Staff estimates that less than one third of this increase can be explained by higher global commodity prices, with the rest plausibly coming from higher value added from smelting activities and higher export volumes. Formal sector jobs are being created in regions that have relatively lower levels of income, though the impact on employment remains modest in the context of Indonesia's large national economy. In addition, there are costs that are difficult to quantify at present but that need to be monitored and factored into the cost-benefit assessment. These include foregone fiscal revenues, the unintended consequences of export restrictions at home (such as potential resource misallocation and rent seeking) and those that spillover across borders (such as price effects in the global commodity markets), which could potentially be met by retaliation from trade partners. More generally, while diversion of investment inputs could allow some economies to gain, over time, such benefits could be significantly offset by spillovers from potentially lower external demand, especially if more countries resort to trade restrictions (April 2023, WEO, Chapter 4).

[1] In November 2022, a WTO dispute panel found that the export ban and the domestic processing requirement for all nickel ore were inconsistent with Article XI:1 of the GATT 1994 (export restrictions). Indonesia appealed the panel's decision on December 8, 2022.

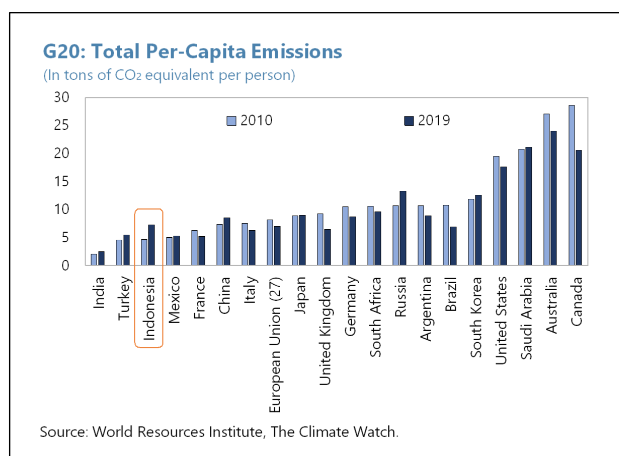
[2] Bilateral trade data from UN Comtrade available for 2021 shows that more than 80 percent of Indonesia's exports of refined nickel were to China.

45. The authorities see the export ban on nickel ore as having been key to attracting FDI and boosting exports of refined nickel. They emphasized that Indonesia's industrial policies were equally welcoming to all international investors and aimed to promote rather than deter trade. Following the experience gained with nickel ore, the authorities are considering extending downstreaming to other minerals, including copper, bauxite, and tin, and to food commodities such as palm oil and fish.

B. Climate Change Policies

46. The government is taking steps toward climate change mitigation. Indonesia is exposed to climate change related risks, including from more damaging natural disasters and rising sea levels, as well as transition risks given the significance of coal in the economy.[29] Indonesia submitted an Enhanced NDC in September 2022 with revised emission reduction targets. By 2030, emissions will be reduced by 31.9 percent with respect to a business-as-usual (BAU) scenario, where about 2/3 of these unconditional emission reductions would come from forestry and land use (FOLU) measures—including lower rates of deforestation, reforestation efforts, and land management regulations—with the remaining 1/3 coming mainly from the energy sector. Under the plan, Indonesia's overall emissions would peak by 2030, with FOLU becoming a net carbon sink. These commitments are in line with the Long-Term Strategy for Low Carbon and Climate Resilience Strategy 2050, which establishes a vision to achieve net-zero emissions by 2060 or sooner, including a roadmap to phase-out coal-fired power plants by 2050. Plans for introducing a carbon tax, envisaged in the 2021 tax bill, have been delayed due to concerns about the geopolitical situation and commodity prices.

47. The authorities' climate change mitigation strategy is appropriately focused on land-use regulation but progress on energy subsidy reform and carbon pricing is essential to gradually change incentives in the energy sector and reach net zero. While Indonesia's emissions remain low on a per-capita basis compared to other G20 economies, they have risen in recent years. Given its large population, Indonesia is a major emitter, particularly from the FOLU sector, which accounts for about half of the country's GHG emissions on average. Through 2030, staff analysis shows that mitigation through FOLU measures have a lower abatement cost than mitigation that is achieved exclusively through a carbon price in the energy sector (Box II). To achieve the authorities' more ambitious long-term mitigation objectives, including reaching net zero, the gradual reduction of energy subsidies (see Section A) and distortions that incentivize fossil fuel use would provide a powerful price-based signal to enable the efficient transformation of the economy. The recent increase in administered



Source: World Resources Institute, The Climate Watch.

[29] See 2020 Article IV Consultation Staff Report - Selected Issues on the macro-criticality of climate change for Indonesia.

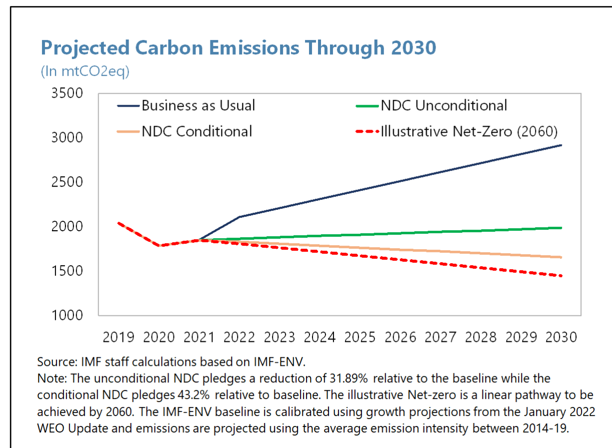
gasoline prices is a step in the right direction. The introduction of carbon pricing, and gradually widening its base and raising the carbon price, would also help reduce emissions from the energy sector in a gradual and efficient manner.

48. Mobilizing private and international financing will be vital to achieve Indonesia's mitigation and adaptation plans. Climate budget allocations remain limited, averaging 3.7 percent of total expenditures per year over 2016-2021. The expected mobilization of US$20 billion in external financing through the Indonesia Just Energy Transition Partnership (JETP) will allow for the early decommissioning of coal-powered electricity plants and accelerate investment in renewable energy. Private financing will be facilitated by the recently adopted green taxonomy developed by OJK. This is welcome, and to ensure policy consistency, consideration should be given to removing existing incentives that perpetuate dependence on coal-powered energy.

Authorities' Views

49. The authorities welcomed staff's focus on climate change and underscored that ensuring a green transition was an integral part of their development strategy. They welcomed staff analysis on the near-term prioritization of mitigation efforts through actions in the FOLU sector as laid out in their Enhanced NDC. Following a voluntary ETS pilot in 2021, a mandatory cap-and-trade system was introduced in 2023 covering large coal-fired power plants, which is expected to gradually increase in coverage. The ETS is envisaged to turn into a hybrid cap-trade-and-tax system with the introduction of carbon taxes as conditions permit. The authorities emphasized the importance of considering the impact of carbon pricing and subsidy reform on inflation and agreed with staff's view that these reforms should be gradual. They are working closely with international partners to finalize a comprehensive investment plan to operationalize the JETP before the end of this year. They called on the Fund to contribute to building consensus among the membership around the development of cross-border carbon markets and in mobilizing concessional financing to facilitate a just transition to renewable energy in EMDEs. As part of Indonesia's 2023 ASEAN chairmanship, the authorities will promote the development and adoption of the ASEAN Taxonomy for Sustainable Finance that will include transition activities, which will help mobilize private sustainable finance.

Box 2. Modeling Climate Mitigation Policies in Indonesia[1]



Projected Carbon Emissions Through 2030

Source: IMF staff calculations based on IMF-ENV.
Note: The unconditional NDC pledges a reduction of 31.89% relative to the baseline while the conditional NDC pledges 43.2% relative to baseline. The illustrative Net-zero is a linear pathway to be achieved by 2060. The IMF-ENV baseline is calibrated using growth projections from the January 2022 WEO Update and emissions are projected using the average emission intensity between 2014-19.

This box uses model-based scenarios to illustrate the macroeconomic costs for Indonesia of meeting its international climate change commitments. Under the Framework of the Paris Agreement, Indonesia has committed to unconditional and conditional enhanced nationally determined contribution (NDC) targets for its emissions through 2030 (Box Figure). The authorities have described a mitigation strategy for achieving these commitments using multiple policy interventions. The box compares three alternative strategies that could deliver the unconditional NDC targets and compare their economic costs.

The global IMF-ENV model captures detailed sectoral, trade, and employment consequences of mitigation policies to address climate change.[2] The model incorporates salient features of the Indonesian economy, including (i) consumer subsidies to fuel and electricity prices, calibrated to match the ratio of total subsidies to GDP in 2022, (ii) a link between the forestry sector's economic output and deforestation rates,[3] (iii) a requirement for coal producers to sell 25 percent of their output domestically at a price that is substantially lower than the international market price, and (iv) the existence of long-term contracts that constrain substitution away from coal power plants.

Through 2030, a strategy that emphasizes mitigation from forestry and land use (FOLU) can limit economic costs, while allowing for a smoother transition path for the power sector. In the near term, the authorities' strategy laid out in the Enhanced NDC aims to reduce about 2/3 of emissions relative to BAU through FOLU measures, which are estimated to have lower abatement costs.[4] We model the authorities' mitigation strategy and compare it to an illustrative scenario where the mitigation commitment is achieved exclusively through a carbon price in the energy sector. We find that the authorities' strategy lowers the level of GDP by only about 0.5 percentage points in 2030, which compares to a larger fall in GDP of 2.0 percentage points under the illustrative scenario that shifts the short-run mitigation burden entirely to the energy sector. While FOLU policies are found to impose lower economic costs, credible monitoring is critical to ensure their effective implementation.

To reach net zero carbon emissions by 2060, Indonesia will need to undertake a broader set of reforms. Existing consumer and producer subsidies for fuel and coal create strong incentives for carbon-intensive economic activity and deter investments in renewables by making them less competitive. A plan to gradually phase out these distortionary policies would provide a powerful pricing signal to economic agents. We model a scenario in which these subsidies are removed and find that overall emissions decrease by 7 percent, with an offsetting increase in fiscal transfers preventing a fall in output. In achieving the NDC commitment to mitigate carbon emissions, removal of the subsidies would be as effective as imposing a carbon tax of 5 USD/TCO2e on all economic activity. These equivalent price-based policies lead to lower gross investments in fossil fuels, with investments in coal falling by more than half. At the same time, increased investments in renewables help meet rising energy demand, with renewables increasing their share in generation from 30 percent in the baseline to 40 percent.

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[1] The authors of this box are Yan Carrière-Swallow (APD), Amr Hosny (FAD), Hugo Rojas-Romagosa (RES), and Sneha Thube (RES).

[2] See Chateau, Jaumotte, and Schwerhoff (2022) for a description of the recursive-dynamic general equilibrium climate model.

[3] IMF-ENV does not feature endogenous land use changes or explicit modeling of peatlands so that entire mitigation target from the FOLU sector is modeled to be achieved via changes in the deforestation rate. The mitigation target for the energy sector is implemented via a uniform carbon price while that for the FOLU sector is implemented by changing the natural resource endowment for forestry services according to the projections submitted in the Enhanced NDC (2022).

[4] Estimates of carbon abatement cost curves for Indonesia produced by the National Council on Climate Change (2010) are used and are equivalent to a carbon price in the range of $1-29/tCo2e by 2030. This estimate does not include implementation costs, which can be significant for some abatement measures.

STAFF APPRAISAL

50. Indonesia's post-COVID recovery is nearly complete, with the output gap expected to close in 2023. Monetary and fiscal policies have been returned to normal faster than expected, and BI primary market purchases have concluded as scheduled. Growth remains strong, inflation and public debt are under control, and the current account is balanced. Structural reforms have been accelerated to facilitate the transition to private sector led growth and counter the effects of pandemic scarring on long-term growth. Risks to the near-term outlook are broadly balanced.

51. Maintaining a broadly neutral fiscal stance below the 3 percent deficit ceiling would allow Indonesia to meet its development needs while also securing policy credibility. The authorities have shown an unwavering commitment to the deficit ceiling, which has served Indonesia well as a pillar of macroeconomic policy and remains an important anchor to build fiscal buffers to absorb future shocks. Continued adherence to the ceiling, underpinned by sound debt management and adequate cash buffers, would ensure the sovereign-bank nexus remains secure.

52. A concrete medium-term fiscal strategy—including revenue mobilization, energy subsidy reform, expanded social protection, and greater transparency—continues to be important to support Indonesia's development agenda. With the deficit ceiling serving as a credible anchor, the strategy should clarify medium-term budget objectives, risks, and contingency policies. Additional measures to broaden the tax base and improve tax collection, regular adjustments in energy prices through an automatic pricing formula and expanding the unified social registry database as well as the benefits and coverage of the social safety net would be welcome parts of the strategy. With the expiration of the PEN program, a comprehensive ex-post evaluation would help assess the effectiveness of COVID-related fiscal expenditures, while publishing a consolidated public sector balance sheet that includes SOEs would further improve fiscal transparency and governance.

53. Monetary policy has been tightened, with the current neutral stance appropriate in the near term to bring inflation back towards BI's target range. However, BI should continue to closely monitor underlying price pressures and act decisively if inflation surprises on the upside. As the economy normalizes, further actions could be taken to enhance monetary policy effectiveness, including reinstating surveys on inflation expectations to provide more clarity about price dynamics and inform policy making. Future primary market purchases of government bonds should be confined to periods of significant financial stress and as a last resort solution to preserve BI's independence and operational autonomy.

54. The financial system appears to be resilient, emerging from the pandemic with strong buffers, improving asset quality, and healthy credit growth. Systemic risk is assessed to be moderate and broadly unchanged relative to last year. Given limited financial stability risks, keeping the macroprudential policy stance broadly unchanged this year is appropriate, with the aim of moving toward a more neutral stance in 2024 as the credit gap narrows. The relaxation of loan classification rules should not be extended when they expire in March 2024. Supervision should also

remain vigilant to emerging vulnerabilities as higher interest rates have increased debt-at-risk in the corporate sector and potential unrealized losses in banks' government debt portfolio.

55. The exchange rate has been effective as a shock absorber, moving in line with fundamental changes in the terms of trade and interest rate differentials. Adjusting for COVID disruptions, the preliminary assessment of the 2022 external position is broadly in line with the level implied by medium-term fundamentals and desirable policies (Annex III).

56. Indonesia has ample policy space and financial buffers to respond to adverse shocks, with the use of FXI appropriate under certain shocks and circumstances. In the event downside risks materialize, policies need to remain nimble, using the available policy space effectively, while ensuring medium-term fiscal and external sustainability, and supported by enhanced communication. In cases where the trade-offs between inflation and output are amplified, the use of FXI can help reduce inflation and mitigate financial stability risks by allowing monetary policy to tighten by less. The scope for using FXI will depend critically on its effectiveness in stabilizing the exchange rate.

57. Broad-based structural reforms that promote an enabling business environment and investment climate and overcoming sector specific market failures are needed for a durable economic transformation. Reform priorities include reducing labor market restrictions, improving the investment climate, human capital development, infrastructure investment, and financial deepening. In this regard, steadfast implementation of the recent legislations to reform the labor market and the financial sector will be critical.

58. A regular cost-benefit analysis should inform assessments of whether Indonesia's downstreaming policies are working. The government should ensure industrial policies promote innovation and competition, generate positive spillovers within and across sectors to help boost jobs and exports, while minimizing cross-border spillovers, and consider phasing out export restrictions and not extending the restrictions to other commodities.

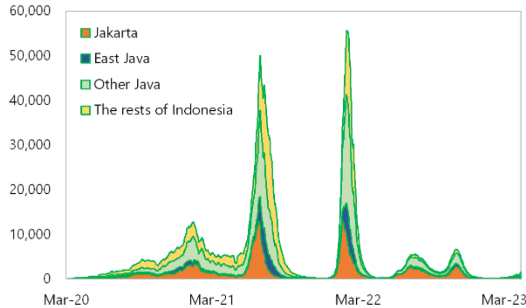
59. The government is taking steps toward climate change mitigation, but broader reforms would be needed to reach net zero. The authorities' carbon mitigation strategy is appropriately focused on forestry and land-use regulation, which has a lower estimated abatement cost through 2030 than an alternative strategy in which mitigation is achieved exclusively through a carbon price in the energy sector (Box II). To achieve net zero carbon emissions by 2060 would require the gradual reduction of energy subsidies and carbon pricing to shift incentives in the wider economy away from fossil fuels and towards renewable energy. Mobilizing private and international financing, including through JETP, will be also vital to achieve Indonesia's long-term mitigation and adaptation plans.

60. It is recommended that the next Article IV consultation take place on a standard 12-month cycle.

Figure 1. COVID-19 Developments

Daily new cases have remained low.

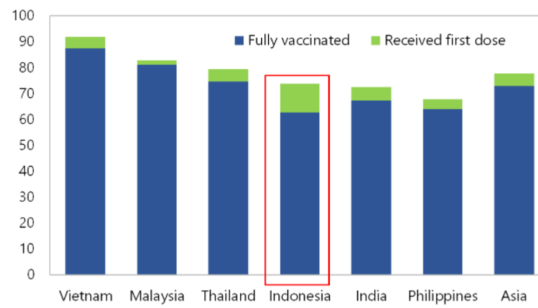
Daily New Cases
(7-day moving average)



Sources: Indonesian Ministry of Health; and IMF staff estimates.

Vaccination rates across ASEAN are high.

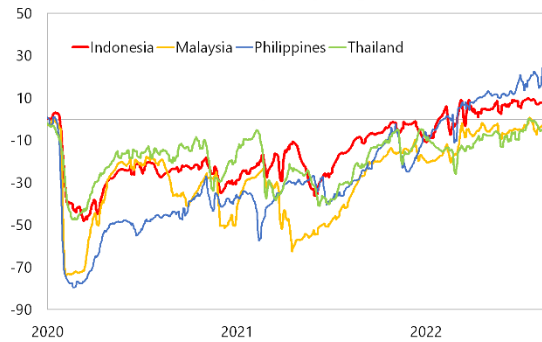
Vaccinated People for COVID-19 1/
(In percent of population)



Sources: Our World in Data via CEIC; PHL authorities data; and IMF staff estimates.
1/ As of May 1, 2023 or latest available data.

Mobility stayed above pre-crisis levels through most of 2022.

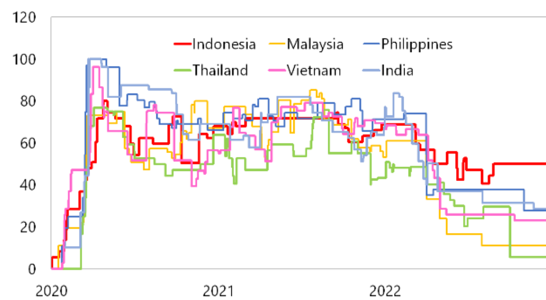
ASEAN: Mobility Trends
(In percent deviation from baseline, 7-day moving average of retail, transit, and work)



Sources: Google, COVID-19 Community Mobility Reports; and IMF staff estimates.

Most restrictions have now been lifted.

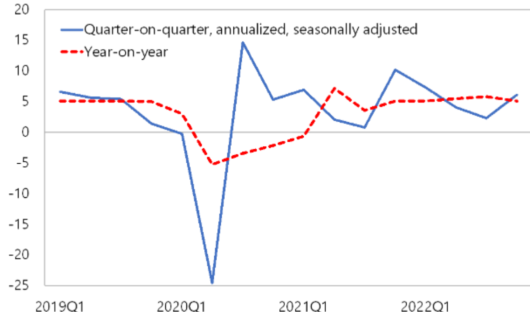
Index of COVID-19 Containtment Policy Stringency 1/
(Between 1-100)



Source: University of Oxford, The Oxford COVID-19 Government Response Tracker.
1/ The index records the strictness of lockdown style policies; not scoring the appropriateness or effectiveness of a country's response. A higher number does not necessarily mean better.

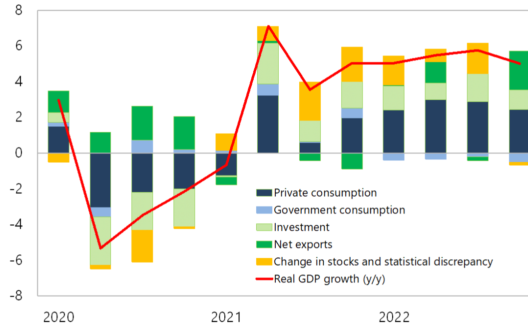
Figure 2. Recent Economic Developments

Real GDP growth has been strong in 2022…



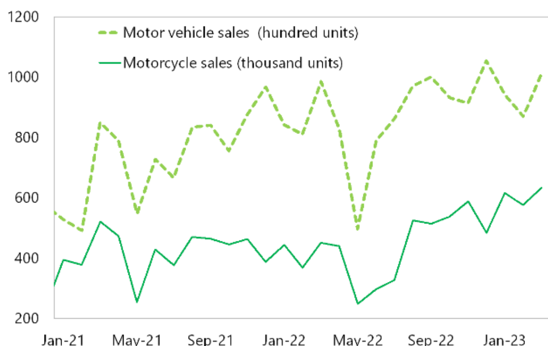
Sources: Badan Pusat Statistik via Haver Analytics; and IMF staff estimates.

…with both domestic demand and net export supporting the recovery.



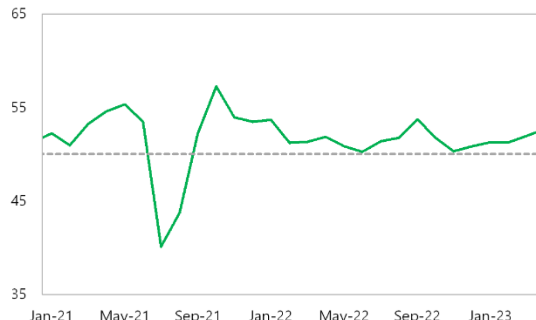
Sources: Haver Analytics.; and IMF staff estimates.

Private consumption has been strong as the economy recovered following the pandemic…



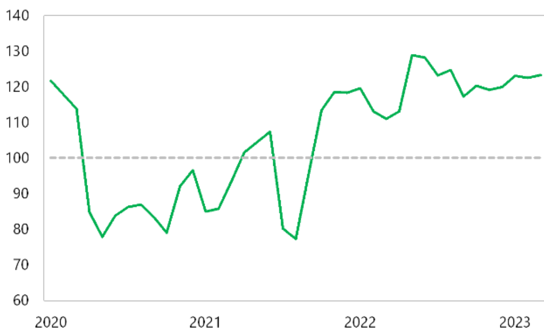
Sources: Haver Analytics; and IMF staff estimates.

… while manufacturing sentiment has remained expansionary.



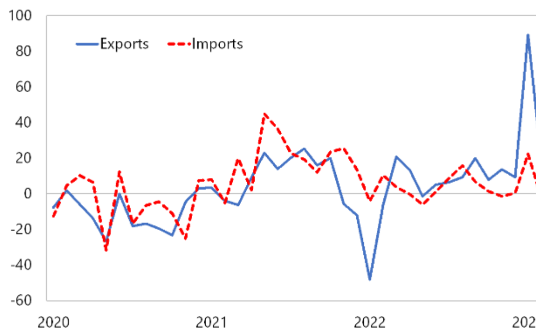
Source: Haver Analytics.

Consumer sentiment has been very strong throughout 2022…



Source: Bank Indonesia via Haver Analytics.

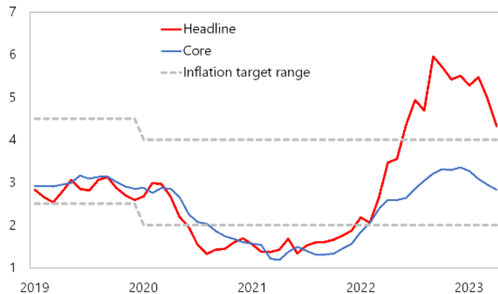
… while the volume of merchandise export has bounced back strongly.



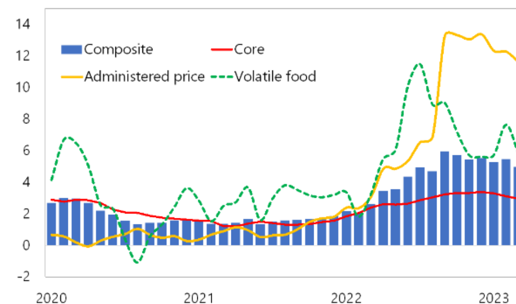
Sources: BPS via CEIC Data Co. Ltd.; and IMF staff estimates.

Figure 3. Inflation Dynamics

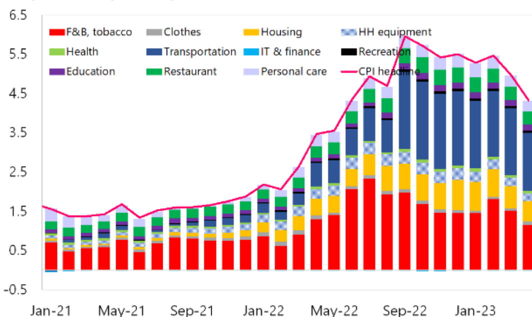
Inflation picked up sharply in 2022 and remains above BI's target band…



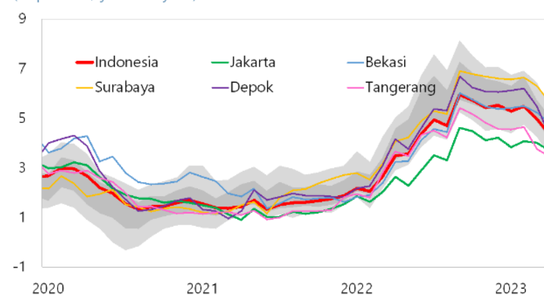
…reflecting large spikes to food and administered goods, and a more gradual increase in core inflation.



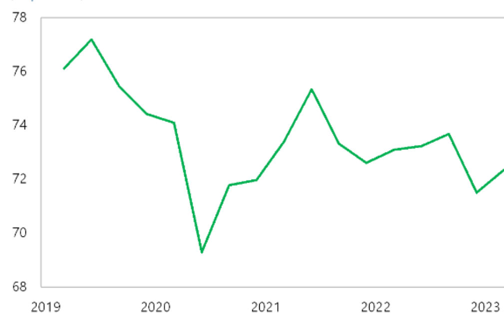
Inflationary pressures in 2022 were primarily driven by food and transportation categories…



…and were felt in all regions.



Capacity utilization has increased but is still well below the pre-pandemic levels.



PPI inflation also saw a broad-based rebound in 2022.

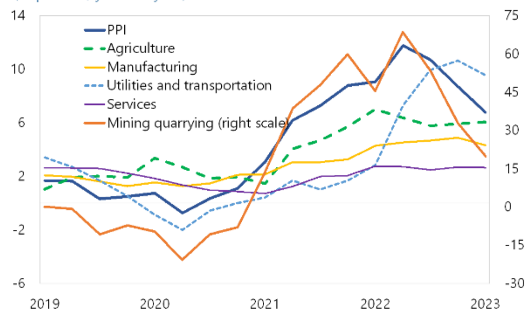
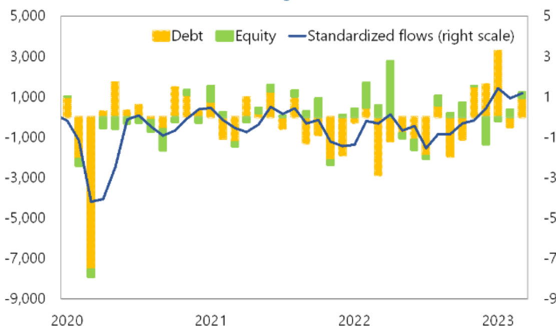


Figure 4. Capital Flows and Market Developments

Portfolio investment recorded large outflows of debt securities during 2022, partly offset by equity inflows.

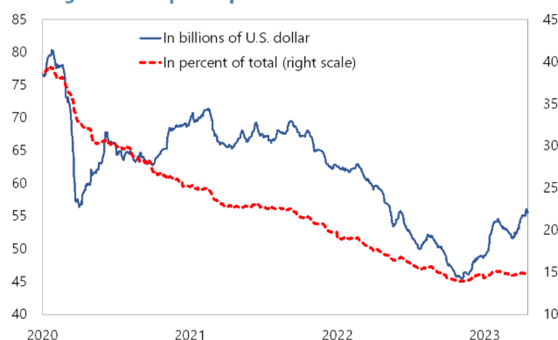
Portfolio Equity and Debt Flows
(Left scale, in millions of U.S. dollar; right scale, in standardized values)



Sources: IIF via Haver Analytics; and IMF staff estimates.

Rupiah government bonds held by foreign investors declined further in 2022, in US$ and as a percent of the debt stock.

Foreign Ownership of Rupiah Government Bonds



Sources: Bloomberg L.P.; CEIC Data Co., Ltd.; and IMF staff estimates.

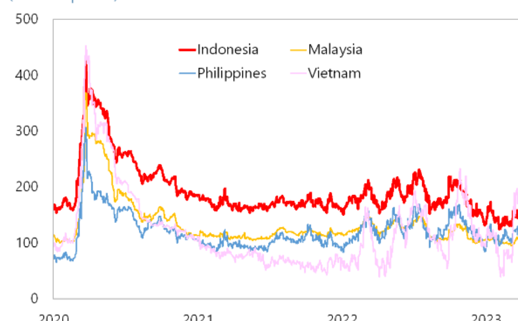
Markets interest rates increased during 2022…

Domestic Government Bond Yields
(In percent per annum)

Source: Bloomberg L.P.

…with large volatility in sovereign premium reflecting global uncertainty…

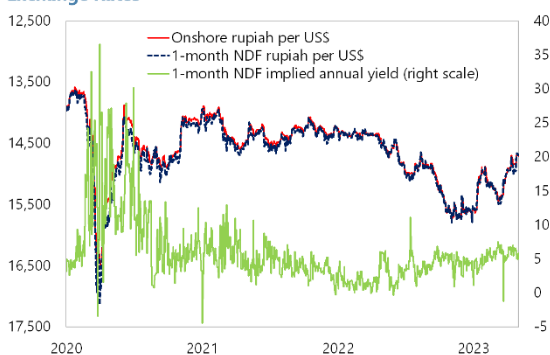
Selected Asian Economies: EMBIG Spreads
(In basis points)



Source: Bloomberg L.P.

…which led to exchange rate depreciation.

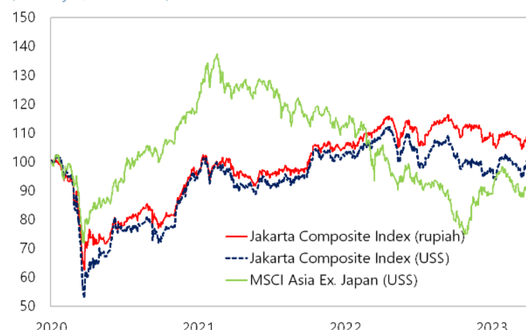
Exchange Rates



Source: Bloomberg L.P.

Stock price increases have slowed in 2022 while volatility has increased.

Equity Market Indices
(January 2, 2020=100)

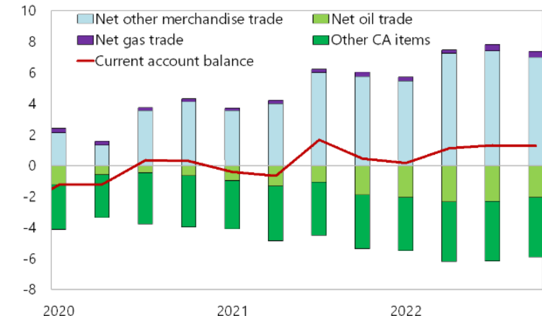


Sources: Bloomberg L.P.; and IMF staff estimates.

Figure 5. External Sector

The current account surplus increased further in 2022, driven mainly by the non-oil and gas balance.

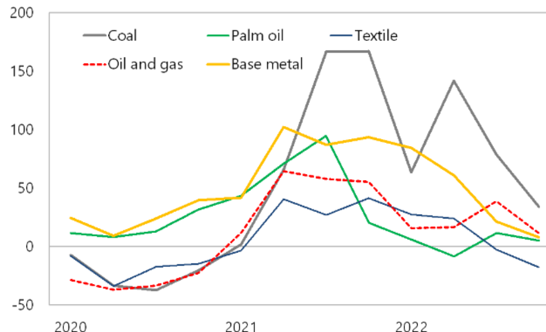
Current Account Balance
(In percent of GDP)



Sources: Bank Indonesia via CEIC Data Co. Ltd.; and IMF staff estimates.

Broad-based strong export growth in 2022, with coal leading.

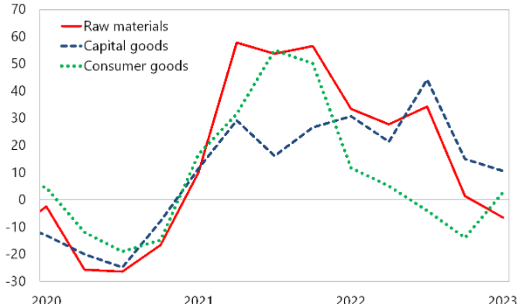
Main Commodities Export Growth
(US$ values, year-on-year percent change)



Sources: Haver Analytics; and IMF staff estimates.

Import growth remained robust, particularly capital goods and raw materials.

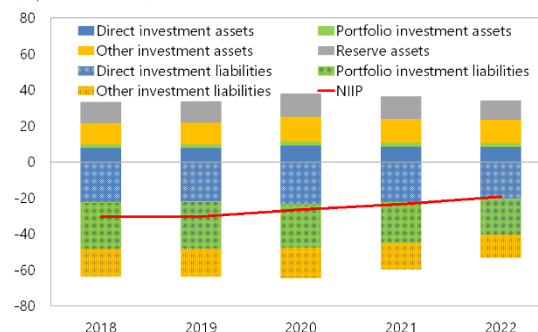
Imports of Goods
(US$ values, year-on-year percent change)



Source: CEIC Data Co. Ltd.

The NIIP has improved since end-2019, mainly due to a decline in portfolio liabilities.

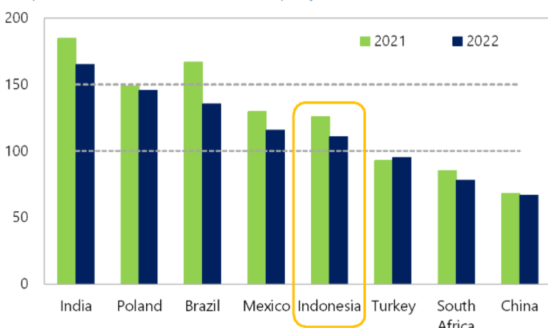
Net International Investment Position
(In percent of GDP)



Sources: CEIC Data Co. Ltd.; and IMF staff estimates.

Indonesia's foreign reserves declined in 2022 (US$137 billion) but remain at an adequate level.

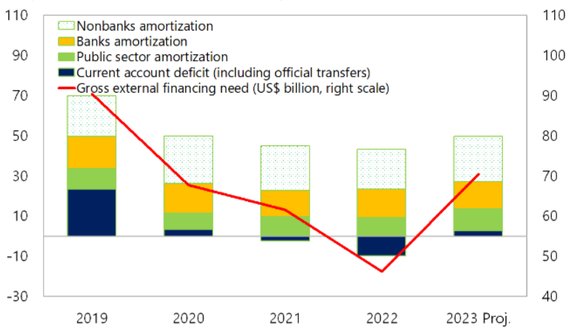
Gross International Reserves
(In percent of the IMF's Reserve Adequacy Metric)



Sources: IMF, *International Financial Statistics*; and IMF staff estimates.

External financing needs are projected to increase in 2023 mainly due to a decline in the current account balance.

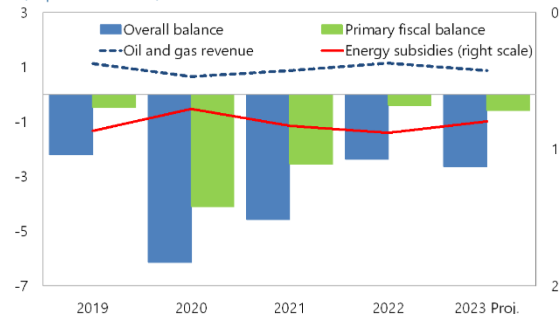
Gross External Financing Needs
(In percent of stock of reserves at end of year, unless otherwise indicated)



Source: IMF staff estimates.

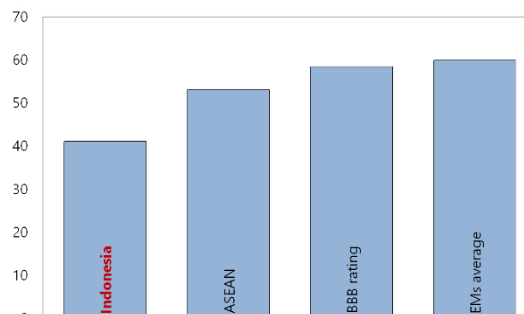
Figure 6. Fiscal Sector

The primary deficit has narrowed in 2022, reflecting stronger than expected revenue performance.



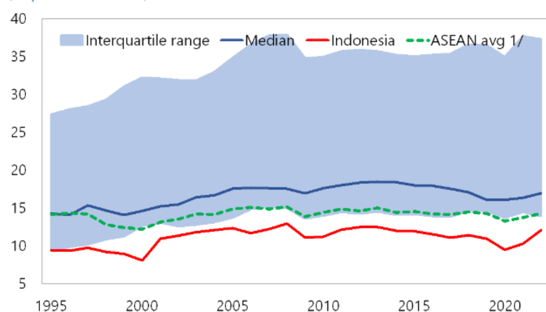
Sources: Indonesian authorities; and IMF staff estimates and projections.

Public debt-to-GDP ratio is lower than peers.



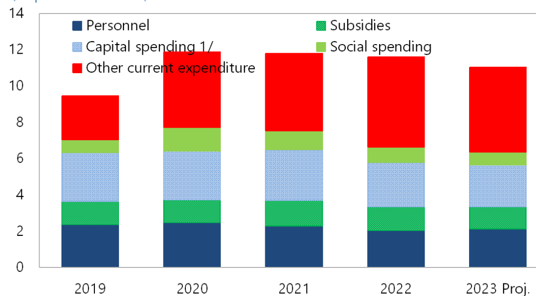
Source: IMF, *World Economic Outlook*.

Indonesia's tax-to-GDP ratio lags behind EM peers.



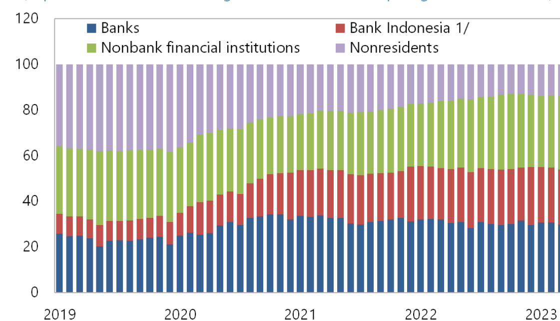
Sources: IMF, *World Economic Outlook*; and IMF staff estimates.
1/ Indonesia, Philippines, Thailand, and Vietnam.

Capital spending is expected to remain high in 2023.



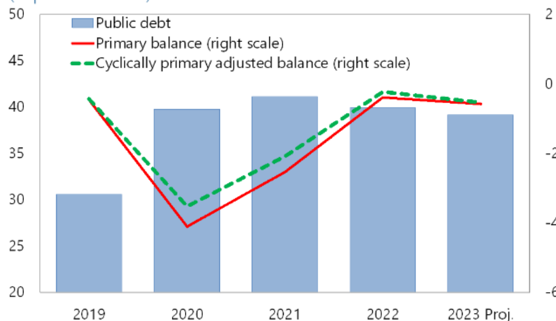
Sources: Indonesian authorities; and IMF staff estimates and projections.
1/ Includes transfers to local governments for infrastructure.

Commercial banks and BI increased their shares of rupiah government bond holdings compared to pre-pandemic.



Sources: Indonesian authorities via Haver Analytics; and IMF staff estimates.
1/ Including government bonds held by Bank Indonesia for monetary operations.

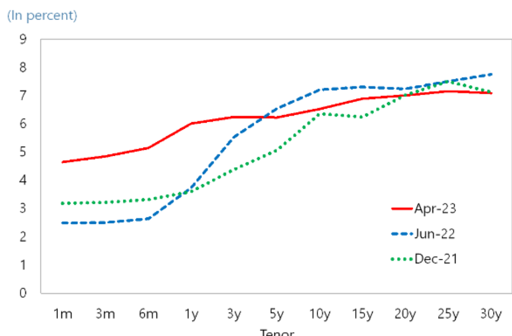
General government debt is expected to remain moderately higher in the medium term compared to recent history.



Sources: Indonesian authorities; and IMF staff estimates and projections.

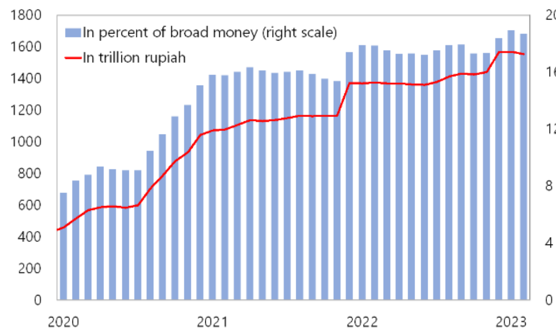
Figure 7. Monetary Sector

BI has tightened its monetary policy since August 2022, which led a flatter yield curve, …



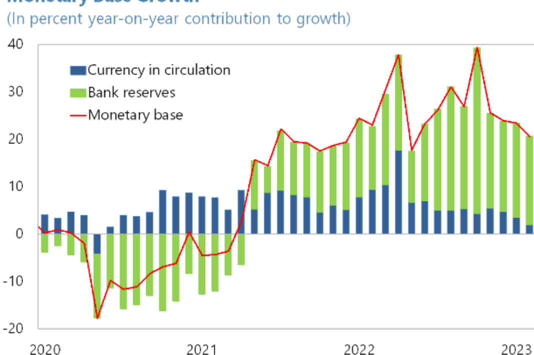
Source: Haver Analytics.

…and ended its primary market government bond purchases in 2022.



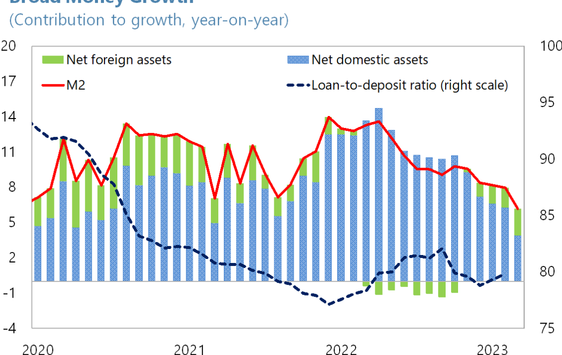
Sources: IMF, International Financial Statistics; Haver Analytics; and IMF staff estimates.

Monetary base has continued to expand strongly, led by bank reserves…



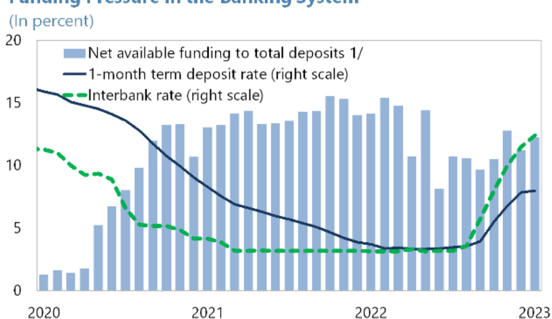
Sources: IMF, International Financial Statistics; and IMF staff estimates.

… while broad money growth has moderated recently, reflecting relatively slower increases in term deposits.



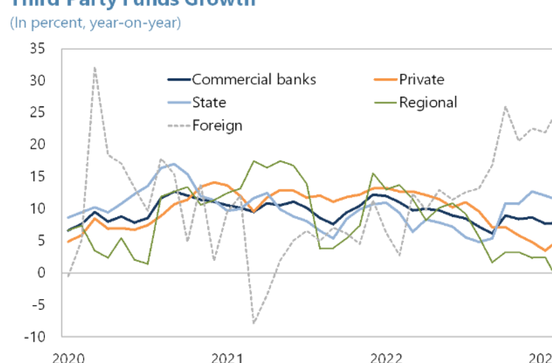
Sources: CEIC Data Co. Ltd; and IMF staff estimates.

The banking system as a whole has ample liquidity…



Sources: Bank Indonesia; and IMF staff estimates.
1/ Net available funding is defined as third-party funding less third-party credit and statutory reserves.

…with strong deposit growth maintained across the banking system.



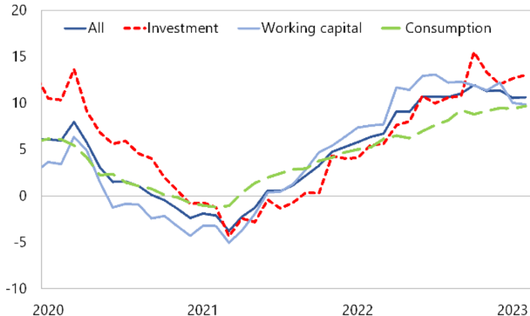
Sources: Otoritas Jasa Keuangan via CEIC Data Co. Ltd.; and IMF staff estimates.

Figure 8. Macrofinancial Developments

Credit growth continued its recovery towards pre-pandemic levels, …

Loan Growth by Type

(In percent, year-on-year)

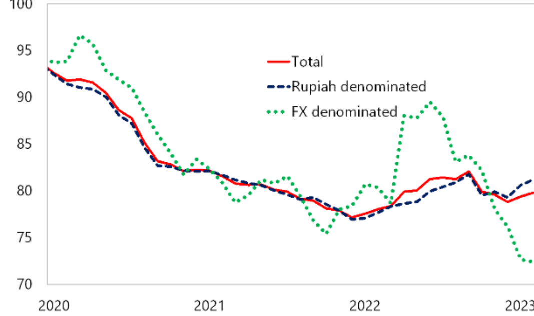


Sources: Indonesia Financial Service Authority; and IMF staff estimates.

… yet commercial banks' loan-to-deposit ratio is slow to come back.

Commercial Bank Loan to Deposit Ratios

(Credit to third parties/deposits from third parties, in percent)

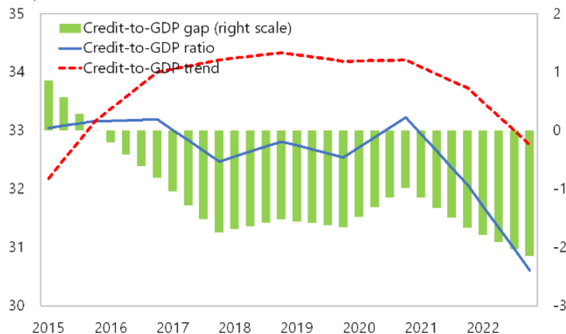


Sources: CEIC Data Co., Ltd.; and IMF staff estimates.

The credit gap remains negative.

Commercial Bank Credit-to-GDP Ratio and Gap

(In percent of GDP)

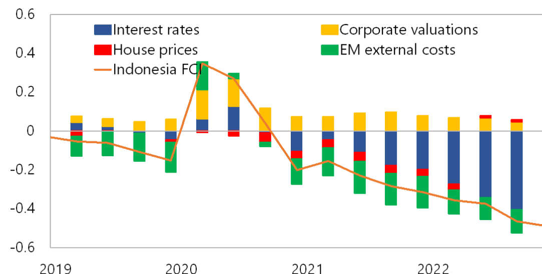


Sources: CEIC Co. Ltd.; and IMF staff estimates.

Overall financial condition continued to ease, despite the increase in interest rates.

Financial Conditions Index (FCI) 1/

(Standard deviations from mean, 1996-2022:Q4)



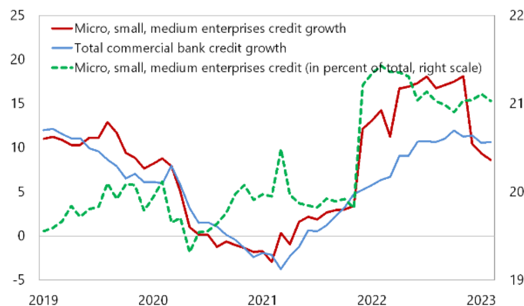
Source: IMF staff calculations.

1/ The weights of the sub-components are derived from PCA. Negative values represent financial conditions that are loose relative to the historical average of 1996 or earliest data available through 2022; the interest rates category includes the real short-term rate, the sovereign spread on local currency debt, and the interbank spread; the corporate valuations category includes the equity market price-to-book ratio; and the external costs category includes the sovereign spread and the corporate spread on external debt, and the external debt-weighted exchange rate.

Credit to MSMEs grew strongly during 2022.

Credit to Micro, Small, and Medium Enterprises

(In percent, year-on-year growth)

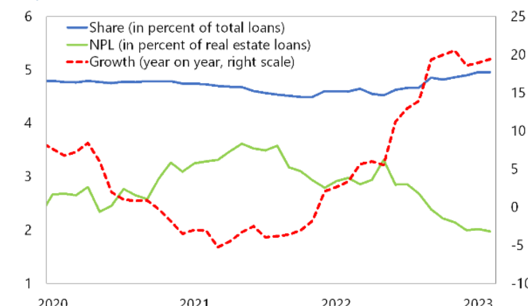


Sources: CEIC Data Co. Ltd.; and IMF staff estimates.

Real estate loan growth picked up, and non-performing loans ratio declined.

Real Estate Loans

(In percent)

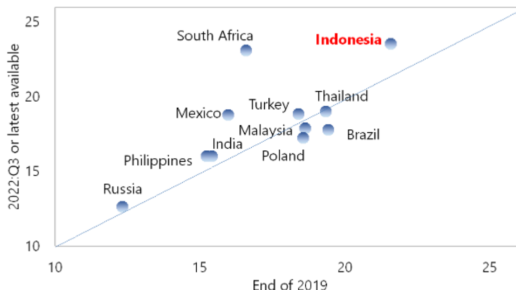


Sources: CEIC Data Co. Ltd.; and IMF staff estimates.

Figure 9. Selected Emerging Market Economies: Financial Soundness Indicators

Indonesia's banking system capital remains adequate and above peers.

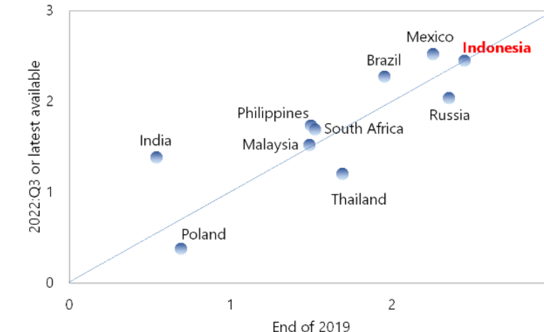
Regulatory Capital to Risk Weighted Assets 1/
(In percent)



Source: IMF, Financial Soundness Indicators.
1/ Includes capital impact of the transition to IFRS9 in January 2020.

Profitability remains at a high level in comparison to peers reflecting large interest margins.

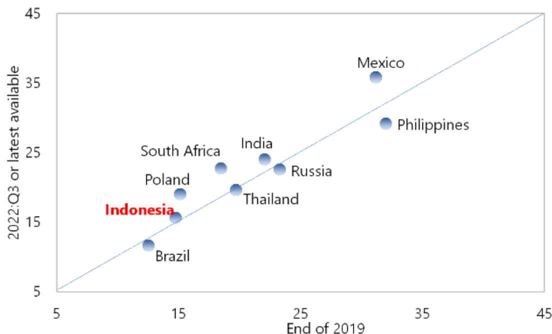
Return on Assets
(In percent)



Source: IMF, Financial Soundness Indicators.

System-wide bank liquidity is ample and slightly up compared to pre-pandemic levels.

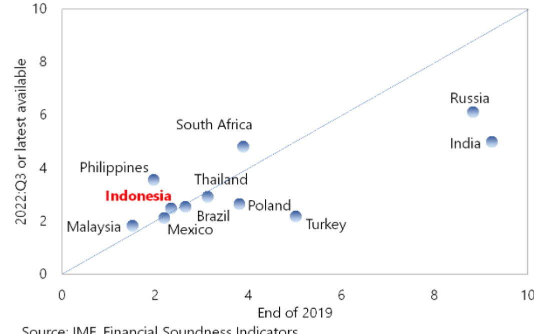
Liquid Assets to Total Assets
(In percent)



Source: IMF, Financial Soundness Indicators.

Nonperforming loans have only slightly increased since the pandemic, due to regulatory forbearance measures.

Nonperforming Loans to Total Loans
(In percent)



Source: IMF, Financial Soundness Indicators.

Table 1. Indonesia: Selected Economic Indicators, 2020–25

Nominal GDP (2022): Rp 19,588 trillion or US$1,319 billion
Population (2022): 274.9 million
Main exports (percent of total, 2022): coal (18.7), base metal (14.3), palm oil (9.5), oil and gas (5.9), electrical apparatus (5.0), textile and products (4.8)
GDP per capita (2022): US$4,792
Unemployment rate (August 2022): 5.9 percent
Poverty headcount ratio at national poverty line (March 2020): 9.78 percent of population

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
Real GDP (percent change)	-2.1	3.7	5.3	5.0	5.1	5.0
Domestic demand	-3.8	2.9	3.8	4.6	5.0	5.1
Of which:						
Private consumption 1/	-2.7	2.0	4.9	4.9	5.1	5.1
Government consumption	2.1	4.2	-4.5	1.0	3.5	3.5
Gross fixed investment	-5.0	3.8	3.9	5.0	5.4	5.4
Change in stocks	-0.7	0.1	0.1	0.0	0.0	0.0
Net exports 2/	1.5	-0.4	0.8	0.6	0.4	0.3
Statistical discrepancy 2/	0.1	1.4	0.9	0.0	0.0	0.0
Output gap (in percent)	-3.4	-2.8	-1.1	-0.2	0.0	0.0
Saving and investment (in percent of GDP)						
Gross investment 3/	32.3	31.4	29.7	29.7	29.8	29.9
Gross national saving	31.9	31.7	30.7	29.5	29.1	28.8
Prices (12-month percent change)						
Consumer prices (end period)	1.7	1.9	5.5	3.2	2.8	2.7
Consumer prices (period average)	2.0	1.6	4.2	4.4	3.0	2.7
Public finances (in percent of GDP)						
General government revenue	12.5	13.6	15.2	14.5	14.5	14.6
General government expenditure	18.6	18.2	17.5	17.1	17.0	17.0
Of which: Energy subsidies	0.7	0.8	0.9	0.8	0.5	0.4
General government balance	-6.1	-4.6	-2.4	-2.6	-2.5	-2.4
Primary balance	-4.1	-2.5	-0.4	-0.6	-0.5	-0.4
General government debt	39.7	41.1	40.1	39.3	39.0	38.7
Money and credit (12-month percent change; end of period)						
Rupiah M2	12.5	14.0	8.4	7.6	6.6	6.3
Base money	0.4	19.3	23.9	8.6	7.4	7.8
Claims on private sector	-0.4	6.1	10.1	10.0	9.8	9.6
One-month interbank rate (period average)	4.5	3.6	4.2	...	...	...
Balance of payments (in billions of U.S. dollars, unless otherwise indicated)						
Current account balance	-4.4	3.5	13.2	-3.8	-11.2	-17.1
In percent of GDP	-0.4	0.3	1.0	-0.3	-0.7	-1.0
Trade balance	28.3	43.8	62.7	42.1	37.8	36.0
Of which: Oil and gas (net)	-5.4	-13.0	-24.8	-25.1	-21.3	-20.5
Inward direct investment	18.6	21.1	22.0	26.3	29.3	31.5
Overall balance	2.6	13.5	4.0	5.3	9.9	6.2
Terms of trade, percent change (excluding oil)	1.4	12.5	21.5	-9.5	-1.9	-0.8
Gross reserves						
In billions of U.S. dollars (end period)	135.9	144.9	137.2	142.5	152.5	158.6
In months of prospective imports of goods and services	7.5	6.4	5.9	5.5	5.3	5.0
As a percent of short-term debt 4/	209	244	206	208	207	198
Total external debt 5/						
In billions of U.S. dollars	416.9	414.0	396.8	403.8	419.1	441.4
In percent of GDP	39.2	34.9	30.1	29.0	27.8	27.1
Exchange rate						
Rupiah per U.S. dollar (period average)	14,529	14,297	14,874	...	...	...
Rupiah per U.S. dollar (end of period)	14,050	14,253	15,568	...	...	...
Memorandum items:						
Jakarta Stock Exchange (12-month percentage change, composite index)	-5.1	10.1	4.1	...	...	...
Oil production (thousands of barrels per day)	806	803	800	797	794	791
Nominal GDP (in trillions of rupiah)	15,443	16,977	19,588	21,459	23,229	25,048

Sources: Data provided by the Indonesian authorities; Bloomberg L.P.; and IMF staff estimates and projections.

1/ Includes NPISH consumption.
2/ Contribution to GDP growth (percentage points).
3/ Includes changes in stocks.
4/ Short-term debt on a remaining maturity basis.
5/ Public and private external debt.

Table 2. Indonesia: Selected Vulnerability Indicators, 2018–22

	2018	2019	2020	2021	2022
Key economic and market indicators					
Real GDP growth (in percent)	5.2	5.0	-2.1	3.7	5.3
CPI inflation (in percent, e.o.p)	3.2	2.6	1.7	1.9	5.5
Short-term (ST) interest rate (in percent, e.o.p.) 1/	7.5	5.4	3.8	3.6	6.2
Ten-year government bond yield (in percent, e.o.p.)	8.0	7.1	5.9	6.4	6.9
Indonesia EMBI spread (basis points (bps), e.o.p.)	237	155	186	161	133
Exchange rate (rupiah per U.S. dollar, e.o.p.)	14,390	13,866	14,050	14,253	15,568
External sector					
Current account balance (in percent of GDP)	-2.9	-2.7	-0.4	0.3	1.0
Net FDI inflows (in percent of GDP)	1.2	1.8	1.3	1.5	1.1
Exports of goods and nonfactor services (GNFS) (percentage change, in US$ terms)	9.1	-5.6	-10.8	38.3	28.0
Real effective exchange rate (average; 2010=100)	71.1	73.4	71.6	71.2	73.8
Gross international reserves (in US$ billion)	120.7	129.2	135.9	144.9	137.2
In percent of ST debt at remaining maturity (RM)	200.5	204.0	208.8	243.8	205.9
Total gross external debt (in percent of exports of GNFS)	177.1	201.7	233.7	167.7	125.6
Gross external financing requirement (in US$ billion) 2/	90.8	93.6	69.5	55.9	53.4
Public sector (PS) 3/					
Overall balance (in percent of GDP)	-1.8	-2.2	-6.1	-4.6	-2.4
Primary balance (in percent of GDP)	-0.1	-0.5	-4.1	-2.5	-0.4
Gross PS financing requirement (in percent of GDP) 4/	4.1	4.0	8.8	6.5	4.6
Public sector gross debt (PSGD) (in percent of GDP)	30.4	30.6	36.6	41.4	42.8
Exposed to exchange rate risk (in percent of total PSGD) 5/	41.1	37.5	33.3	29.7	29.3
Exposed to interest rate risk (in percent of total PSGD) 6/	1.3	0.9	7.0	5.8	4.9
Financial sector (FS)					
Capital to risk-weighted assets, commercial banks (in percent) 7/	23.0	23.4	23.9	25.7	25.6
Nonperforming loans, commercial banks (in percent of total loans)	2.4	2.5	3.1	3.0	2.4
Foreign currency deposits at commercial banks (in percent of total deposits)	14.0	13.7	13.2	13.5	15.0
Foreign currency loans at commercial banks (in percent of total loans)	13.6	12.4	12.0	12.0	12.5
Government debt held by financial system (percent of total financial system assets)	7.8	8.1	14.6	16.5	15.3
Private sector credit of banking system (annual percentage change)	10.3	5.8	-0.4	6.1	10.1

Sources: Data provided by the Indonesian authorities; and IMF staff estimates and projections.

1/ One-month Jakarta Interbank offered rate.
2/ Defined as current account deficit, plus amortization on medium- and long-term debt and short-term debt at end of previous period.
3/ Public sector covers central government only.
4/ Overall balance plus debt amortization.
5/ Debt in foreign currency or linked to the exchange rate.
6/ Government securities at variable interest rates.
7/ Includes capital charge for operational risk.

Table 3. Indonesia: Balance of Payments, 2020–25

(In percent of GDP)

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
Current account	-0.4	0.3	1.0	-0.3	-0.7	-1.0
Goods, net (trade balance)	2.7	3.7	4.8	3.0	2.5	2.2
Exports, f.o.b.	15.4	19.6	22.2	19.4	19.5	19.6
Oil and gas	0.8	1.1	1.3	0.8	1.1	1.1
Non-oil and gas	14.1	18.4	20.8	18.5	18.3	18.4
Agriculture	0.6	0.6	0.6	0.4	0.4	0.4
Manufacturing	11.6	14.6	15.2	14.3	14.9	15.2
Palm oil	1.6	2.2	2.1	1.7	1.7	1.5
Rubber products	0.5	0.6	0.5	0.4	0.4	0.3
Other manufacturing	9.5	11.8	12.7	12.2	12.8	13.3
Mining	1.9	3.2	4.9	3.6	3.0	2.7
Other exports	0.5	0.1	0.1	0.1	0.1	0.1
Imports, f.o.b.	-12.7	-15.9	-17.4	-16.4	-17.0	-17.3
Oil and gas	-1.3	-2.2	-3.2	-2.6	-2.5	-2.4
Non-oil and gas	-11.4	-13.7	-14.3	-13.7	-14.5	-15.0
Consumption	-1.3	-1.6	-1.4	-1.6	-1.5	-1.5
Raw materials	-7.6	-9.5	-9.7	-9.5	-10.4	-10.8
Capital goods	-2.3	-2.4	-2.8	-2.3	-2.3	-2.4
Other	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3
Services, net	-0.9	-1.2	-1.5	-1.1	-1.1	-1.0
Services exports	1.4	1.2	1.8	2.4	2.7	2.9
Services imports	-2.3	-2.4	-3.3	-3.6	-3.8	-3.9
Primary income, net	-2.7	-2.7	-2.7	-2.6	-2.6	-2.6
Secondary income, net	0.6	0.5	0.5	0.5	0.4	0.4
Capital and financial account	0.7	1.1	-0.7	0.7	1.4	1.4
Capital account	0.0	0.0	0.0	0.0	0.0	0.0
Financial account	0.7	1.1	-0.7	0.7	1.4	1.4
Direct investment, net	1.3	1.5	1.1	1.3	1.3	1.3
Abroad, net	-0.4	-0.3	-0.5	-0.6	-0.7	-0.7
In Indonesia (FDI), net	1.7	1.8	1.7	1.9	1.9	1.9
Portfolio investment, net	0.3	0.4	-0.7	0.4	1.1	1.4
Equity, net	-0.5	0.2	0.1	0.1	0.1	0.1
Portfolio debt, net	0.8	0.3	-0.8	0.4	1.0	1.3
Other investment, net	-0.9	-0.9	-1.1	-1.1	-1.0	-1.2
Assets, net	-1.1	-0.8	-1.0	-1.0	-1.0	-1.1
Liabilities, net	0.2	-0.1	-0.1	-0.1	0.0	-0.1
Errors and omissions	-0.1	-0.2	0.0	0.0	0.0	0.0
Overall balance	0.2	1.1	0.3	0.4	0.7	0.4
Reserves and related items (- =increase)	-0.6	-0.8	0.6	-0.4	-0.7	-0.4
of which: valuation adjustment	-0.4	0.4	0.9	0.0	0.0	0.0
Memorandum items:						
Reserves assets (US$ billions)	136	145	137	143	152	159
Reserve assets (in percent of ARA)	122	129	118	119	120	117
Reserve assets (in percent of GDP)	12.8	12.2	10.4	10.2	10.1	9.7
Nominal GDP (in billions of U.S. dollars)	1,063	1,188	1,319	1,392	1,509	1,632

Sources: Data provided by Bank Indonesia; and Fund staff estimates.

Table 4. Indonesia: Medium-Term Macroeconomic Framework, 2021–28

	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.	2026 Proj.	2027 Proj.	2028 Proj.
Real GDP (percent change)	3.7	5.3	5.0	5.1	5.0	5.0	5.0	5.0
Domestic demand	2.9	3.8	4.6	5.0	5.1	5.1	5.1	5.1
Of which:								
Private consumption 1/	2.0	4.9	4.9	5.1	5.1	5.1	5.1	5.1
Government Consumption	4.2	-4.5	1.0	3.5	3.5	3.5	3.5	3.5
Gross fixed investment	3.8	3.9	5.0	5.4	5.4	5.4	5.4	5.4
Net exports 2/	-0.4	0.8	0.6	0.4	0.3	0.2	0.2	0.2
Statistical discrepancy 2/	1.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Output gap (in percent)	-2.8	-1.1	-0.2	0.0	0.0	0.0	0.0	0.0
Saving and investment (in percent of GDP)								
Gross investment 3/	31.4	29.7	29.7	29.8	29.9	30.0	30.1	30.2
Gross national saving	31.7	30.7	29.5	29.1	28.8	28.6	28.6	28.7
Prices (12-month percent change)								
Consumer prices (end period)	1.9	5.5	3.2	2.8	2.7	2.6	2.5	2.5
Consumer prices (period average)	1.6	4.2	4.4	3.0	2.7	2.6	2.5	2.5
Public finances (percent of GDP)								
General government revenue	13.6	15.2	14.5	14.5	14.6	14.8	14.9	15.0
General government expenditure	18.2	17.5	17.1	17.0	17.0	17.1	17.1	17.1
General government balance	-4.6	-2.4	-2.6	-2.5	-2.4	-2.3	-2.2	-2.1
General government primary balance	-2.5	-0.4	-0.6	-0.5	-0.4	-0.2	-0.1	0.0
General government debt	41.1	40.1	39.3	39.0	38.7	38.3	37.9	37.4
Balance of payments (billions of U.S. dollars)								
Current account balance	3.5	13.2	-3.8	-11.2	-17.1	-24.6	-27.7	-30.5
In percent of GDP	0.3	1.0	-0.3	-0.7	-1.0	-1.4	-1.5	-1.5
Trade balance	43.8	62.7	42.1	37.8	36.0	32.9	35.0	37.7
In percent of GDP	3.7	4.8	3.0	2.5	2.2	1.9	1.8	1.8
Oil and gas	-13.0	-24.8	-25.1	-21.3	-20.5	-22.7	-25.1	-27.3
Overall balance	13.5	4.0	5.3	9.9	6.2	0.7	0.1	-0.2
Gross reserves								
In billions of U.S. dollars (end period)	144.9	137.2	142.5	152.5	158.6	159.4	159.4	159.2
In months of prospective imports	6.4	5.9	5.5	5.3	5.0	4.6	5.0	5.1
As a percent of short-term debt 4/	243.8	205.9	207.6	207.4	198.1	183.2	168.9	155.3
Total external debt								
In billions of U.S. dollars	414.0	396.8	403.8	419.1	441.4	464.6	489.7	517.4
In percent of GDP	34.9	30.1	29.0	27.8	27.1	26.4	25.8	25.3
Credit								
Private sector credit growth (percent)	6.1	10.1	10.0	9.8	9.6	9.4	9.2	9.0
Credit-to-GDP gap (percent) 5/	-1.7	-2.1	-1.3	-0.4	0.0	0.0	0.0	0.0
Memorandum items:								
Oil production (thousands of barrels per day)	803	800	797	794	791	788	785	782
Indonesian oil price (period average, in U.S. dollars per barrel)	66.1	92.4	78.1	73.9	70.1	67.3	65.1	63.3
Nominal GDP (trillions of rupiah)	16,977	19,588	21,459	23,229	25,048	26,986	29,023	31,215
Nominal GDP (billions of U.S. dollars)	1,188	1,319	...	...	...	...	...	...

Sources: Data provided by the Indonesian authorities; and IMF staff estimates and projections.

1/ Includes NPISH consumption.
2/ Contribution to GDP growth.
3/ Includes changes in stock.
4/ Short-term debt on a remaining maturity basis.
5/ Follows the guidance of the Basel Committee on Banking Supervision.

Table 5. Indonesia: Summary of Central Government Operations, 2020–25

(In trillions of rupiah)

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
Revenues and grants	1,648	2,011	2,626	2,730	2,960	3,209
Of which: tax revenues	1,285	1,548	2,035	2,158	2,352	2,555
Oil and gas revenues	102	149	226	193	180	173
Tax revenues	33	53	78	61	52	46
Nontax revenues	69	97	149	131	128	127
Non-oil and gas revenues	1,527	1,857	2,396	2,537	2,777	3,033
Tax revenues	1,252	1,495	1,957	2,097	2,300	2,509
Income tax	561	627	920	956	1,065	1,160
VAT	450	552	688	798	860	940
Other	241	316	349	343	376	409
Nontax revenues	275	362	440	440	477	524
Grants	19	5	4	0	3	3
Expenditure and net lending	2,596	2,786	3,091	3,294	3,546	3,820
Current expenditure	1,433	1,583	1,869	1,999	2,089	2,202
Personnel	381	388	402	458	500	545
Material goods	422	530	423	482	542	594
Subsidies	196	242	253	268	218	206
Of which : energy subsidies	109	140	172	182	124	105
Fuel	48	84	116	109	73	63
Electricity	61	57	56	73	51	42
Interest	314	343	386	441	471	523
Other current expenditure	120	80	404	349	358	334
Development expenditure	393	413	400	388	440	494
Capital spending	191	240	239	239	279	321
Social assistance spending 1/	203	174	161	149	161	173
Transfers to local governments	763	786	816	908	1,012	1,119
Of which : transfers for infrastructure 2/	222	235	242	271	301	332
Overall balance	-948	-775	-464	-564	-586	-611
Financing	948	775	464	564	586	611
Net issuance of government securities	861	705	509	574	590	614
Program and project loans (net)	46	-10	-19	30	31	32
SOE recapitalization and land acquisition	-16	-65	-64	-63	-62	-61
Other	56	145	39	23	27	26

Sources: Data provided by the Indonesian authorities; and IMF staff estimates and projections.

1/ Some social assistance spending was reclassified to other expenditure in 2016.
2/ Special purpose transfers (DAK) for physical infrastructure and Village Fund transfers. Starting 2017, 25 percent of general transfer and revenue sharing is included.

Table 6. Indonesia: Summary of Central Government Operations, 2020–25

(In percent of GDP, unless otherwise indicated)

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
Revenues and grants	10.7	11.8	13.4	12.7	12.7	12.8
Of which: tax revenues	8.3	9.1	10.4	10.1	10.1	10.2
Oil and gas revenues	0.7	0.9	1.2	0.9	0.8	0.7
Tax revenues	0.2	0.3	0.4	0.3	0.2	0.2
Nontax revenues	0.4	0.6	0.8	0.6	0.6	0.5
Non-oil and gas revenues	9.9	10.9	12.2	11.8	12.0	12.1
Tax revenues	8.1	8.8	10.0	9.8	9.9	10.0
Income tax	3.6	3.7	4.7	4.5	4.6	4.6
VAT	2.9	3.3	3.5	3.7	3.7	3.8
Other	1.6	1.9	1.8	1.6	1.6	1.6
Nontax revenues	1.8	2.1	2.2	2.1	2.1	2.1
Grants	0.1	0.0	0.0	0.0	0.0	0.0
Expenditure and net lending	16.8	16.4	15.8	15.4	15.3	15.3
Current expenditure	9.3	9.3	9.5	9.3	9.0	8.8
Personnel	2.5	2.3	2.1	2.1	2.2	2.2
Material goods	2.7	3.1	2.2	2.2	2.3	2.4
Subsidies	1.3	1.4	1.3	1.3	0.9	0.8
Of which : energy subsidies	0.7	0.8	0.9	0.8	0.5	0.4
Fuel	0.3	0.5	0.6	0.5	0.3	0.2
Electricity	0.4	0.3	0.3	0.3	0.2	0.2
Interest	2.0	2.0	2.0	2.1	2.0	2.1
Other current expenditure	0.8	0.5	2.1	1.6	1.5	1.3
Development expenditure	2.5	2.4	2.0	1.8	1.9	2.0
Capital spending	1.2	1.4	1.2	1.1	1.2	1.3
Social assistance spending 1/	1.3	1.0	0.8	0.7	0.7	0.7
Transfers to local governments	4.9	4.6	4.2	4.2	4.4	4.5
Of which : transfers for infrastructure 2/	1.4	1.4	1.2	1.3	1.3	1.3
Overall balance	-6.1	-4.6	-2.4	-2.6	-2.5	-2.4
Memorandum items:						
Net issuance of government securities	5.6	4.2	2.6	2.7	2.5	2.5
SOE recapitalization and land acquisition	0.1	0.4	0.3	0.3	0.3	0.2
Primary balance (percent of GDP)	-4.1	-2.5	-0.4	-0.6	-0.5	-0.4
Cyclically-adjusted primary balance (percent of GDP)	-3.5	-2.1	-0.2	-0.5	-0.5	-0.4
Capital spending and transfers (percent of GDP) 3/	2.7	2.8	2.5	2.4	2.5	2.6
General government debt (percent of GDP)	39.7	41.1	40.1	39.3	39.0	38.7
Indonesian crude oil price (US$ per barrel)	40.5	66.1	92.4	78.1	73.9	70.1
Oil production (thousands of barrels per day)	806	803	800	797	794	791
Nominal GDP (in trillions of rupiah)	15,443	16,977	19,588	21,459	23,229	25,048

Sources: Data provided by the Indonesian authorities; and IMF staff estimates and projections.

1/ Some social assistance spending was reclassified to other expenditure in 2016.

2/ Special purpose transfers (DAK) for physical infrastructure and Village Fund transfers. Starting 2017, 25 percent of general transfer and revenue sharing is included.

3/ Sum of capital spending and transfers for infrastructure.

Table 7. Indonesia: Summary of General Government Operations, 2020–25

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
			(In trillions of rupiah)			
Total revenue and grants	1,924	2,315	2,977	3,114	3,376	3,658
Taxes	1,470	1,751	2,269	2,416	2,631	2,855
Taxes on income, profits, and capital gains	594	697	998	1,017	1,117	1,205
Taxes on goods and services	627	747	914	1,043	1,128	1,233
VAT and luxury taxes	450	552	688	798	860	940
Excise	176	196	227	245	268	292
Taxes on international trade and transactions	37	74	91	58	64	70
Taxes not elsewhere classified	213	234	266	297	322	347
Grants	19	5	4	0	3	3
Other revenue	435	559	704	699	742	799
Total expenditure	2,866	3,086	3,436	3,678	3,957	4,264
Expense	2,294	2,415	2,684	2,860	3,033	3,226
Of which :						
Compensation of employees	848	902	996	1,108	1,204	1,304
Purchases/use of goods and services	422	530	423	482	542	594
Interest	314	343	386	441	471	523
Energy subsidies	109	140	172	182	124	105
Social benefit	238	217	216	215	240	267
Net acquisition of nonfinancial assets	572	671	752	818	924	1,038
Net lending/borrowing	-941	-771	-459	-564	-581	-606
Net acquisition of financial assets	-34	-76	141	40	40	40
Of which : policy lending	4	2	0	0	0	0
Net incurrence of liabilities	908	695	600	604	621	646
			(In percent of GDP)			
Total revenue and grants	12.5	13.6	15.2	14.5	14.5	14.6
Taxes	9.5	10.3	11.6	11.3	11.3	11.4
Taxes on income, profits, and capital gains	3.8	4.1	5.1	4.7	4.8	4.8
Taxes on goods and services	4.1	4.4	4.7	4.9	4.9	4.9
VAT and luxury taxes	2.9	3.3	3.5	3.7	3.7	3.8
Excise	1.1	1.2	1.2	1.1	1.2	1.2
Taxes on international trade and transactions	0.2	0.4	0.5	0.3	0.3	0.3
Taxes not elsewhere classified	1.4	1.4	1.4	1.4	1.4	1.4
Grants	0.1	0.0	0.0	0.0	0.0	0.0
Other revenue	2.8	3.3	3.6	3.3	3.2	3.2
Total expenditure	18.6	18.2	17.5	17.1	17.0	17.0
Expense	14.9	14.2	13.7	13.3	13.1	12.9
Of which :						
Compensation of employees	5.5	5.3	5.1	5.2	5.2	5.2
Purchases/use of goods and services	2.7	3.1	2.2	2.2	2.3	2.4
Interest	2.0	2.0	2.0	2.1	2.0	2.1
Energy subsidies	0.7	0.8	0.9	0.8	0.5	0.4
Social benefit	1.5	1.3	1.1	1.0	1.0	1.1
Net acquisition of nonfinancial assets	3.7	4.0	3.8	3.8	4.0	4.1
Net lending/borrowing	-6.1	-4.5	-2.3	-2.6	-2.5	-2.4
Net acquisition of financial assets	-0.2	-0.4	0.7	0.2	0.2	0.2
Of which : policy lending	0.0	0.0	0.0	0.0	0.0	0.0
Net incurrence of liabilities	5.9	4.1	3.1	2.8	2.7	2.6
Memorandum items:						
General government debt (In percent of GDP)	39.7	41.1	40.1	39.3	39.0	38.7
Nominal GDP (In trillions of rupiah)	15,443	16,977	19,588	21,459	23,229	25,048

Sources: Data provided by the Indonesian authorities; and IMF staff estimates and projections.

Table 8. Indonesia: Monetary Survey, 2020–25

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.
			(In trillions of rupiah)			
Net foreign assets	1,711.2	1,809.8	1,898.2	1,954.7	2,096.4	2,185.4
Claims on nonresidents	2,197.6	2,366.2	2,555.0	2,611.5	2,753.2	2,842.2
Central bank	1,918.0	2,071.8	2,152.2	2,208.7	2,350.4	2,439.4
Other depository corporations	279.7	294.4	402.8	402.8	402.8	402.8
Liabilities to nonresidents	-486.4	-556.5	-656.8	-656.8	-656.8	-656.8
Central bank	-40.5	-128.8	-152.7	-152.7	-152.7	-152.7
Other depository corporations	-446.0	-427.6	-504.1	-504.1	-504.1	-504.1
Net domestic assets	5,194.8	6,060.7	6,629.8	7,225.0	7,688.9	8,213.0
Net claims on central government	1,676.6	2,308.3	2,369.4	2,136.4	1,902.8	1,772.8
of which: held by Bank Indonesia	728.4	1,092.0	1,133.4	1,015.2	981.7	948.3
Claims on state and local government	2.7	2.8	3.3	3.6	3.9	4.2
Claims on public nonfinancial corporations	464.2	406.5	443.4	485.7	525.8	567.0
Claims on NBFIs	344.1	406.1	478.6	524.3	567.5	611.9
Claims on private sector	5,129.1	5,444.2	5,996.0	6,595.6	7,242.0	7,937.2
Corporates	2,370.2	2,506.3	2,799.8	...	...	...
Households	2,758.9	2,937.9	3,196.2	...	...	...
Capital and Reserves (-)	1,853.4	2,023.6	2,122.0	2,306.2	2,463.6	2,645.3
Other items, net (-, including discrepancy)	568.6	483.5	538.8	214.4	89.4	34.8
Broad money	6,905.9	7,870.5	8,528.0	9,179.7	9,785.3	10,398.4
Currency in circulation	760.1	831.2	897.8	966.4	1,030.2	1,094.7
Transferable deposits	3,346.3	4,095.7	4,598.8	4,950.2	5,276.8	5,607.4
Other deposits	2,776.3	2,920.9	3,006.9	3,236.6	3,450.1	3,666.3
Securities	23.2	22.7	24.6	26.4	28.2	30.0
Other liabilities	428.6	313.1	410.7	214.4	89.4	34.8
			(Annual percentage change)			
Net foreign assets	13.6	5.8	4.9	3.0	7.2	4.2
Net domestic assets	12.2	16.7	9.4	9.0	6.4	6.8
Claims on private sector	-0.4	6.1	10.1	10.0	9.8	9.6
Corporates	-3.4	5.7	11.7	...	...	...
Households	2.3	6.5	8.8	...	...	...
Broad money	12.5	14.0	8.4	7.6	6.6	6.3
			(In percent of GDP, end of period)			
Net foreign assets	11.1	10.7	9.7	9.1	9.0	8.7
Net domestic assets	33.6	35.7	33.8	33.7	33.1	32.8
Claims on private sector	33.2	32.1	30.6	30.7	31.2	31.7
Corporates	15.3	14.8	14.3	...	...	...
Households	17.9	17.3	16.3	...	...	...
Broad money	44.7	46.4	43.5	42.8	42.1	41.5
Memorandum items:						
Base money (annual percentage change)	0.4	19.3	23.9	8.6	7.4	7.8
Velocity (nominal GDP/broad money)	2.2	2.2	2.3	2.3	2.4	2.4
Nominal GDP (in trillions of rupiah)	15,443	16,977	19,588	21,459	23,229	25,048

Sources: IMF, International Financial Statistics; and IMF staff estimates.

Table 9. Indonesia: Financial Soundness Indicators, 2018–22

(In percent, unless otherwise indicated)

	2018	2019	2020	2021	2022	
					Latest observation	
Depository institutions						
Capital adequacy						
Regulatory capital to risk-weighted assets	21.0	21.6	22.1	24.0	24.1	
Core Tier-1 capital to risk-weighted assets	19.2	20.1	20.5	22.4	22.6	
Capital to assets	12.8	13.4	12.6	13.2	13.3	
Large exposures to capital 1/	0.5	0.5	79.9	59.8	62.3	
Asset quality						
Nonperforming loans to total gross loans	2.2	2.3	2.6	2.6	2.1	
Nonperforming loans, net of provisions to capital	4.7	5.4	4.3	3.6	2.9	
Specific provisions to nonperforming loans	57.6	53.3	68.3	71.0	71.2	
Earning and profitability						
Return on assets	2.5	2.5	1.5	1.8	2.4	
Return on equity	13.3	12.3	7.1	9.0	12.4	
Interest margin to gross income	69.8	65.3	61.0	60.5	66.5	
Trading income to gross income	2.7	4.2	6.6	4.9	2.6	
Noninterest expenses to gross income	48.1	46.3	47.0	43.4	45.3	
Personnel expenses to noninterest expenses	41.9	41.7	40.5	42.9	40.9	
Liquidity and funding						
Liquid assets to total assets	14.6	14.8	17.5	20.0	18.3	
Liquid assets to short-term liabilities	21.5	21.9	25.6	29.6	26.6	
Non-interbank loans to customer deposits 2/	102.2	103.3	96.7	93.3	94.2	
Sensitivity to market risk						
Net open position in foreign exchange to capital	6.4	4.6	7.1	6.7	2.9	
Foreign currency denominated loans to total loans	13.6	12.4	12.0	12.0	12.5	
Foreign currency denominated liabilities to total liabilities	20.1	19.0	18.3	18.2	19.4	
Gross asset position in financial derivatives to capital	2.0	1.7	2.5	1.3	1.8	
Gross liability position in financial derivatives to capital	2.4	1.3	1.9	0.9	1.8	
Nonfinancial corporates						
Corporate debt (in percent of GDP) 3/	41.3	40.6	41.9	39.6	38.4	Q3
Leverage						
Total liabilities to total assets	48.3	48.5	49.0	46.4	45.3	Q3
Profitability 4/						
Return on assets	14.0	10.5	8.2	10.7	15.9	Q3
Liquidity 4/						
Current assets to current liabilities	217.0	195.1	194.5	204.5	236.5	Q3
Liquid assets to current liabilities	126.5	120.1	124.3	141.8	165.4	Q3
Debt servicing capacity						
Companies with negative equity (in percent of total assets)	1.3	0.7	4.1	3.4	2.8	Q3
Companies with negative equity (in percent of total firms)	6.8	6.4	7.7	8.3	7.5	Q3
Households						
Household debt (in percent of GDP)	17.0	17.0	17.8	17.2	16.3	Q3
Real estate markets						
Residential real estate prices (year-on-year percentage change, average)	2.7	1.2	1.1	1.2	2.0	
Residential real estate loans to total loans	11.4	11.7	11.4	11.5	13.0	
Commercial real estate loans to total loans	14.0	13.9	13.6	13.0	15.0	

Sources: Authorities data; Bloomberg L.P.; IMF, *Financial Soundness Indicators* ; Bank for International Settlements; Haver Analytics; CEIC Data Co. Ltd.; and IMF staff estimates.

1/ Data prior to 2020 were not adjusted to reflect the updated 2019 FSI Guide on large exposures due to data availability.
2/ Calculated as (total gross loans - NPLs + NPLs provisions) in percent of deposits.
3/ Includes domestic and foreign bonds issuance data from BIS.
4/ Based on capitalization-weighted average of listed companies.

Table 10. Indonesia: Key Poverty and Social Indicators

Population	274.9	millions	(2022)
Life expectancy at birth, total	68.8	years	(2020)
Mortality rate, under 5	22.9	per 1,000 live births	(2020)
Secondary school enrollment:			
Total	88.9	percent	(2018)
Female	90.0	percent	(2018)
Male	87.8	percent	(2018)
GINI index	38.4		(2022)
Income share held by highest 20%	45.0	percent	(2020)
Income share held by lowest 20%	7.1	percent	(2020)
Poverty rate	9.6	percent	(2022)
CO2 emissions	2.3	metric tons per capita	(2019)
Population with basic drinking water	92.4	percent	(2020)
Population with basic sanitation	86.5	percent	(2020)
Human development index	0.71		(2021)
Rank	114		
Gender inequality index	0.44		(2021)

Sources: World Bank; Badan Pusat Statistik; and United Nations Development Programme.

Table 11. Indonesia: Implementation of Past Fund Advice

Policies	2022 Article IV Consultation Recommendations	Actions Since 2022 Article IV Consultation
Fiscal Policy	Reinstating the pre-pandemic budget deficit ceiling of 3 percent of GDP in 2023 is appropriate.	The authorities announced in 2023 Budget their target to go back to the 3 percent deficit ceiling. The fiscal outturn for 2022 showed that the deficit ceiling was already met in 2022.
	An updated and specific medium-term fiscal strategy, including a strategy to raise government revenue to support the government's development agenda.	A VAT rate hike and tax amnesty program were implemented as part of the 2021 tax reform bill. There was also a one-off increase in administered fuel prices in September 2022.
	The efforts to ensure the effectiveness of COVID-19 related fiscal measures should continue.	The authorities have continued publishing weekly updates on PEN realization.
Monetary Policy	BI policies must remain nimble given fluid risks to inflation and the recovery and should seek to gradually reduce excess banking system liquidity.	The BI has responded to the increase in inflation through policy rate hikes and liquidity absorption.
	Exit from monetary budget financing by the end-2022 is appropriate and its extension is not advised.	The BI ended the monetary budget financing at end-2022, as planned.
	If faced with adverse monetary policy spillovers, BI should preserve monetary policy space by allowing the exchange rate to act as a shock absorber.	BI responded to the large portfolio outflows in 2022 through a combination of policy rate hikes and sales of short-term government bonds in the secondary market. Rupiah depreciated in line with other regional EM currencies.
Financial Sector Policies	Consideration should be given to unwinding regulatory incentives as credit growth recovers.	The authorities narrowed the scope of the regulatory incentive related to the relaxation of loan classification standards when they expired in March 2023. Nevertheless, the coverage remains broad.
	Continued strengthening of the regulatory and institutional framework will be important to address potential asset quality issues.	The authorities passed a comprehensive Financial Sector Omnibus Law (FSOL) in December that integrates 17 institutional and sectoral laws. While some gaps remain, FSOL is an important step in strengthening the financial supervisory and regulatory framework.
Structural Policies and Climate Change	The structural reform strategy should include measures to reduce pandemic scarring and foster reform complementarities.	The passage of omnibus laws on job creation and financial sector, and the Government Regulation in Lieu of Law (Perppu) on Job Creation constitute important first steps.
	The climate change mitigation strategy would benefit from more ambition and integration among its main elements.	Indonesia submitted an Enhanced NDC in September 2022 with revised emission reduction targets. Plans for introducing a carbon tax, envisaged in the 2021 tax bill, have been delayed.

Table 12. Indonesia: Key FSAP Recommendations[1]

	Key Recommendations	Authorities' Actions
	Institutional and Legal Arrangements	
1	Revise OJK Law to give primacy to objective of safeguarding stability, BI Law to include a financial stability and macroprudential policy mandate focused on systemic risk of the financial system, with access to data; and LPS Law to focus objectives on the maintenance of financial stability, continuity of critical functions, protection of insured deposits, and minimization of resolution costs.	The omnibus law (the Law No. 4 of 2023 on Development and Strengthening of the Financial Sector or commonly called "UU P2SK") issued on January 12, 2023 revised 17 laws related to the financial sector, including OJK Law, BI Law, and LPS Law.
2	Amend the Insurance Law to specify policyholder protection as principal objective of OJK.	Article 4 letter c of the OJK Law stipulates the purpose of OJK, that all activities in the financial services sector should be able to provide protection of the consumers and public interest. Article 1 number 15 of the OJK Law stipulates that the scope of consumers includes policy holders in insurance. Further regulations related to consumer protection (including insurance policy holders) are stipulated in POJK No.6/POJK.07/2022 concerning Costumer and Community Protection in the Financial Services Sector.
3	Strengthen legal protection of supervisors and officials of all agencies involved in financial oversight and crisis management in line with global standards.	In addition to being regulated under Article 45 of BI Law and Article 48 of PPKSK Law (Law Number 9 of 2016), the legal protection of supervisors and officials of all agencies (MoF, BI, OJK, LPS) has been further strengthened by Article 27 section 2 of Law Number 2 Year 2020 (Government Regulation in Lieu of Law No. 1 Year 2020 on State Financial Policy and Financial System Stability for Handling Covid-19 Pandemic and/or Encounter the Threat to National Economy and/or Stability of Financial Systems). The law provides legal protection to KSSK members, secretariat and members of Secretariat, as well as officials or employees of MOF, BI, OJK, LPS who carry out their functions in good faith and according to prevailing laws and regulations.
	Systemic Risk Monitoring and Prudential Policy	
4	Introduce a foreign currency liquidity coverage ratio.	Indonesia has complied with the Basel standards by supervising banks' foreign exchange liquidity position using an additional monitoring tool based on the significance of such foreign exchange to the bank's financial position. OJK has been imposing LCR based on significant currencies as a monitoring tool as stipulated in regulation No.42/POJK.03/2015 concerning Liquidity Coverage Ratio Requirement for Commercial Banks. Article 51 and its elucidation of such regulation requires banks to monitor LCR based on significant currencies.
5	Strengthen BI's capacity for systemic risk analysis and macroprudential stress tests, and OJK's capacity for regulatory stress tests; OJK should do bottom-up stress tests for D-SIBs regularly.	BI and OJK have been implementing Joint Stress Test (JST) regularly once a year since 2017. The JST usually started in the third or fourth quarter and ended in the second or third quarter of the following year depending on the agreement between BI and OJK. BI is responsible for designing macroeconomic scenarios, namely baseline, adverse I (for severe), and adverse II (for moderate), based on potential medium-term global and domestic economic risks, and also performing Top-Down Stress Test (TDST) and Granular Stress Test (GST) by using those scenarios. Meanwhile, OJK is responsible for coordinating Bottom-Up Stress Test (BUST) for systemic banks (D-SIB) and other large banks. The results of TDST, GST and BUST will be compared and discussed in order to generate a final report that will be reported to the Board Meeting of BI and OJK.
	Financial Sector Oversight	
6	Reduce OJK's silo structure, including by revising the OJK Law to remove the responsibilities of individual Commissioners for the supervision of specific sectors.	A number of steps have been taken to reduce silo structures at the OJK, including implementing the RKPT forum for cross-sectoral supervision. Further, OJK has issued and implemented various integrated regulation as joint commitment from OJK to develop and strengthen integrated supervision of financial service sector.
7	Strengthen the banking supervisory approach and continue enhancing supervisory practices for financial conglomerates (FCs).	Discussions related to the supervision of FCs and routine cross-sectoral supervision were carried out at the strategic level through the RKPT. At the end of 2021, OJK issued a Board of Commissioner Regulation (PDK) No.1/PDK.03/2021 concerning Integrated Risk Based Supervision of Financial Conglomerates which was an improvement for the previous PDK, namely PDK No.2/PDK.03/2016 concerning Amendments to PDK No.1/PDK.03/2013 concerning Integrated Risk Based Supervision of Financial Conglomerates. Currently, OJK is preparing to refine the internal provisions (SEDK) which are operating regulations of PDK No.1/PDK.03/2021 concerning Integrated Supervision Based on Risks to the Financial Conglomerate. In addition, in 2022, OJK launched OSIDA (OJK Supervisory Technology Integrated Data Analytics) as part of Banking Supervision Development Roadmap 2020-25.
8	Further strengthen the enforcement of credit and risk management regulations.	OJK has issued a number of regulations to strengthen banks' credit and risk management practices, namely: a) OJK Regulation (POJK) No.40/POJK.03/2017 dated July 12, 2017 concerning Credit or Financing to Securities Companies and Credit or Financing with Shares as Collateral b) POJK No.16/POJK.03/2018 dated August 15, 2018 concerning Amendments to the POJK Number 44/POJK.03/2017 concerning Restrictions on the Provision of Credit or Financing by Commercial Banks for Land Procurement and/or Land Processing c) POJK No.20/POJK.03/2019 regarding Quality Assessment of Asset for Commercial Banks d) POJK No.38/POJK.03/2019 dated 19 December 2019 concerning Amendments to POJK Number 32/POJK.03/2018 concerning Maximum Limits for Loans and Provision of Large Funds for Commercial Banks (Large Exposures) e) POJK No.40/POJK.03/2019 dated 19 December 2019 concerning Asset Quality Assessment of Commercial Banks f) POJK No.48/POJK.03/2020 dated December 1, 2020 concerning Amendments to POJK No.11/POJK.03/2020 of 2020 dated March 13, 2020 concerning National Economic Stimulus as a Countercyclical Policy Impact of the Spread of the 2019 Coronavirus Disease g) POJK No.13/POJK.03/2020 dated March 24, 2020 concerning Amendments to OJK Regulation Number 38/POJK.03/2016 concerning the Implementation of Risk Management in the Use of Information Technology by Commercial Banks h) POJK NO. 44/POJK.05/2020 date August 28,2020 concerning the Implementation of Risk Management for Non-Bank Financial Services Institutions OJK is in the process of issuing an updated regulation on Risk-Weighted Assets for Credit Risk and Market Risk which will be implemented by 2023 in line with the target agreed by the Basel Committee on Banking Supervision.

[1] The updates presented in this table on FSAP recommendations are based on the authorities' inputs and do not constitute staff's assessment of actions taken by the authorities.

Table 12. Indonesia: Key FSAP Recommendations (Continued)

	Key Recommendations	Authorities' Actions
		Financial Sector Oversight
9	Revise the insurance supervisory framework (three strikes-approach) to allow prompt actions.	FSAP recommendation has been implemented through issuance of OJK Regulation Number 17/POJK.05/2017 concerning the imposition of administrative sanctions in the form of revocation of business license without prior imposition of other administrative sanctions in cases where there is a drastic deterioration of financial conditions, shareholders are not cooperative and no way of solving the problems that endanger the interests of policyholders, the insured, or the participants. Furthermore, OJK Regulation Number 28/POJK.05/2020 concerning NBFI Health Level Assessment stipulates that in addition to the imposition of warning sanctions, OJK can also impose a reduction in the results of the company's health level assessment and reassess the main parties. In addition, there is a POJK regarding the status determination and follow-up supervision (POJK exit policy) which regulates follow-up supervision based on the company's supervisory status. In practice, OJK could submit letters of guidance or suggestions for improvement as a follow-up to the results of supervision.
		Governance of Financial Conglomerates (FCs)
10	Strengthen corporate governance practices within the financial system, including the boards of commissioners' (BoC) oversight roles and responsibilities.	OJK has stipulated regulations No.55/POJK.03/2016 on Good Corporate Governance for Commercial Banks and No. 18/POJK.03/2016 on the Implementation of Risk Management for Commercial Banks. The regulations require BoC to conduct active oversight over the bank's activities and to provide advice to the board of directors to improve corporate governance and risk management practice. OJK has stipulated regulations on the corporate governance of FCs: - In the insurance sector, OJK has POJK 73/POJK.05/2016 that regulates good corporate governance for the insurance company by highlighting 5 main principles: transparency, accountability, responsibility, independency, and fairness. - In the capital market sector, OJK has issued several regulations on good corporate governance to Securities Company, namely: (1) OJK Regulation Number 57/POJK.04/2017 concerning Implementation of Good Corporate Governance for Securities company which conduct business activities as underwriter and broker-dealer; (2) OJK regulation number 10/POJK.04/2017 concerning Implementation of Good Corporate Governance for Investment Manager; (3) OJK circular letter number 55/SEOJK.04/2017 concerning a report of Implementation of Good Corporate Governance for Securities company which conduct business activities as underwriter and broker-dealer; (4) OJK circular letter number 19/SEOJK.04/2018 concerning a report of Implementation of Good Corporate Governance for Investment Manager.
11	Introduce legal provisions for licensed non-operating financial holding companies.	OJK established its Regulation Number 45/POJK.03/2020 concerning FCs that defines FC as financial group of company which has combining assets equal to or larger than IDR100,000,000,000,000 (one hundred trillion Rupiah) and consists of more than 1 (one) type of business activities. The regulation requires the FC to appoint or establish a financial company to be the holder of the financial conglomeration. The type of businesses that can be included in financial conglomerates are banks, insurance, multi-finance companies, and securities. In addition, the discussion of financial sector reform has also included the strengthening of OJK function in supervising financial holding companies, including the appointment of financial entity or establishment of new entity as the controller of the FC.
		Crisis Management and Resolution and Safety Nets
12	Revise the PPKSK Law to clarify the role of the KSSK as solely a coordination body; limit the involvement of the President to approving public funding.	The Law number 2 of 2020 provides legal foundation for KSSK to hold meetings in person or virtually by utilizing IT to formulate and define the necessary steps of handling the financial stability issues and to establish support scheme by the Government in handling financial institutions and stability issues that endanger national economy through the budget allocation in maintaining financial stability. The role of President in crisis management is necessary and should be conducted with good governance practices and is not intended to dilute the responsibility of the KSSK members in dealing with resolution issues.
13	Adjust the emergency liquidity assistance (ELA) framework to ensure it is effective.	The recent financial sector omnibus law (UU P2SK) enhances the regulation related to provision of LoLR by Bank Indonesia in order to increase its effectiveness in solving banks' liquidity problem. The key enhancements are: a. The requirements of short-term liquidity loan/financing which are amended from 4 aspects to 3 aspects (solvability, collateral, and adequate cash flow projection). b. Additional LoLR collateral type in a form of fixed asset (if bank doesn't have sufficient amount of high-quality securities and credit assets) c. Extension of LoLR provision period from the multiples of 14days to 30days (max period of LoLR provision is 90 days) to ensure that the bank have enough time to solve their liquidity problem In response to the enhancement of LoLR regulation mentioned above, Bank Indonesia will revisit the Bank Indonesia Regulation regarding provision of LoLR as well as the MoU with OJK regarding the same matter. The Law amended the PPKSK Law, particularly on Article 20 concerning the liquidity assistance provided by Bank Indonesia.
14	Amend the relevant laws to ensure that resolution powers can be exercised over FCs.	Resolution power over FCs is amongst the topics to be discussed and considered in the amendment of LPS Law under the discussion of financial sector reform. Article 206 of the Financial Sector Omnibus Law (FSOL / UU P2SK) stipulates that Perusahaan Induk Konglomerasi Keuangan - PIKK (Financial Holding Company) is regulated and supervised by OJK.
15	Develop resolution options and implementation guidelines for banks, and resolvability assessment and resolution planning frameworks for D-SIBs.	Indonesian authorities have regulated the recovery plan under the Law Number 9 of 2016 concerning Prevention and Mitigation of Financial System Crisis, which was complemented by issuance of OJK Regulation (POJK) No. 14/POJK.03/2017 concerning Recovery Plan for Systemic Banks require Domestic Systemically Important Bank to have recovery plan. On the resolution plan, the Indonesia Deposit Insurance Corporation (IDIC) promulgated IDIC Regulation Number 1/2021 on Resolution Plan in March 2021. Under the regulation, DSIBs and selected non-DSIBs must prepare resolution plan starting in 2022. The regulation also stipulates the resolvability assessment requirement.

Table 12. Indonesia: Key FSAP Recommendations (Continued)

	Key Recommendations	Authorities' Actions
	Financial Integrity	
16	Integrate key money laundering or terrorist financing (ML/TF) risks in the priorities and operations of relevant agencies.	OJK has implemented FATFs' recommendations regarding risk-based AML/CFT, which were adopted as the National Committee of Prevention and Eradication of the Criminal Act of Money Laundering (NCC)s' commitment as stipulated in the National Strategy. This includes risk-based regulation and supervision, and cooperation with related institutions/ministries in the context of information exchange on money laundering offenses. Financial institutions and supervisors have been equipped with National Risk Assessment (NRA) and Sectoral Risk Assessment (SRA) guidelines for the financial services sector as compiled by OJK. Responding to the pandemic, OJK strengthens the regulation that covers the utilization of technological means in implementing AML/CFT programs, including electronic customer due diligence (e-CDD). In addition, OJK provides a letter as a guideline for financial institutions amidst the increased risk of ML/TF during the Covid-19 Pandemic. OJK continuously organizes capacity building and outreach for Officials and Employees responsible for implementing AML/CFT programs in the financial services sector in the forms of dissemination, mentoring workshops, and webinars. Self-assessment of the FATF recommendations has also been carried out by OJK in the preparation of MER (mutual evaluation review). On the payment system, BI's efforts are implemented through: (i) implementing and adopting the national and international standards or principles of AML/CFT; (ii) increasing public and operator awareness of the ML/FT risks; and (iii) increasing coordination/cooperation amongst national and international institutions. During the year 2022, BI made significant efforts to make payment system industry safe and sound against ML/TF/PF risks. All efforts could be achieved through coordination among national and international institutions. This year also marked by final step toward FATF membership which has been pursued since 2017. BI contributed during on-site interview by providing spokesperson from both internal and payment system industry representatives as well as providing input for draft MER report. BI completed all action plans for 2022 National AML/CFT Strategy, in collaboration with PPATK and other related competent authorities. Among the 71 action plans of the 2022 National AML/CFT Strategy that NCC members must fulfill, 20 action plans are under BI's purview. Some highlights include publishing and socialization of Sectoral Risk Assessment (SRA), KYC guidance and ML/TF typology assessment, conducting thematic supervision, completion assessment on ML/TF risk of new technologies, as well as capacity building to supervisors and payment system providers.
17	Finalize and implement risk-based AML/CFT supervisory tools.	In accordance with the FATF Recommendation, OJK has carried out AML/CFT risk-based supervision. Based on the results of the MER APG 2018, OJK is considered to have a good understanding of ML/TF risks through the establishment of effective regulations and the implementation of effective risk-based AML/CFT supervision. In the context of risk-based supervision, OJK has prepared and developed risk-based supervision tools as stipulated in the OJK's Commissioner Board Circular Letter on AML/CFT Supervision, developed risk-based supervision infrastructure (SupTech), conducted supervisory capacity building in the form of Mentoring Workshops and in-house trainings, conducted joint audit with Financial Intelligence Unit (FIU/PPATK), and collaborated with relevant ministries and institutions as well as other authorities through the establishment of MoUs and Risk-Based Mentoring Program (Promensisko). OJK has also implemented Risk-Based Assessment Tools (SIGAP System), which our supervisors have used to assess the implementation of AMF/CFT on an annual basis. The result of the assessment (i.e., high, medium, low) will then be used to determine the audit frequency. To strengthen the implementation of AML/CFT supervision for non-bank payment institutions, BI is currently developing a supervisory framework, which includes the use of supervisory technology tools. Those tools enable supervisors to detect suspicious transactions undertaken through financial service providers. BI continues to strengthen the supervision over money processing service provider (PJPUR) by developing the risk-based supervision framework and mechanism for PJPUR. In an effort to strengthen the AML/CFT supervision framework and standardize supervisory activities across BI's regional offices, several new Internal Supervision Guidelines (PADG Intern) have been ratified in 2021, namely the AML/CFT Supervision Guidelines and Licensing and Supervision of Non-Bank Money Changers and Remittance PSPs. In order to strengthen governance and risk management practices in the industry, BI continues its collaboration with PPATK, among others through joint audits over several Remittance Businesses and Non-Bank Money Changers under Bank Indonesia's supervision in 2021. BI also continues to support the National AML/CFT Strategy (Stranas) 2021 by conducting several thematic audits, aim to evaluate: (i) adequacy of AML/CFT and CDD Practices for PEPs, Foreign Trusts, Corporations, and Foundations Customers in Remittance Businesses, and (ii) adequacy of AML/CFT and CDD Practices for Travel Agent Customers in Non-Bank Money Changers. The auditees were selected by sampling of Remittance Businesses and Non-Bank Money Changers across different regional areas.
	Financial Deepening and Inclusion	
18	Develop an integrated roadmap for promoting financial deepening and inclusion.	Financial Market Development. The National Financial Market Development and Deepening Strategy (SN-PPPK) has been reviewed and revised in light of the pandemic and changing global and domestic economic and financial market environment. Revisions include the time phase, Key Performance Indicators, and Strategic Action Plans. The SN-PPPK period is extended from 2018-24 to 2018-25 with the extension of the Acceleration Phase from 2020-22 to 2020-23. In 2022, the Coordination Forum for Financing Development through Financial Market (FK-PPPK) decided to focus on 7 priority programs under SN-PPPK initiatives: (1) Development financing: exploring potential collaboration between Indonesian Ministry of National Development Planning and Millenium Challenge Corporation under Compact-2 program; (2) Financial Sector Reform: review on the establishment of Local Operating Unit (LOU) that will issue Legal Entity Identifier (LEI), finalising OJK regulation regarding Non-Centrally Cleared Derivatives (NCCDs) and Capital Requirement for banks' exposure to Central Counterparty; (3) Benchmark Reform, where Indonesia launched the publication of money market reference rate Compounded IndONIA and IndONIA Index, collaborated with National Working Group on Benchmark Reform (NWGBR); (4) Development of Repo Market: publication of revised market standard, establishing roadmap for the development of the repo market in the Alternative Trading System (ATS);

Table 12. Indonesia: Key FSAP Recommendations (Concluded)

	Key Recommendations	Authorities' Actions
Financial Deepening and Inclusion		
		(5) Development of Retail Investor Base in Indonesia: i.e., webinar series LIKE-IT (LIterasi KEuangan Indonesia Terdepan, a financial literacy education program for the public that is wrapped in an interactive and interesting way. LIKE IT series 1 hosted by Bank Indonesia carrying the theme of "Sustain Habit in Investing, Investing in Sustainable Instruments." (6) Harmonization of Tax Regulations in the Financial Market: harmonization of tax regulations, especially income tax in the financial sector through the establishment of PP 91/2021 concerning "Income Tax on Income in the Form of Bond Interest" to increase the level playing field of investors in the financial sector; (7) Development of Green & Sustainable Instruments: publishing Indonesian Green Taxonomy (THI) 1.0, issuance of consultative paper concerning "Principles of Effective Management of Climate-related Financial Risks, issuance of PBI No.24/3/2022 concerning "Macroprudential Inclusive Financing Ratio (RPIM)" which adjusts inclusive financing by banks through the purchase of sustainability bonds (SBPI) for development purposes or sustainable finance. In 2023 SN-PPPK and priority programs will be aligned with the establishment of UU No. 4/2023 or The Financial Sector Omnibus Law. While SN-PPPK is a single policy framework for national financial market development initiatives, at the end of 2020 Bank Indonesia has launched Blueprint for Indonesia's Money Market Development 2025 (BPPU 2025) as a complement to the SNPPPK. BPPU 2025 is a solution to respond the challenges toward a Developed Indonesia. In this regards, Bank Indonesia prepares the Blueprint for Money Market Development 2025 with the aim to build an ecosystem of a modern and advanced money market.
19	Enhance bond yield curve by consolidating debt issuance and improving secondary markets.	IDX has launched IGBF (Indonesia Government Bond Futures) products to improve the secondary market as derivative instruments. As of November 2020, IGBF offered two new series available for market players via the Indonesia Stock Exchange Platform. However, the participation of market players and the demand for the above instruments still need to be further improved. Regarding consolidating debt issuance to enhance the government bond yield curve, the government is actively undertaking prudent portfolio management such as issuing benchmark series in the primary market to maintain the bond yield curve. The government also conducts debt switching transactions to smooth out the maturity profile and reduce non-liquid series in the secondary market. A private placement is also available as an option to increase the volume of specific series to create a more active secondary market. In terms of debt switch in 2021, the government has conducted an auction to buy back bonds in the domestic market on June 17, 2021, which obtained bids amount submitted by bidders of IDR 11.5 trillion with the nominal won by the government amounting to IDR 4.98 trillion. The second auction was held on September 23, 2021. The nominal bids submitted by bidders was IDR 11.24 trillion, while the nominal amount won by the government was IDR 7.07 trillion. In the global market, the government announced the successful completion of its inaugural Tender Offer/Liability Management (LM) Exercise launched on eight series of Notes (the Old Bonds) on September 20, 2021. The LM Exercise was well-received by global investors, and the total amount of tender instructions received across all series of Notes reached USD 2.68 Bio. However, the government decided to repurchase a total nominal amount of USD 1.16 bio as part of our general cash management program and a broader plan to manage our external liabilities. To enhance trading activity, the government, in cooperation with Indonesia Stock Exchange, has been developing an electronic trading platform for government bonds to provide more transparency on price discovery under the over-the-counter market. Currently, the Government and IDX have introduced the system and continue to improve infrastructure with the cooperation of government bond primary dealers.

Table 13. Indonesia: Integrating Fund Surveillance and Capacity Development		
Area	**Surveillance Recommendations**	**Capacity Development Recent Actions/Plans**
Monetary policy and central bank communication	Clear and focused communication on monetary and financial policy is critical, especially during times of financial stress.	The Fund provided technical assistance covering communication on monetary policy and financial stability, as well as monetary and exchange rate modeling and the development of repo market and interest rate benchmark reform.
Statistics	Use of big data for timely economic monitoring could support prompt policy decision making.	The Fund provided technical assistance on the use of big data to develop an enhanced residential property price index, on developing the integrated sectoral accounts and balance sheets statistics, and on compiling Financial Soundness Indicators. The Fund also provided virtual-format assistance on expanding the coverage of the producer price index to include additional service activities.
Tax policy and administration	Implement a medium-term revenue strategy (MTRS) to raise revenue by at least 3 percent of GDP over five years to finance spending on infrastructure, education, and health.	The Fund provided technical assistance in August 2017 to set a strategy, which includes specific recommendations on tax policy and administration reforms.
Public financial management	Improve fiscal governance, including infrastructure governance and public investment management.	The Fund conducted Indonesia's PIMA in February 2019, which lists priority actions to improve public investment management, and a Public Sector Balance Sheet Analysis in October 2019. The Fund also provided technical assistance and workshops on budget analysis and costing methodologies.
Financial sector	Improve financial oversight, crisis management framework, and the monitoring of corporate vulnerabilities.	The Fund provided technical assistance on financial conglomerate supervision, risk-based supervision, financial crisis management, and on strengthening bank and corporate stress testing frameworks and systemic risk analysis. The Fund also provided a virtual workshop on fintech regulation and supervision, drawing on global practices to identify opportunities to strengthen domestic frameworks.
Financial sector supervision during COVID-19	Preparation and timely implementation of financial regulatory and supervisory response to the pandemic.	The Fund provided virtual workshops on financial supervision, IFRS9 implementation and supervisory treatment under COVID-19.

Annex I. Understanding Recent Determinants of Core Inflation

1. **While the recent rise of inflation has been driven primarily by fuel and food prices, BI has made clear that its calibration of monetary policy depends largely on the evolution of core inflation**. After remaining subdued in 2020-21, core inflation rose gradually to exceed BI's midpoint of the target range for headline inflation of 3+-1 percent in 2022. While non-core commodity prices have reverted in the last quarter of 2022, reducing the rate of headline inflation, core inflation continued to rise through December in year-over-year terms.

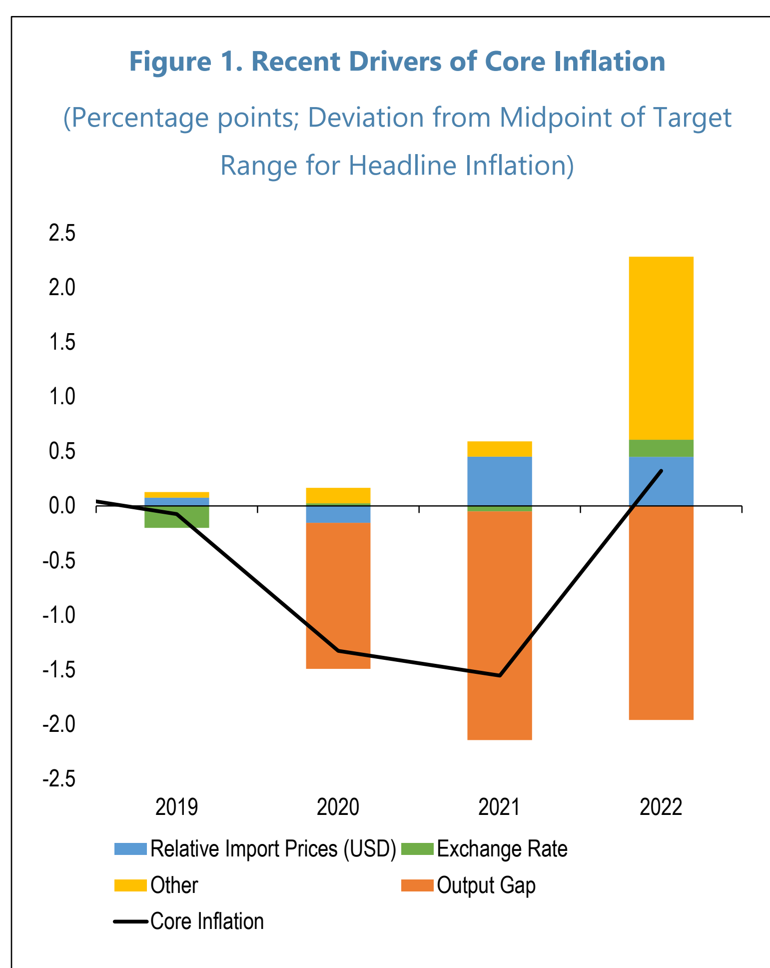
2. **A Phillips Curve specification provides estimates of the drivers of core inflation in Indonesia and in other countries in Asia since 2008**. The model specification follows *World Economic Outlook* (2016) and *Regional Economic Outlook: Asia and Pacific* (2022):

$$\pi_t^c = \rho\pi_{t-1}^c + (1-\rho)\pi_t^e + \theta\tilde{y}_t + \varphi e_t + \partial\pi_t^I + \varepsilon_t \,,$$

where π_t^c is the annualized growth rate of the quarterly core CPI index; π_t^e are inflation expectations—measured by the two-year ahead inflation expectations reported in Consensus Forecasts; $\tilde{y}_t$ is the output gap—computed as the cyclical deviation from trend estimated by the HP-filtered quarterly real output series; e_t is the annualized growth rate of the bilateral exchange rate versus the US dollar (expressed as rupiah per US dollar); and π_t^I is the annualized growth rate of the import price index in US dollars.[1]

Figure 1. Recent Drivers of Core Inflation

(Percentage points; Deviation from Midpoint of Target Range for Headline Inflation)



3. **The increase in core inflation during 2022 has been driven by rising import prices, with large past output gaps continuing to exert downward pressure**. A counterfactual exercise is undertaken using the procedure in Yellen (2015) to compute the contributions of each argument in the core inflation equation (Figure 1). The large output gap that emerged during the pandemic contributed a large downward impulse on core inflation. Rising import prices during 2022 are the

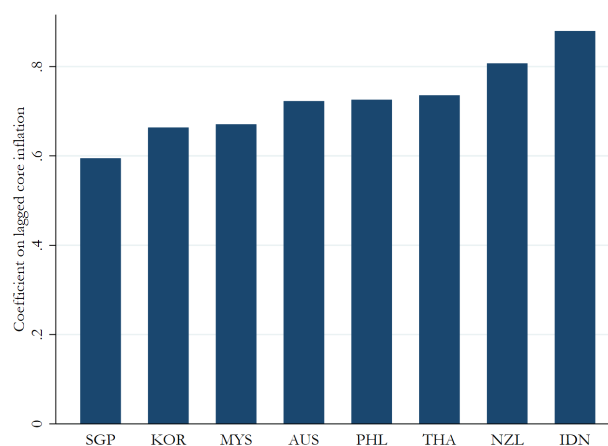
[1] Import prices and inflation expectations are expressed as deviations from the lagged year-on-year growth rate of the core CPI index.

main factor contributing to higher core inflation, while the depreciation of the rupiah against the US dollar led to very limited pass-through to core inflation. There is also a substantial unexplained component contributing to higher core inflation, which likely reflects mobility restrictions and supply disruptions related to the pandemic that are not well captured by the model. Another possible interpretation for the large residual is that the persistence of core inflation has fallen recently, such that lagged output gaps are exerting less downward pressure on core inflation in 2022 than would be suggested by historical parameters.

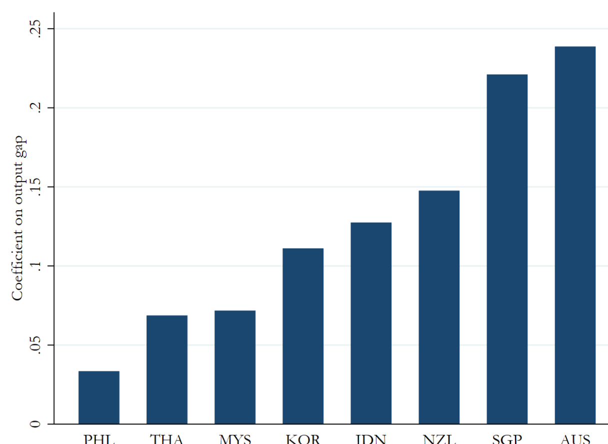
4. The results find that core inflation in Indonesia has historically been more persistent than in other Asian economies. They also find that core inflation in Indonesia has tended to respond to the domestic output gap, with a Phillips Curve slope that is stronger than in other ASEAN emerging market economies, but weaker than in advanced economies such as Australia, New Zealand, and Singapore. These results suggest that the recent reversion of core inflation—which fell back toward the 3 percent midpoint of BI's target range in the first quarter of 2023 after rising above it during the second half of 2022—represents a departure from historical patterns.

Figure 2. Estimated Coefficients

A. Persistence of Core Inflation (ρ)



B. Phillips Curve Relationship (θ)



Source: IMF staff calculations.

Annex II. Risk Assessment Matrix[1]

	Source of Risks	Likelihood	Expected Impact	Policy Recommendation
Global	**Abrupt global slowdown or recession** 1/			
	• **EMDEs**: A new bout of global financial tightening, possibly combined with volatile commodity prices, leads to spiking risk premia, debt distress, widening of external imbalances, fiscal pressures, and sudden stops.	Medium	**High.** Lower GDP growth, due to weaker investment and exports; a decline in capital inflows, leading to currency depreciation and tighter domestic credit conditions; higher poverty rate.	Use available fiscal space to provide targeted support, while allowing the exchange rate to act as a shock absorber. FXI could be used to address disorderly market conditions (e.g., a sharp pickup in the UIP premium), easing the burden on monetary policy.
	Systemic financial instability 2/	Medium	**Medium.** An increase in capital outflows that lead to large exchange rate depreciation and volatility; tighter financial conditions; and upward pressures on inflation through exchange rate passthrough.	Provided the monetary policy stance remains adequate to address inflation risks, and considering Indonesia's shallow FX markets, the use of FXI may be appropriate under certain circumstances (see Annex V for further discussions).
	Commodity price volatility 3/	Medium	**Medium.** The economic impacts will critically depend on whether commodity prices rise or decline, given Indonesia's commodity exporter status; A sharper-than-expected decline in international commodity prices would lead to lower growth, worsen the external balance, and lead to a faster moderation in inflation momentum.	Use fiscal and monetary policy countercyclically to stabilize output and inflation. Seek to make progress on reforming energy subsidies. The exchange rate should remain flexible and determined by market forces.
	Deepening geo-economic fragmentation 4/	High	**Medium.** Weaker exports; reduced FDI inflows; increased uncertainty leading to weaker investment.	Accelerate structural reforms to facilitate the transition to a higher value-added and greener economy, including through additional investment in education and infrastructure and by reducing trade restrictions.
Domestic	**Persistently high domestic inflation**, due to global or domestic supply disruptions, coupled with a slower-than-expected growth.	Medium	**High.** Slower closing of the output gap amid weaker private consumption and investment; a decline in capital inflows due to less positive economic prospects.	Use available fiscal space to provide targeted policy support to low-income households and small businesses. Monetary policy should carefully balance risks to output, inflation and financial stability and be tightened further if inflation surprises on the upside or if global monetary conditions tighten substantially, leading to large depreciation pressures on the rupiah.
	Natural disasters Major natural disasters (e.g., volcanic eruptions and/or earthquakes) disrupt economic activity and affect sentiment, resulting in higher fiscal expenditures.	Medium	**Low.** Disruption in economic activity in the affected region; slower economic growth accompanied by a decline in portfolio inflows.	Prioritize expenditures to affected households and businesses. If the economy slows significantly, loosen monetary and fiscal policies to accelerate the recovery, strengthen monitoring of corporate vulnerabilities.
	A stronger boost from pent-up demand, together with a faster recovery in China, a faster fall in inflation domestically or in Indonesia's key trading partners can lift economic prospects	Medium	**Medium.** Stronger private sector investment as economic prospects improve, contributing to a faster-than-projected closing of the output gap; inflation stays high for longer; and the recovery in bank credit accelerates.	Monetary policy can be tightened if inflation momentum picks up. Macroprudential policies should be tightened if credit growth accelerates, closing the credit gap earlier.

[1] Global and idiosyncratic risk factors combine to cause a synchronized sharp growth downturn, with recessions in some countries, adverse spillovers through trade and financial channels, and markets fragmentation.

[2] Sharp swings in real interest rates, risk premia, and assets repricing amid economic slowdowns and policy shifts trigger insolvencies in countries with weak banks or non-bank financial institutions, causing markets dislocations and adverse cross-border spillovers.

[3] A succession of supply disruptions (e.g., due to conflicts and export restrictions) and demand fluctuations (e.g., reflecting China reopening) causes recurrent commodity price volatility, external and fiscal pressures, and social and economic instability.

[4] Broader and deeper conflict(s) and weakened international cooperation lead to a more rapid reconfiguration of trade and FDI, supply disruptions, technological and payments systems fragmentation, rising input costs, financial instability, a fracturing of international monetary and financial systems, and lower potential growth.

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Annex III. External Sector Assessment

Overall Assessment: *On a preliminary basis, the external position in 2022 was broadly in line with the level implied by medium-term fundamentals and desirable policies.* In the medium term, exchange rate flexibility and structural policies should help contain the CA deficit, keeping it in line with its norm. Although external financing needs appear sustainable, a strong reliance on foreign portfolio investment expose the economy to fluctuations in global financial conditions. The final assessment will be presented in the 2023 External Sector Report.

Potential Policy Responses: Maintaining external balance will require structural reforms to enhance productivity and facilitate post-COVID-19 sectoral adjustments. Reforms should include (i) higher infrastructure investment, higher social spending to foster human capital development and strengthen the social safety net, (ii) a reduction of restrictions on inward FDI and external trade, and (iii) promotion of greater labor market flexibility. Flexibility of the exchange rate should continue to support external stability with the ongoing structural transformation of the Indonesian economy.

<table>
<tr><td>Foreign Asset and Liability Position and Trajectory</td><td colspan="7">Background. At the end of 2022, Indonesia's NIIP stood at –19.1 percent of GDP, improving from –23.4 percent in 2021. The improvement was explained by a reduction of 6.4 percentage points in gross external liabilities, to 53.2 percent of GDP, reflecting reduced market values of Indonesian financial assets and substantial portfolio investment outflows, particularly in local-currency government bonds. The decline in liabilities was partly offset by a decline of 2.2 percentage points in gross external assets to 34.1 percent of GDP, with more than half of the decline explained by reserve assets. Indonesia's gross external debt remained moderate at 30.1 percent of GDP at end-2022, declining from 34.9 percent of GDP at the end of 2021. At end-2022, 16.8 percent of external debt (or 5.1 percent of GDP) had a remaining maturity of less than one year.
Assessment. The level and composition of the NIIP and gross external debt indicate that Indonesia's external position is sustainable and subject to limited rollover risk. Although the share of nonresident holdings of rupiah-denominated government bonds has declined substantially, the relatively large dependence on foreign portfolio investment makes Indonesia vulnerable to global financial volatility, higher global interest rates, and a stronger US dollar. The NIIP as a percent of GDP is projected to stabilize at current levels in the medium term, with projected small CA deficits being offset by strong nominal GDP growth.</td></tr>
<tr><td>2022 (% GDP)</td><td>NIIP: –19.1</td><td>Gross Assets: 34.1</td><td>Res. Assets: 10.4</td><td>Gross Liab.: 53.2</td><td colspan="3">Debt Liab.: 30.1</td></tr>
<tr><td>Current Account</td><td colspan="7">Background. The CA surplus increased further in 2022 to 1.0 percent, from 0.3 percent in 2021. This increase was driven mainly by the non-oil and gas trade balance, reflecting supportive commodity prices, notably coal and palm oil. Strong import growth due to resilient domestic demand and higher oil prices mitigated the increase in the CA surplus. On the savings-investment side, the positive impact on national savings of higher commodity terms of trade and related higher government revenue was sufficient to offset lower private savings and investment. The expected downward correction in commodity prices in 2023 will lead to a small CA deficit from 2023 onwards, although structural policies will help maintain the CA balance close to the norm.
Assessment. Staff estimates a CA gap of 0.4 percent of GDP for 2022, consistent with an estimated cyclically adjusted CA deficit of 1.5 percent of GDP, a staff assessed norm of −1.1 percent of GDP, and adjustors for COVID-19 (0.4 percent of GDP attributed to travel) and demographics.[1] Considering the uncertainty in the estimation of the norm, the CA gap for 2022 is in the range of -0.2 to 1.0 percent of GDP.[2]</td></tr>
<tr><td>2022 (% GDP)</td><td>CA: 1.0</td><td>Cycl. Adj. CA: –1.5</td><td>EBA Norm: –1.1</td><td>EBA Gap: -0.4</td><td>COVID 19 Adj.: 0.4</td><td>Other Adj.: 0.4</td><td>Staff Gap: 0.4</td></tr>
<tr><td>Real Exchange Rate</td><td colspan="7">Background. The average REER appreciated by 3.3 percent in 2022 compared to the average level in 2021 (or 0.8 percent relative to the pre COVID 2016-19 average), despite the large depreciation of the rupiah relative to the US dollar (10.3 percent). Stronger commodity prices supported the rupiah against other major trading partners.
Assessment. The staff CA gap estimate of 0.4 percent of GDP implies a REER gap of –2.5 percent (applying an estimated elasticity of 0.16). The REER index and level models point to 2022 REER gaps of –2.7 percent and –16.3 percent, respectively. Consistent with the staff CA gap, staff assesses the REER gap in the range of –6.3 to 1.3 percent, with a midpoint of –2.5 percent.[3]</td></tr>
<tr><td>Capital and Financial Accounts: Flows and Policy Measures</td><td colspan="7">Background. 2022 marked the first year of negative net financial inflows since the GFC, amounting to –0.7 percent of GDP (after positive net financial inflows of 1.1 percent in 2021). This was driven mainly by local currency bond market outflows, partly offset by net equity inflows. The share of nonresident holdings of IDR government bonds declined from 19 percent in 2021 to 14.4 percent in 2022, compared to a peak of 39 percent in 2019. They accounted for almost 4 percent of GDP in 2022. Net FDI inflows declined to 1.1 percent of GDP in 2022, from 1.5 percent in 2021.
Assessment. The improvement in the CA in 2022 helped offset large portfolio investment outflows and ease the impact on the exchange rate. The broadly contained CA balance going forward, and strengthened policy frameworks, including exchange rate flexibility, have helped reduce capital flow volatility. But net and gross financial flows continue to be prone to periods of volatility. Continued strong policies, such as those focused on safeguarding the fiscal position, curbing inflation, advancing financial deepening, and easing obstacles to investment would help sustain capital inflows in the medium term.</td></tr>
<tr><td>FX Intervention and Reserves Level</td><td colspan="7">Background. Since mid-2013, Indonesia has had a more flexible exchange rate policy framework. Official foreign reserves declined to US$137 billion in 2022, from US$145 billion in 2021, reflecting FX intervention and some negative valuation effects from the appreciation of the US dollar.
Assessment. The current level of reserves (10.4 percent of GDP, 118 percent of the IMF's reserve adequacy metric, and 5.9 months of prospective imports) should provide a sufficient buffer against external shocks, with predetermined drains also manageable. Exchange rate flexibility should continue to help absorb shocks, with foreign exchange interventions limited to addressing disorderly market conditions triggered by external pressures, or to risks of de-anchoring inflation expectations.</td></tr>
</table>

[1]Indonesia is among a few countries with low life expectancy at prime age and demographic indicators are adjusted to account for this. As a result, the model-estimated CA norm is adjusted by subtracting 0.4 percentage points.

[2]The standard error of the EBA norm is 0.6 percent.

[3]The width of the range for the REER gap takes the standard +/-3.75 percent interval applied to the midpoint of −2.5 percent, leading to a range of −6.3 to 1.3.

Annex IV. Debt Sustainability Analysis

Public Debt Sustainability

1. **Indonesia's public sector debt remains low**. General government debt is estimated to have reached 40.1 percent of GDP in 2022 from 30.6 percent in 2019, owing to the exceptional fiscal measures deployed in 2020-22 during which the fiscal rule was suspended. Debt is projected to gradually decline to around 37.4 percent of GDP over the medium-term, mainly driven by a negative cumulative interest rate-growth differential. Gross financing needs are expected to remain moderate, at about 5 percent of GDP over the medium-term. Debt coverage is adequate, and realism tools suggest projections of key debt drivers are within norms.

2. **The new SRDSA suggests an overall low risk of sovereign stress**. Medium-term risks are assessed as low (in line with the mechanical signal from the SRDSA). The Debt Fanchart Module indicates an adequate balance of risks around the projected debt baseline. For the GFN Financeability Module, a combination of low GFNs and an initial high bank exposure to the government, result in moderate risks under a macro-fiscal and debt holder shock. Mitigating factors include a declining share of foreign holdings of local-currency debt, and relatively large cash buffers. Taken together, the aggregate MTI produces a mechanical low signal (Figure 1).

External Debt Sustainability

3. **Indonesia's external debt has declined after the temporary increase during the pandemic**. External debt stood at 34.9 percent of GDP in 2021, down from 39.2 percent of GDP at the end of 2020. The decline in external debt was driven both by the general government and the private sector, offsetting the increase in Bank of Indonesia's external debt of 0.5 percent of GDP. External debt is estimated to have fallen further to 30.1 percent of GDP by end-2022 (Figure 2 and Table 1), driven mainly by an improvement in the current account balance, to reach a surplus of 1.0 percent of GDP in 2022.

4. **External debt is projected to continue to gradually decline to 26 percent of GDP in the medium term**. In the baseline scenario, strong projected growth in nominal GDP more than offsets rising external financing needs as the current account turns back into deficit, leading to a small decline in external debt as a share of GDP.

5. **External debt sustainability is robust to interest rate, current account, and growth shocks, but is sensitive to exchange rate shocks** (Figure 2). A widening of the current account from projected levels would cause external debt to rise moderately (a one-half standard deviation shock would increase external debt to 29 percent of GDP by 2028). Exchange rate depreciation would have the largest impact—a 30 percent depreciation would raise external debt to 40 percent of GDP in 2024, and it would decline only slightly at the end of the forecasting horizon.

6. **Authorities' Views**. The authorities agreed with the external and public debt sustainability analysis.

Figure 1. Indonesia: Risk of Sovereign Stress

Horizon	Mechanical signal	Final assessment	Comments
Overall	...	Low	The overall risk of sovereign stress is assessed as "low", reflecting debt stabilization under the baseline and low levels of vulnerability in the medium-term modules.
Near term 1/			
Medium term	Low	Low	Medium-term risks are assessed as "low" (in line with the aggregate medium-term mechanical signal) on the basis of balanced risks around the debt baseline, and manageable gross financing needs.
Fanchart	Moderate	...	
GFN	Moderate	...	
Stress test	...	...	
Long term	...	n.a.	Long-term risks from climate change adaptation needs.
Sustainability assessment 2/			
Debt stabilization in the baseline			Yes

DSA summary assessment

Commentary: Indonesia is at a "low" overall risk of sovereign stress and debt is sustainable. Most indicators have started to normalize as the recovery from the COVID-19 shock has proceeded. Public debt is expected to gradually decline to 37.4 percent of GDP over the medium-term, driven mostly by a favorable interest-growth differential. Debt coverage is adequate, and realism tools sugget projections of key debt drivers are within norms. Medium-term solvency and liquidity risks are manageable. Over the longer run, reforms should continue to tackle risks from climate change.

Source: Fund staff.

Note: The risk of sovereign stress is a broader concept than debt sustainability. Unsustainable debt can only be resolved through exceptional measures (such as debt restructuring). In contrast, a sovereign can face stress without its debt necessarily being unsustainable, and there can be various measures—that do not involve a debt restructuring—to remedy such a situation, such as fiscal adjustment and new financing.

1/ The near-term assessment is not applicable in cases where there is a disbursing IMF arrangement. In surveillance-only cases or in cases with precautionary IMF arrangements, the near-term assessment is performed but not published.

2/ A debt sustainability assessment is optional for surveillance-only cases and mandatory in cases where there is a Fund arrangement. The mechanical signal of the debt sustainability assessment is deleted before publication. In surveillance-only cases or cases with IMF arrangements with normal access, the qualifier indicating probability of sustainable debt ("with high probability" or "but not with high probability") is deleted before publication.

Figure 2. Indonesia: Debt Coverage and Disclosures

1. Debt coverage in the DSA: 1/

CG	GG	NFPS	CPS	Other
	X (chosen)			

1a. If central government, are non-central government entities insignificant? n.a.

2. Subsectors included in the chosen coverage in (1) above:

Sector grouping	#	Subsectors captured in the baseline	Inclusion
CPS / NFPS / GG: expected / CG	1	Budgetary central government	Yes
CPS / NFPS / GG: expected / CG	2	Extra budgetary funds (EBFs)	Yes
CPS / NFPS / GG: expected / CG	3	Social security funds (SSFs)	Yes
CPS / NFPS / GG: expected	4	State governments	Yes
CPS / NFPS / GG: expected	5	Local governments	Yes
CPS / NFPS	6	Public nonfinancial corporations	No
CPS	7	Central bank	No
CPS	8	Other public financial corporations	No

3. Instrument coverage:

Currency & deposits	Loans	Debt securities	Oth acct. payable 2/	IPSGSs 3/
X	X	X	X	X

4. Accounting principles:

Basis of recording		Valuation of debt stock		
Non-cash basis 4/	Cash basis	Nominal value 5/	Face value 6/	Market value 7/
	X	X		

5. Debt consolidation across sectors:

Consolidated	Non-consolidated
	X

Comments

Color code: chosen coverage; Missing from recommended coverage; Not applicable

Reporting on Intra-Government Debt Holdings

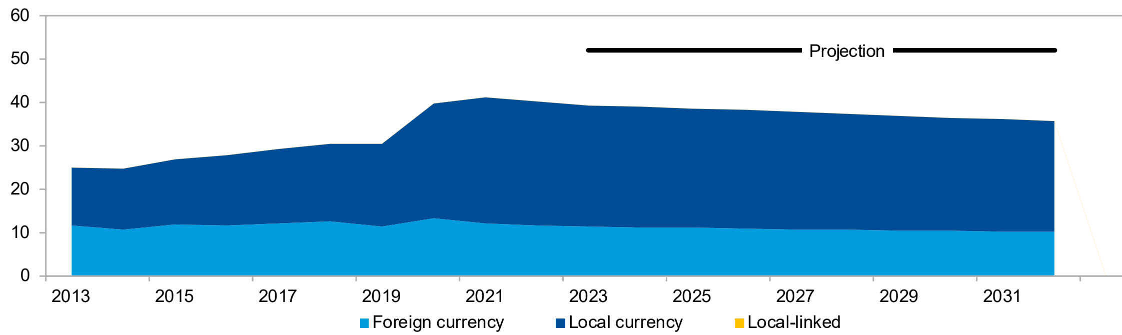
Issuer \ Holder	Budget. central govt	Extra-budget. funds (EBFs)	Social security funds (SSFs)	State govt.	Local govt.	Nonfin. pub. corp.	Central bank	Oth. pub. fin corp	Total
1 Budget. central govt									0
2 Extra-budget. funds									0
3 Social security funds									0
4 State govt.									0
5 Local govt.									0
6 Nonfin pub. corp.									0
7 Central bank									0
8 Oth. pub. fin. corp									0
Total	0	0	0	0	0	0	0	0	0

1/ CG=Central government; GG=General government; NFPS=Nonfinancial public sector; PS=Public sector.
2/ Stock of arrears could be used as a proxy in the absence of accrual data on other accounts payable.
3/ Insurance, Pension, and Standardized Guarantee Schemes, typically including government employee pension liabilities.
4/ Includes accrual recording, commitment basis, due for payment, etc.
5/ Nominal value at any moment in time is the amount the debtor owes to the creditor. It reflects the value of the instrument at creation and subsequent economic flows (such as transactions, exchange rate, and other valuation changes other than market price changes, and other volume changes).
6/ The face value of a debt instrument is the undiscounted amount of principal to be paid at (or before) maturity.
7/ Market value of debt instruments is the value as if they were acquired in market transactions on the balance sheet reporting date (reference date). Only traded debt securities have observed market values.

Commentary: Coverage in this SRDSA is General Government debt, consistent with the Government Financial Statistics Manual, 2014.

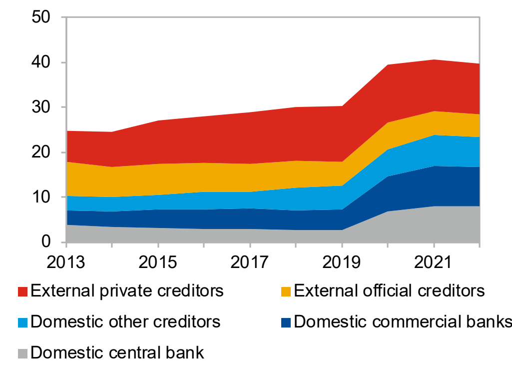
Figure 3. Indonesia: Public Debt Structure Indicators

Debt by Currency (percent of GDP)



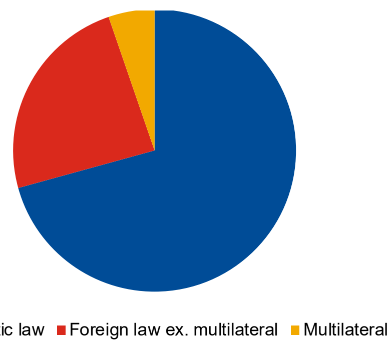
Note: The perimeter shown is general government.

Public Debt by Holder (percent of GDP)



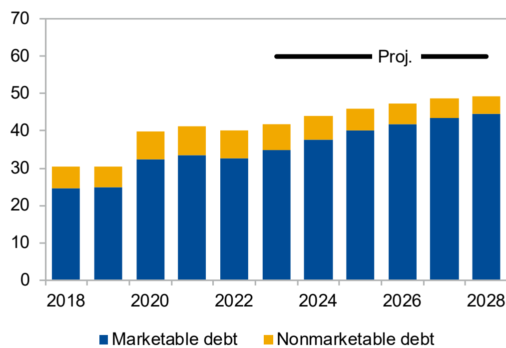
Note: The perimeter shown is general government.

Public Debt by Governing Law, 2022 (percent)



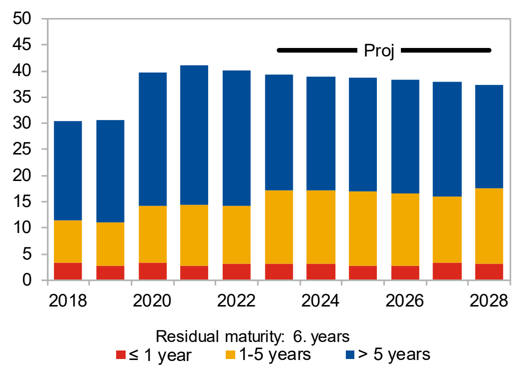
Note: The perimeter shown is general government.

Debt by Instruments (percent of GDP)



Note: The perimeter shown is general government.

Public Debt by Maturity (percent of GDP)



Note: The perimeter shown is general government.

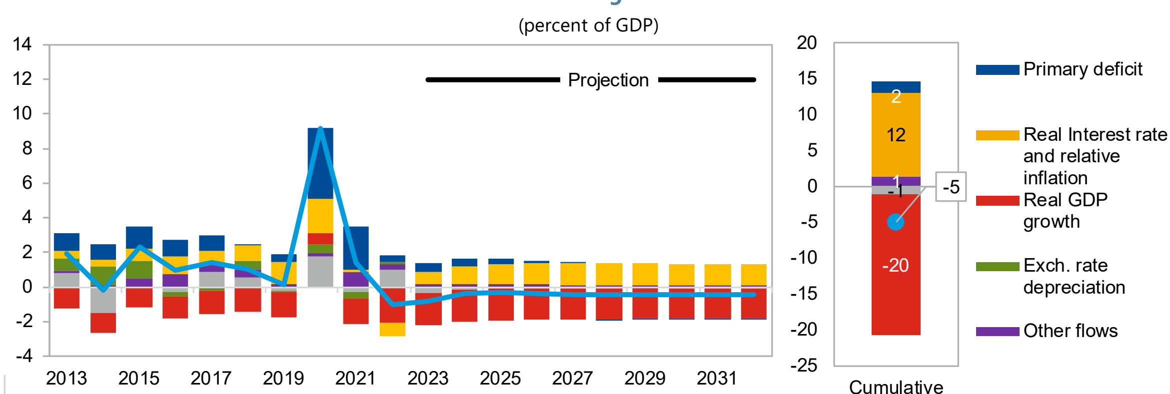
Commentary: The currency composition and maturity profile of public debt are expected to remain about the same over the projection horizon. Domestic banks and the Central Bank (BI) increased their share of public debt holdings during the Covid years.

Figure 4. Indonesia: Baseline Scenario

(percent of GDP unless indicated otherwise)

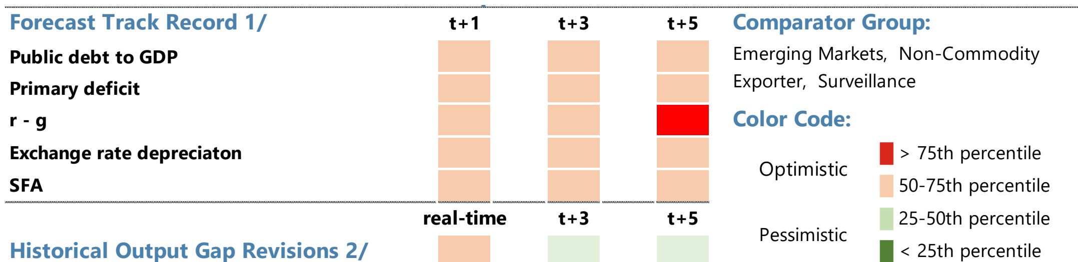
	Actual	Medium-term projection						Extended projection			
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Public debt	40.1	39.3	39.0	38.7	38.3	37.9	37.4	37.0	36.5	36.1	35.6
Change in public debt	-1.0	-0.8	-0.4	-0.3	-0.4	-0.4	-0.5	-0.4	-0.5	-0.4	-0.4
Contribution of identified flows	-2.0	-0.5	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4
Primary deficit	0.4	0.6	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Noninterest revenues	15.2	14.5	14.5	14.6	14.8	14.9	15.0	15.0	15.0	15.0	15.0
Noninterest expenditures	15.6	15.1	15.0	14.9	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Automatic debt dynamics	-2.7	-1.2	-0.9	-0.7	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Real interest rate and relative inflatioı	-0.7	0.7	1.0	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.3
Real interest rate	-1.4	0.5	0.9	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Relative inflation	0.7	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Real growth rate	-2.1	-1.9	-1.9	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.7	-1.7
Real exchange rate	0.1	…	…	…	…	…	…	…	…	…	…
Other identified flows	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other transactions	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Contribution of residual	1.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1
Gross financing needs	4.6	5.2	5.4	5.3	4.9	4.7	5.2	5.0	4.7	4.4	4.2
of which: debt service	4.2	4.6	5.0	4.9	4.8	4.6	5.2	5.0	4.7	4.4	4.2
Local currency	3.0	3.8	3.8	3.7	3.7	3.5	4.0	3.9	3.7	3.4	3.3
Foreign currency	1.3	0.8	1.2	1.3	1.1	1.1	1.2	1.1	1.1	1.0	0.9
Memo:											
Real GDP growth (percent)	5.3	5.0	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Inflation (GDP deflator; percent)	9.6	4.4	3.0	2.7	2.6	2.5	2.5	2.5	2.4	2.4	2.3
Nominal GDP growth (percent)	15.4	9.6	8.2	7.8	7.7	7.5	7.6	7.6	7.6	7.6	7.6
Effective interest rate (percent)	5.5	5.6	5.6	5.8	5.9	5.9	6.0	6.0	5.9	5.9	6.0

Contribution to Change in Public Debt



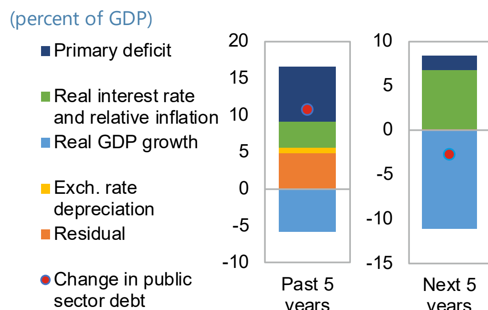
Commentary: Public debt is expected to decrease gradually from 40.1 percent of GDP in 2022 to 37.4 percent of GDP over the medium-term, due to a favorable interest-growth differential. Gross financing needs are expected to remain manageable around 5 percent of GDP over the medium-term.

Figure 5. Indonesia: Realism of Baseline Assumptions



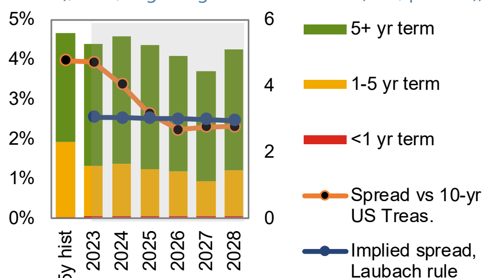
Public Debt Creating Flows

(percent of GDP)



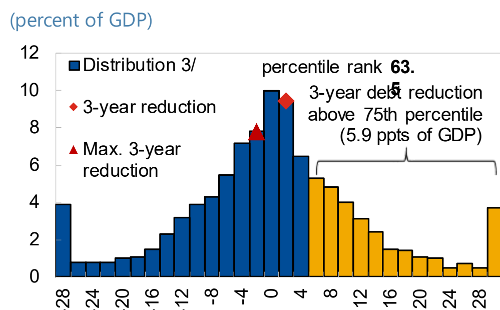
Bond Issuances

(bars, debt issuances (RHS, %GDP); lines, avg marginal interest rates (LHS, percent))



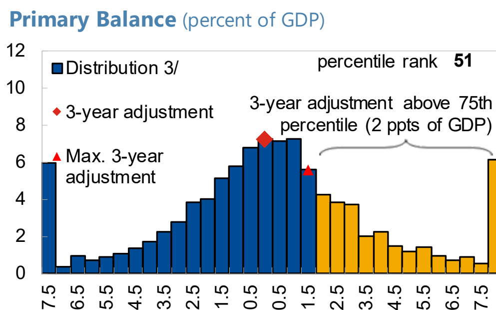
3-Year Debt Reduction

(percent of GDP)



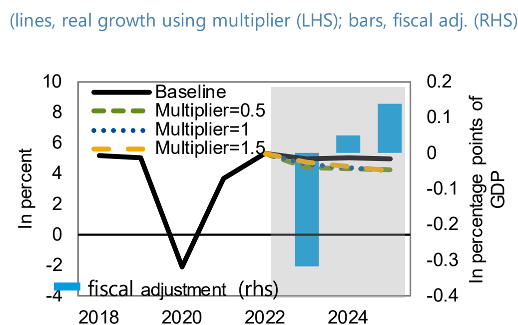
3-Year Adjustment in Cyclically-Adjusted Primary Balance

(percent of GDP)



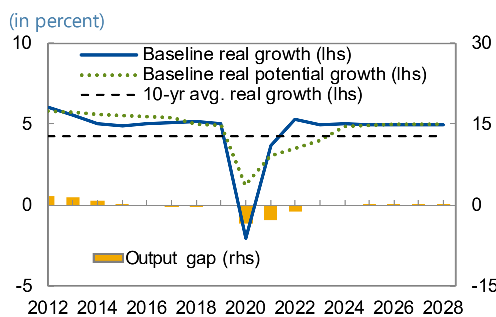
Fiscal Adjustment and Possible Growth Paths

(lines, real growth using multiplier (LHS); bars, fiscal adj. (RHS)



Real GDP Growth

(in percent)



Commentary: Realism analysis does not point to major concerns. Forecast errors show some signs of past optimism in the underlying debt creating flows, but this is largely influenced by unexpectd outcomes during the Covid years. The projected 3-year fiscal adjustment and 3-year debt reduction are well within norms, and the real GDP growth path is in line with the assumed fiscal adjustment and potential growth.

Source : IMF Staff.

1/ Projections made in the October and April WEO vintage.

2/ Calculated as the percentile rank of the country's output gap revisions (defined as the difference between real time/period ahead estimates and final estimates in the latest October WEO) in the total distribution of revisions across the data sample.

3/ Data cover annual obervations from 1990 to 2019 for MAC advanced and emerging economies. Percent of sample on vertical axis.

Figure 6. Indonesia: Medium-Term Analysis

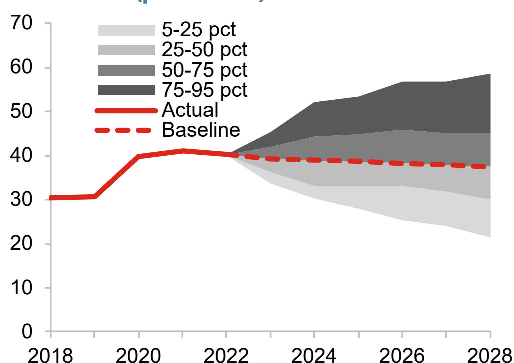
Debt Fanchart and GFN Financeability Indexes

(percent of GDP unless otherwise indicated)

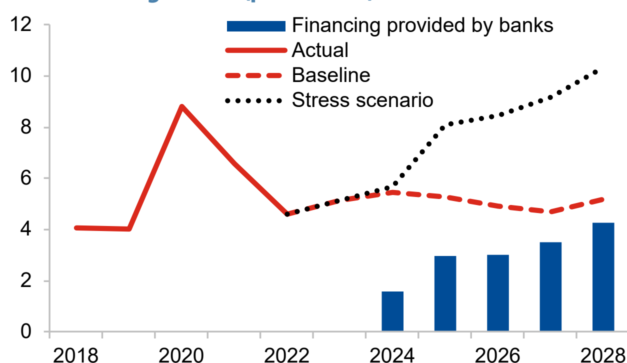
Module	Indicator	Value	Risk index	Risk signal	Emg. Econ., Non-Com. Exp, Surveillance (0 – 25 – 50 – 75 – 100)
Debt fanchart module	Fanchart width	37.2	0.5	...	
	Probability of debt not stabilizing (pct)	26.2	0.2	...	
	Terminal debt level x institutions index	18.9	0.4	...	
	Debt fanchart index	**...**	**1.2**	**Moderate**	
GFN finance-ability module	Average GFN in baseline	5.1	1.7	...	
	Bank claims on government (pct bank assets)	13.9	4.5	...	
	Chg. in claims on govt. in stress (pct bank assets)	9.0	3.0	...	
	GFN financeability index	**...**	**9.3**	**Moderate**	

Legend: Interquartile range; Indonesia

Final Fanchart (pct of GDP)



Gross Financing Needs (pct of GDP)

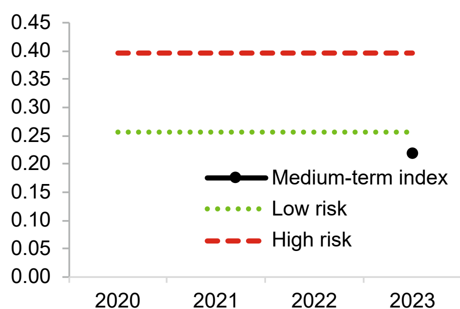


Triggered stress tests (stress tests not activated in gray)

Banking crisis   Commodity prices   Exchange rate   Contingent liab.   Natural disaster

Medium-Term Index

(index number)



Medium-Term Risk Analysis

	Low risk threshold	High risk threhsold	Weight in MTI	Normalized level
Debt fanchart index	1.1	2.1	0.5	0.3
GFN finaceability index	7.6	17.9	0.5	0.2
Medium-term index (MTI)	0.3	0.4	...	0.2, Low

Prob. of missed crisis, 2023-2028 (if stress not predicted): 9.1 pct.

Prob. of false alarm, 2023-2028 (if stress predicted): 48.9 pct.

Commentary: The Debt Fanchart Module indicates an adequate balance of risks around the projected debt baseline. For the GFN Financeability Module, a combination of low GFNs and an initial high bank exposure to the government, result in moderate risks under a macro-fiscal and debt holder shock. Mitigating factors include a declining share of foreign holdings of local-currency debt, and relatively large cash buffers. Taken together, the MTI produces a mechanical "low" signal.

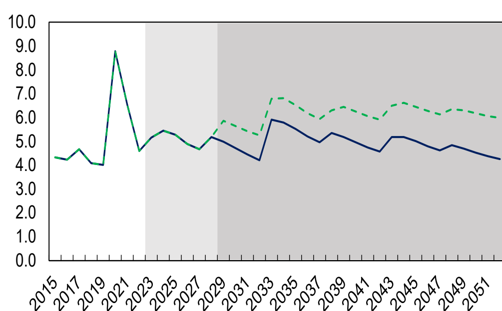
Figure 7. Indonesia: Long-Term Risk Analysis

Relevancy of long-term factors

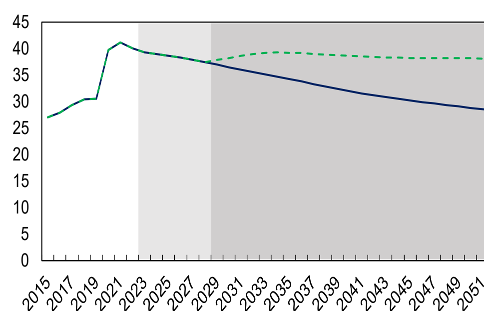
Topic	Vulnerability factors
Climate change	Sizeable adaptation needs over the long-term.
Demographics	n.a.
Long-term amortization	n.a.
Natural resource production	n.a.

Climate Change: Adaptation

GFN-to-GDP ratio



Total public debt-to-GDP ratio

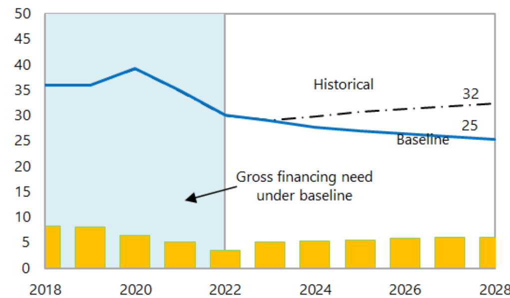


Commentary: The adaptation cost estimates are taken from Aligishiev, Bellon and Massetti (2022) and ESCAP (2019), and focus on two types of adaptation investments: strengthening physical assets and investing in coastal protection. In the case of Indonesia, these amount to about 0.8 percent of GDP per year over the long-term. Fiscal reforms to create fiscal space to finance adaptation needs will be critical over the longer run for Indonesia.

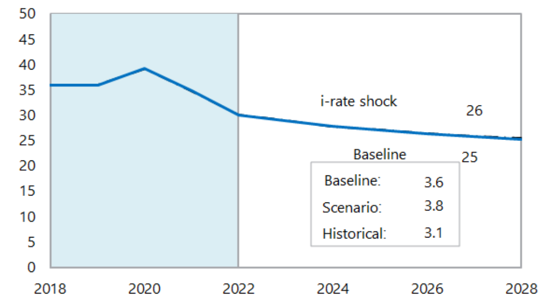
Figure 8. Indonesia: External Debt Sustainability: Bound Tests 1/ 2/

(External debt in percent of GDP)

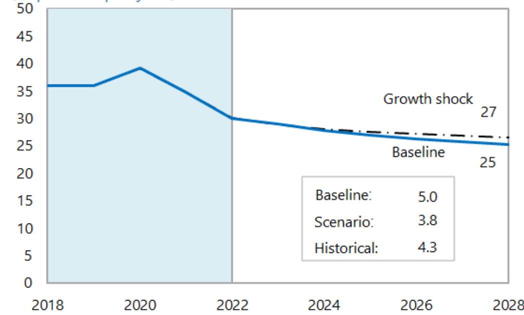
Baseline and Historical Scenarios



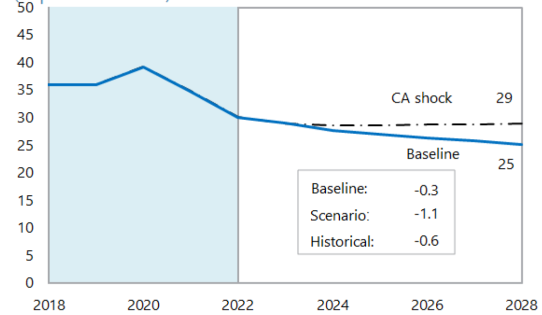
Interest Rate Shock
(In percent)



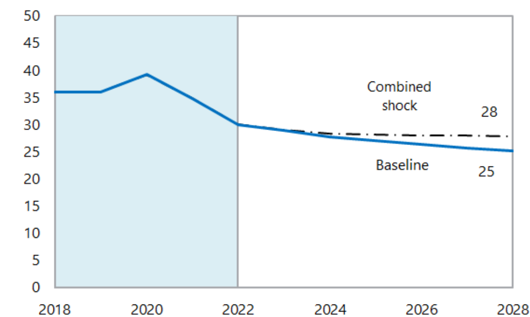
Growth Shock
(In percent per year)



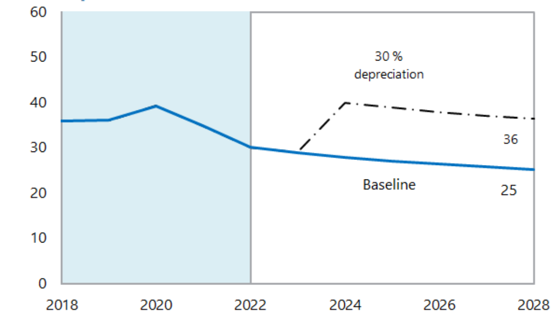
Noninterest Current Account Shock
(In percent of GDP)



Combined Shock 3/



Real Depreciation Shock 4/



Sources: International Monetary Fund, Country desk data; and staff estimates.

1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.
4/ One-time real depreciation of 30 percent occurs in 2023.

Table 1. Indonesia: External Debt Sustainability Framework, 2018-2028

(In percent of GDP, unless otherwise indicated)

	Actual							Projections						
	2018	2019	2020	2021	2022			2023	2024	2025	2026	2027	2028	Debt-stabilizing non-interest current account 6/
1 Baseline: External debt	36.0	36.1	39.2	34.9	30.1			29.0	27.8	27.1	26.4	25.8	25.3	-2.4
2 Change in external debt	1.3	0.0	3.2	-4.4	-4.8			-1.1	-1.2	-0.7	-0.7	-0.6	-0.5	
3 Identified external debt-creating flows (4+8+9)	0.8	-1.5	1.2	-6.0	-6.1			-2.6	-2.1	-1.7	-1.3	-1.2	-1.1	
4 Current account deficit, excluding interest payments	1.9	1.6	-1.0	-1.6	-2.1			-0.8	-0.2	0.1	0.5	0.6	0.6	
5 Deficit in balance of goods and services	-0.6	-0.4	1.7	2.5	3.2			1.9	1.5	1.2	0.8	0.8	0.8	
6 Exports	20.3	17.9	16.8	20.8	24.0			21.8	22.2	22.4	22.5	22.5	22.5	
7 Imports	-21.0	-18.2	-15.0	-18.3	-20.7			-19.9	-20.7	-21.3	-21.6	-21.7	-21.6	
8 Net nondebt creating capital inflows (negative)	-0.8	-1.8	-0.9	-1.7	-1.4			-1.5	-1.5	-1.5	-1.5	-1.5	-1.4	
9 Automatic debt dynamics 1/	-0.2	-1.3	3.1	-2.8	-2.5			-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	
10 Contribution from nominal interest rate	1.1	1.1	1.4	1.3	1.1			1.0	1.0	0.9	0.9	0.9	0.9	
11 Contribution from real GDP growth	-1.7	-1.7	0.8	-1.3	-1.7			-1.4	-1.4	-1.3	-1.2	-1.2	-1.2	
12 Contribution from price and exchange rate changes 2/	0.5	-0.7	0.9	-2.7	-2.0			...	...	...	...	...	...	
13 Residual, including change in gross foreign assets (2-3) 3/	0.5	1.6	2.0	1.7	1.3			1.6	0.9	1.0	0.6	0.6	0.6	
External debt-to-exports ratio (in percent)	177.1	201.7	233.7	167.7	125.6			133.0	125.2	120.6	117.5	114.6	112.4	
Gross external financing need (in billions of U.S. dollars) 4/	85.5	90.5	67.7	61.6	46.2			70.5	79.9	90.6	104.7	114.7	124.8	
In percent of GDP	8.2	8.1	6.4	5.2	3.5			5.1	5.3	5.6	5.9	6.0	6.1	
Scenario with key variables at their historical averages 5/								29.0	29.9	30.8	31.3	31.8	32.4	-1.7
Key Macroeconomic Assumptions Underlying Baseline						10-Year Historical Average	10-Year Standard Deviation							
Real GDP growth (in percent)	5.2	5.0	-2.1	3.7	5.3	4.3	2.3	5.0	5.1	5.0	5.0	5.0	5.0	
GDP deflator in U.S. dollars (change in percent)	-2.4	2.2	-3.1	7.8	5.4	-0.4	5.6	0.6	3.2	3.0	2.8	2.8	2.8	
Nominal external interest rate (in percent)	3.2	3.4	3.6	3.6	3.6	3.1	0.5	3.6	3.6	3.6	3.6	3.6	3.6	
Growth of exports (U.S. dollar terms, in percent)	9.1	-5.6	-10.8	38.3	28.0	5.3	17.2	-3.9	10.2	9.4	8.0	8.1	7.8	
Growth of imports (U.S. dollar terms, in percent)	19.6	-6.6	-21.7	36.1	25.6	4.1	19.0	1.4	12.8	11.0	9.6	8.2	7.7	
Current account balance, excluding interest payments	-1.9	-1.6	1.0	1.6	2.1	-0.6	1.6	0.8	0.2	-0.1	-0.5	-0.6	-0.6	
Net nondebt creating capital inflows	0.8	1.8	0.9	1.7	1.4	1.4	0.4	1.5	1.5	1.5	1.5	1.5	1.4	

1/ Derived as [r - g - r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock, with r = nominal effective interest rate on external debt; r = change in domestic GDP deflator in U.S. dollar terms, g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as [-r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock. r increases with an appreciating domestic currency (e > 0) and rising inflation

3/ For projection, line includes the impact of price and exchange rate changes.

4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of

Annex V. Managing Downside Risks: Application of the Integrated Policy Framework to Indonesia

The IMF's Integrated Policy Framework (IPF) and model-based scenario analysis are used to evaluate policy options, in particular the potential role for FXI, under adverse external shocks. We show that Indonesia's shallow FX markets is the main consideration for using FXI in response to external financial shocks that trigger a destabilizing increase in risk premia during stress periods. Furthermore, FXI would alleviate the burden on monetary policy by reducing the extent of exchange rate depreciation, thus moderating the pass through to inflation. Given the lack of significant frictions related to FX balance sheet exposures and well anchored inflation expectations, the case for using FXI becomes stronger as the size of the shock increases. Historically, BI's use of FXI appears to have been consistent with periods of severe FX market stress, with sharp spikes in risk premia, but the size of FXI is estimated to have declined gradually over time, consistent with progress in FX market deepening, greater monetary policy credibility, and the introduction of regulations that limit FX exposures. BI does not publish FXI data, as is the case for most EM central banks; instead, this annex relies on the intervention database compiled by Adler and others (2021).

The IMF's Integrated Policy Framework (IPF)

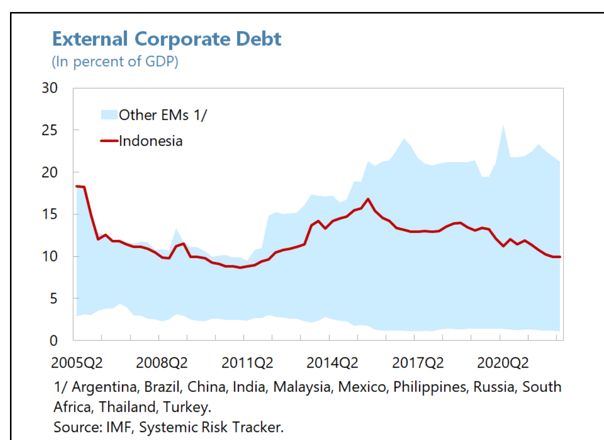
1. The IPF outlines key conditions under which FXI may be appropriate. While allowing the exchange rate to play a stabilizing role remains a key principle under the IPF, the framework shows that FXI may be appropriate under certain shocks and circumstances, provided it is well integrated within the overall policy response and not a substitute for a warranted adjustment of macroeconomic policies. Specifically, the framework identifies country characteristics, including financial frictions and rigidities, and the nature of shocks that could warrant the use of FXI. Three "use cases" are considered in the framework:

a. **To smooth destabilizing premia related to arbitrage frictions in shallow FX markets**. In these markets, sudden large capital outflows (e.g., driven by loss of foreign investors' risk appetite) could cause sharp changes in FX market premia, such as the uncovered interest parity (UIP) premia. In the presence of such large deviations from the UIP, FXI aimed at reducing these premia could help achieve domestic and external balance.

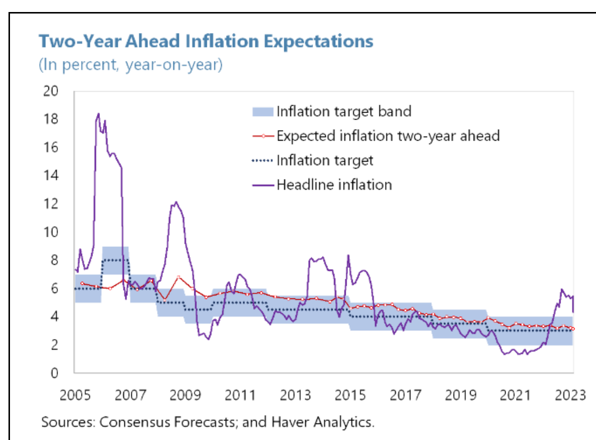
b. **To counter financial stability risks from balance sheet currency mismatches**. Large exchange rate depreciations can increase the debt service burden of borrowers with unhedged FX exposures and make financial constraints binding. The shocks could subsequently be propagated to the rest of the economy, including in the form of higher stress in the banking system and capital outflows, reflecting the tightening of FX debt limits.

c. **To preserve price stability** in the presence of a large exchange rate depreciation that can de-anchor inflation expectations. In general, the use of FXI would be more effective in economies with relatively high exchange rate passthrough and weakly anchored inflation expectations.

2. Indonesia does not appear to face significant frictions related to unhedged FX balance sheet exposures and has well anchored inflation expectations. While comprehensive data on currency mismatch in private sector balance sheets are not publicly available, the hedging and liquidity requirements for non-bank corporations first introduced in 2014 and later strengthened in 2016[1] significantly mitigated financial stability risks associated with FX maturity and balance sheet mismatches. Indonesia's external corporate debt as share of GDP declined from a peak of 16.8 percent in 2015Q3 to about 10 percent in 2022Q2, comparable to the average level for major EMs. Inflation expectations have also been well-anchored in Indonesia since BI's adoption of an inflation targeting framework in July 2005. Prudent monetary policy has helped strengthen policy credibility, with a gradual reduction of BI's inflation target band from 5-7 percent in 2005 to 2-4 percent in 2023. Inflation expectations have trended down, tracking closer to the inflation target band in later years. Staff's estimate of the rate of exchange rate passthrough for Indonesia is a modest 0.1 percent.



1/ Argentina, Brazil, China, India, Malaysia, Mexico, Philippines, Russia, South Africa, Thailand, Turkey.
Source: IMF, Systemic Risk Tracker.



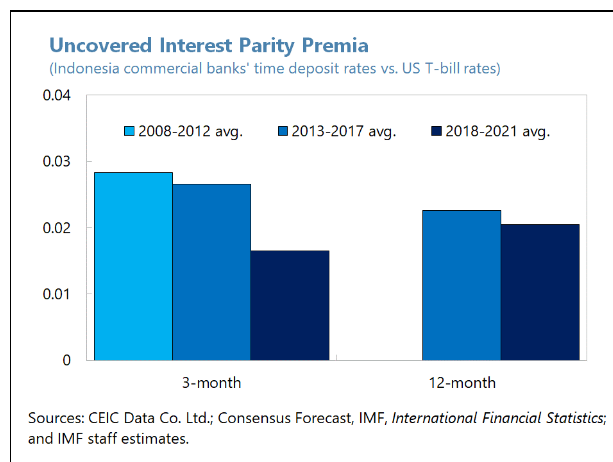
Sources: Consensus Forecasts; and Haver Analytics.

3. But Indonesia's FX market remains shallow, despite recent progress in market deepening. Several indicators of FX market depth have steadily improved recently, reflecting a series of markets reforms aimed at financial market deepening during 2014–2016 (Damayanti and others, 2020).[2] Notably, the average UIP premium (3-month) declined from 3 percent during 2008-2012 to 1.7 percent during 2018-2021, while the bid-ask spread in the IDR/USD market narrowed from an average of 22.5 bps during 2008-2012 to 7.3 percent during 2021-2022.

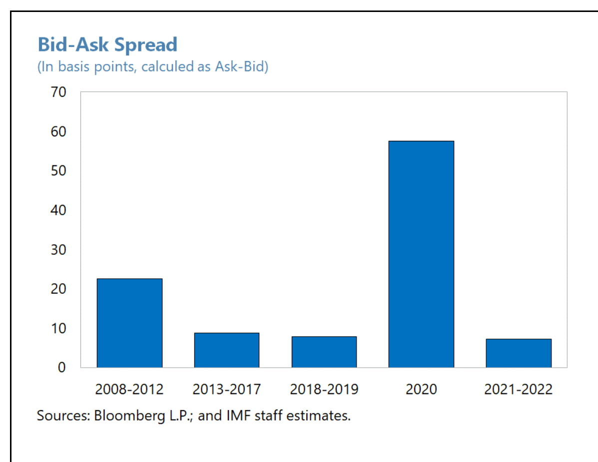
[1] According to Regulation 16/21/PBI/2014, non-bank corporations with external debt were initially required to meet a minimum hedging ratio of 20 percent of the negative difference between maturing foreign currency assets and foreign currency liabilities in the next three months and in the next three to six months. This ratio has been increased to 25 percent since 2016. According to a BI report, about three quarters of "the 2,064 nonbank corporations with external debt met the minimum hedging ratio for foreign currency obligations maturing till the next six months" as of end-2020Q1. Furthermore, non-bank corporations with external debt must also meet the minimum FX liquidity ratio, by holding liquid foreign currency assets to meet foreign currency liabilities with maturities less than three months. The ratio is set at a minimum of 70 percent. There are also prudential regulations that limit banks' net open FX positions. The hedging and liquidity requirements on non-bank corporates have been assessed as both capital flow management measures as well as macroprudential policy measures (i.e., CFM/MPMs) under the Fund's Institutional View.

[2] For example, call-spread options were introduced in 2016, an additional hedging instrument for market participants.

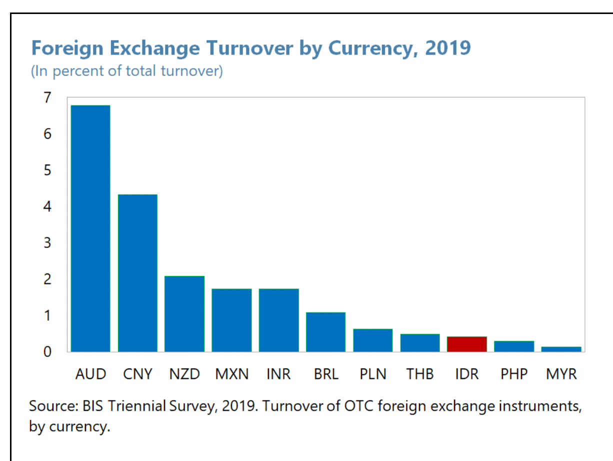
Notwithstanding this progress, however, Indonesia's FX market depth remains shallow by international standards. For example, Indonesia's volume of FX instrument turnovers only accounted for 0.4 percent of the global FX market turnovers as of 2019, which is far lower than markets with a similar GDP size (e.g., 6.8 percent for Australia-AUD and 1.7 percent for Mexico-MXN). The bid-ask spread in the FX market for Indonesia, normalized in percent of the ask price, is at 0.16 percent, wider than Malaysia and the Philippines but narrower than in Mexico, Poland, and Thailand.



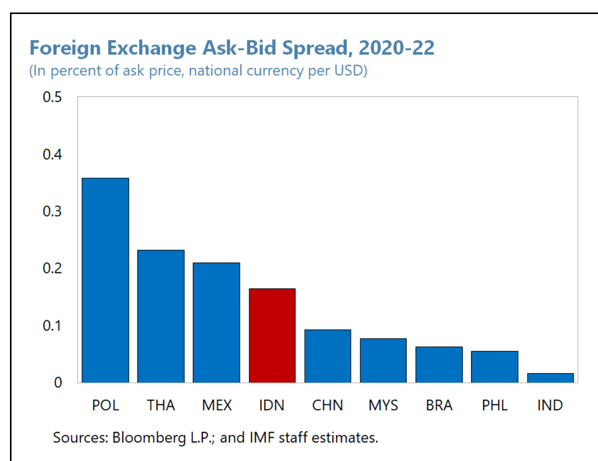
Sources: CEIC Data Co. Ltd.; Consensus Forecast, IMF, *International Financial Statistics*; and IMF staff estimates.



Sources: Bloomberg L.P.; and IMF staff estimates.



Source: BIS Triennial Survey, 2019. Turnover of OTC foreign exchange instruments, by currency.



Sources: Bloomberg L.P.; and IMF staff estimates.

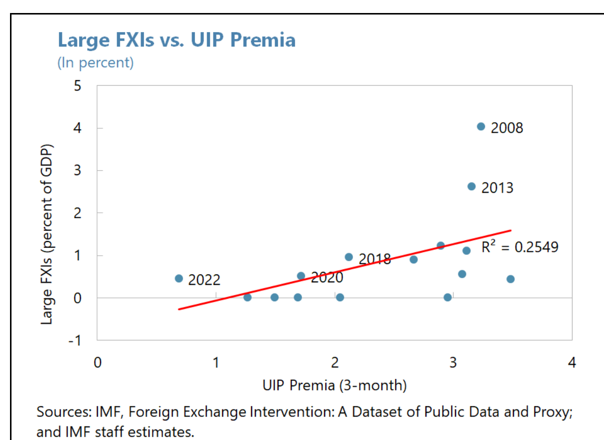
Use of FXI in Indonesia

4. Bank Indonesia (BI) uses a suite of policy instruments to safeguard macroeconomic and financial stability. Under its "Flexible Inflation Targeting" framework, BI's primary monetary policy objective is controlling inflation, but it has the flexibility to support other economic goals such as exchange rate and financial stability. Indeed, BI has a legal mandate to safeguard rupiah stability within a freely floating exchange rate regime, with the aim of supporting sustainable economic growth and achieving low and stable inflation. BI adopts multiple policy tools—including FXI and macroprudential measures—to achieve these objectives, in addition to safeguarding and developing the payment and financial systems.

5. BI adopts a "triple intervention" strategy for its interventions in the FX markets. Specifically, the strategy consists of the implementation of any one of the following measures (Juhro and Azwar, 2021): (1) selling/buying FX in the spot market; (2) selling/buying FX both in the spot and the domestic non-deliverable forward (DNDF) markets and (3) selling/buying FX in the spot market while buying/selling local currency-denominated government bonds from the secondary market. In executing the strategy, BI aims to maintain rupiah exchange rates stability in line with the currency's fundamental value and market mechanisms, as well as to reduce shocks that emerge from a demand and supply mismatch in the FX market. But BI does not publish FXI data, as is the case for most EM central banks. Instead, this annex relies on the intervention database compiled by Adler and others (2021), which provides estimated spot and derivative transactions conducted by central banks for intervention purposes.

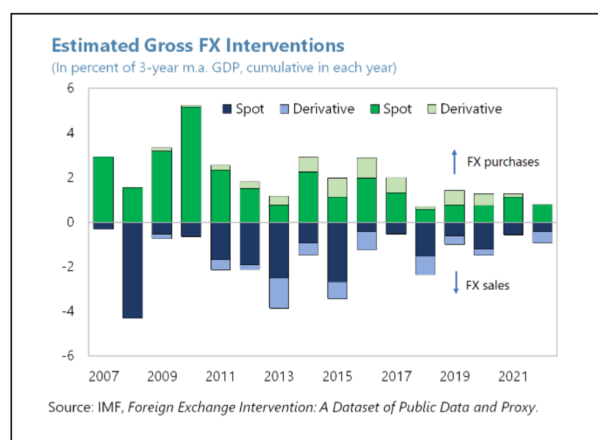
6. BI's use of FXIs appears to have been concentrated during periods of severe FX market stress. BI conducted large monthly FX sales[3] ("large FXIs") during the global financial crisis (2008), the taper tantrum (2013), the EM stress episode (2018), and most recently during the early stages of the pandemic (March 2020) and in 2022 when the Fed started hiking interest rates. Moreover, these interventions coincided with periods of higher UIP premia; for example, the 3-month UIP premium averaged 3.1 percent in the crisis months, compared with 2.3 percent in normal periods. Over time, the amount of FXI per year has gradually declined, from an average annual FX sales amount of 2.3 percent of GDP during 2008-2015 to 1.2 percent during 2016-August 2022. This could reflect several underlying factors, such as favorable financial market conditions that led to fewer episodes of large exchange rate volatility during this period and the progress in improving the depth of Indonesia's FX market as discussed above.

Large FXIs vs. UIP Premia
(In percent)



Sources: IMF, Foreign Exchange Intervention: A Dataset of Public Data and Proxy; and IMF staff estimates.

Estimated Gross FX Interventions
(In percent of 3-year m.a. GDP, cumulative in each year)

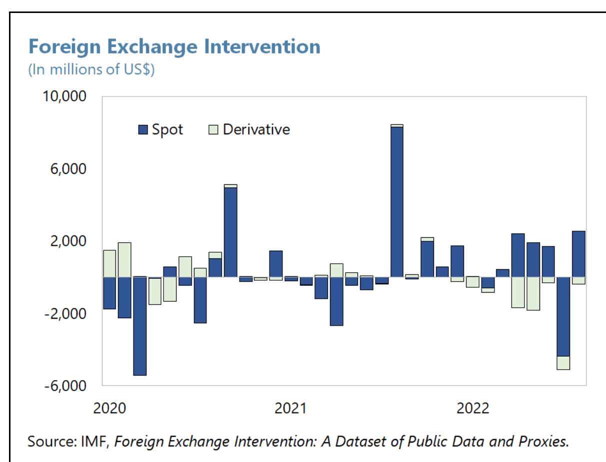


Source: IMF, *Foreign Exchange Intervention: A Dataset of Public Data and Proxy.*

7. The recent interventions allow a closer look at Indonesia's FX market frictions. The intervention in March 2020 was undertaken amid global financial market panic following the outbreak and spread of COVID-19. Indonesia experienced a sudden dry-up of FX market liquidity, with a sharp pickup in UIP premia and a widening of the bid-ask spread in the FX market. The

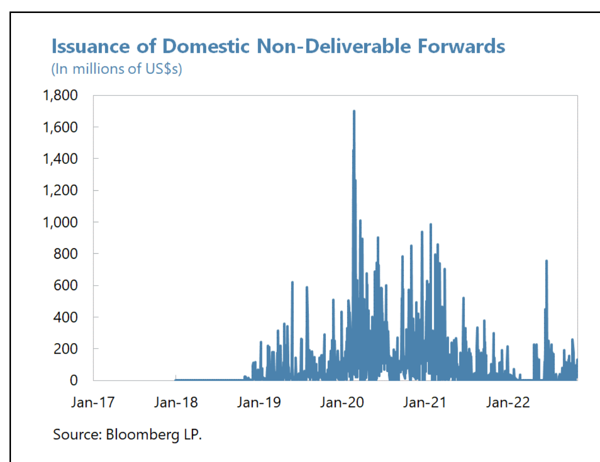
[3] Defined as episodes of monthly FX sales, through both spot and derivative instruments, larger than one standard deviation of the estimated FXI series from Adler and others (2021) over the period of January 2008 and August 2022, which is equivalent to about 0.4 percent of GDP.

IDR/USD exchange rate depreciated by a sizable 13.9 percent in March, exchange rate volatility more than doubled, driven by a major portfolio outflow from the local government bond market (about US$8 billion). Notably, the March intervention involved FX transactions both in the FX spot and DNDF markets, marking the first time the DNDF market was used for large-scale interventions. The July 2022 intervention took place amid Fed tightening that led to a repricing of risk assets, and a depreciation of the rupiah and other EM currencies in the risk-off environment. That said, the IDR/USD exchange depreciation in run up to the July intervention was more moderate at about 2.8 percent during April–June and remained virtually unchanged in July. Signs of frictions associated with shallow FX markets, such as an increase in UIP premia and widening of the FX market bid-ask spread, were also less evident. Against this backdrop, while both interventions were similar in size (about 0.5 percent of GDP), the March 2020 intervention was followed by a relatively larger and more persistent decline in UIP premia and exchange rate volatility. But comparing the effectiveness of these two interventions based on low-frequency (quarterly) ex-post data is difficult and may not be informative, as the effects of FX interventions can be very short-lived and materialize in an ex-ante fashion, and without a more comprehensive assessment of the broader domestic and global market conditions.



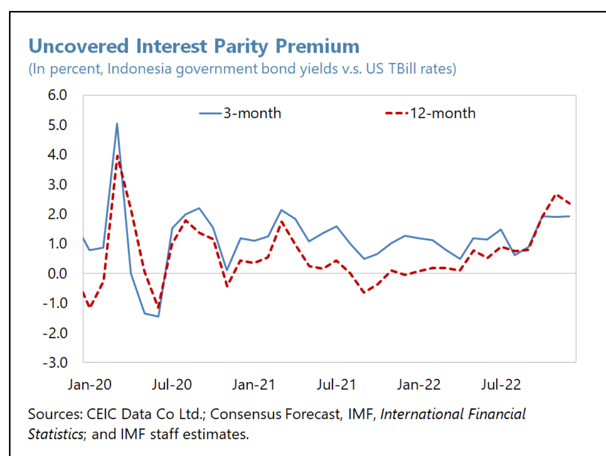
Foreign Exchange Intervention
(In millions of US$)

Source: IMF, *Foreign Exchange Intervention: A Dataset of Public Data and Proxies.*



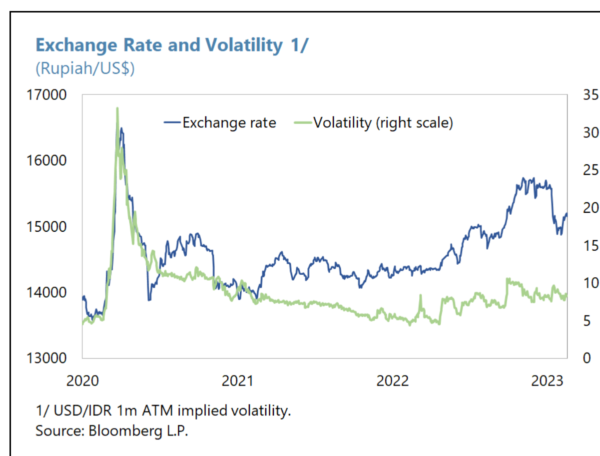
Issuance of Domestic Non-Deliverable Forwards
(In millions of US$s)

Source: Bloomberg LP.



Uncovered Interest Parity Premium
(In percent, Indonesia government bond yields v.s. US TBill rates)

Sources: CEIC Data Co Ltd.; Consensus Forecast, IMF, *International Financial Statistics*; and IMF staff estimates.



Exchange Rate and Volatility 1/
(Rupiah/US$)

1/ USD/IDR 1m ATM implied volatility.
Source: Bloomberg L.P.

A Model-Based Analysis

8. We use a micro-founded New Keynesian open-economy model to evaluate policy options and the potential role for FXI in response to a risk premium shock. The model is a linearized version of the Adrian et al (2021) IPF model, extended to include a supply side, commodities, and a more elaborate fiscal sector.

9. The model assumes that the central bank has at its disposal the policy rate and FXI as monetary policy instruments. The policy rate (i_t) follows a Taylor-like rule given by Equation A.1 with the coefficients estimated jointly with other structural parameters of the model (estimates shown in square brackets). The rule specifies that the central bank reacts to an expected four-quarter change in core CPI inflation around its target ($\bar{\pi}_{c,t+4|t}$) and the deviation of output from its trend (y_t). Equation A.2 states that the central bank will follow a specified rule for FXI (fx_t)—defined as the change in central bank reserves (see Equation A.3)—where FXI is proportional to the size of the depreciation of the nominal exchange rate ($\Delta s_t > 0$) when $\gamma_{\Delta s} > 0$.[4] As in the interest rate policy rule, the FX intervention rule allows for the possibility of some gradualism when $\rho_{fx,1} > 0$. The coefficient $\rho_{fx,2}$ in the error correction term ($-\rho_{fx,2} b_{M,t-1}$) ensures that reserves are rebuilt overtime and that the model has a well-defined steady state with positive reserves. These rules only describe the average behavior of the central bank. The central bank at any point in time can decide to deviate from the specified rules for a period of time. Temporary deviations from these rules are allowed in the form of policy shocks.

$$i_t = (1-\gamma_i)\left[(1+\gamma_\pi)\bar{\pi}_{c,t+4|t} + \gamma_y y_t\right] + \gamma_i i_{t-1} + \varepsilon_{i,t} \quad \text{(Equation A.1)}$$

[0.87] [1.24] [0.13]

$$fx_t = \rho_{fx,1} fx_{t-1} - \rho_{fx,2} b_{M,t-1} - \left(1-\rho_{fx,1}\right)\frac{\gamma_{\Delta s}}{1-\gamma_{\Delta s}}\Delta s_t + \varepsilon_{fx,t}. \quad \text{(Equation A.2)}$$

[0.39] [0.02] [0.5]

$$fx_t = b_{M,t} - b_{M,t-1} \quad \text{(Equation A.3)}$$

10. Fiscal policy is assumed to take various forms such as targeted transfers, consumption and labor taxes, as well as energy subsidies to households and firms. The model introduces rule-of-thumb (Keynesian) agents, thus breaking Ricardian equivalence that holds in the Adrian et al (2021) model. As the Keynesian households neither have any assets nor optimize their labor supply, changes to their income (for example, through fiscal policy) can be immediately reflected in their consumption which feeds back into aggregate demand. Since it is reasonable to assume that those

[4] Alternatively, FXI could be modelled with a rule that responds to real exchange rate deviations from its fundamental value. This would require an assessment of the equilibrium real exchange rate coming either endogenously from the model or from judgement. Our model takes a simplified approach by measuring the real exchange rate as deviation from the sample mean. To the extent that the exchange rate depreciation in the scenario is assumed to be caused by risk-off shocks that move the exchange rate off its (unchanged) fundamental value, our current results should be similar to the alternative specification.

Keynesian households are relatively poorer, targeted transfers to them also capture policies aimed at reducing income inequality.

11. Market frictions that are important for EMs, such as greater exchange rate passthrough and shallow FX markets, are specified as follows.

- **Greater exchange rate passthrough**. Domestic inflation increases following a depreciation via higher prices of imported goods in the consumption basket. Second-round effects of the exchange rate depreciation on domestic inflation are incorporated through a wage channel. Wage formation in the model (Equation A.4) follows Erceg et al. (2000), which assumes that nominal wages ($\pi_{w,t}$) are sticky and set according to Calvo-style wage contracts with both optimizing ($\pi_{w,t}$) and non-optimizing wage setters ($\tilde{\pi}_{w,t}$). In either case, depreciation results in compensatory wage increases as worker's consumption-based real wage ($\zeta_{c,t}$) declines, which raises firms' marginal cost (mc_t) and drives up domestic inflation (π_t) through a domestic price Phillips curve (Equation A.5). The model implied exchange rate passthrough to core inflation (year-over-year) is about 0.1 percentage point by the end of the first year, which is broadly consistent with staff's other independent estimates.[5]

$$\pi_{w,t} - \tilde{\pi}_{w,t-1} = \beta\delta_c \mathrm{E}_t(\pi_{w,t+1} - \tilde{\pi}_{w,t}) + \kappa_w(mrs_t - \zeta_{c,t}) + \varepsilon_{w,t} \qquad \text{(Equation A.4)}$$

$$\pi_t - \iota_d\pi_{t-1} = \beta\delta_c \mathrm{E}_t(\pi_{t+1} - \iota_d\pi_t) + \kappa_p mc_t + \varepsilon_{\pi,t} \qquad \text{(Equation A.5)}$$

- **In shallow FX markets**, the risk-bearing capacity of investors trading bonds in the FX markets is limited and can cause variations in the UIP premium, in line with the Gabaix and Maggiori (2015) framework. The risk-augmented UIP equation in Equation A.6 specifies the real exchange rate ($q_{p,t}$) as the real interest rate differential with the foreign economy ($(i_t^* - \mathrm{E}_t\pi_{t+1}^*) - (1+r)(i_t - \mathrm{E}_t\pi_{t+1})/(1+r^*)$) plus any expected exchange rate movements ($\delta_c\mathrm{E}_t q_{p,t+1}$). When capital outflows trigger an imbalance between demand and supply of funds, a contemporaneous depreciation (and expected appreciation in the coming periods) or a rise in risk premium is required to compensate investors for the greater risk exposure. Concretely, when flows intermediated by investors rise (i.e., $b_{F,t}$ goes up), it exerts a depreciating pressure on the exchange rate (i.e., $q_{p,t}$ rises). By the same token, central bank's FX intervention can smooth exchange rate movements by reducing the imbalances between demand and supply of funds in the FX markets. The shallower FX markets are (i.e., the larger Γ is), the more sensitive the exchange rate is to fluctuations in capital flows, and at the same time, the most effective FXI is to affect the exchange rate.

$$q_{p,t} = \delta_c\mathrm{E}_t q_{p,t+1} + (i_t^* - \mathrm{E}_t\pi_{t+1}^*) - \frac{1+r}{1+r^*}(i_t - \mathrm{E}_t\pi_{t+1}) + (1+r)\Gamma\left[b_{F,t} + b_F(i_t - \mathrm{E}_t\pi_{t+1})\right]/(1+r^*)$$

[5] There is evidence that exchange rate passthrough is time-varying and shock-dependent, which is not captured in the model. For example, using cross-country panel data, Carrière-Swallow et al. (2023) find that passthrough rates tend to rise with the level of inflation, and that passthrough is higher when the source of the exchange rate depreciation is a tightening of U.S. monetary policy.

(Equation A.6)

Policy Response Under Downside Scenario

12. We assume a worsening in the global economic outlook as the downside scenario. Under this scenario, global supply shocks lead to higher inflation than in the baseline and prompt central banks in major advanced economies to hike policy rates further, triggering a tightening of global financial conditions and an abrupt repricing of risky assets. Concretely, the representative foreign economy hikes the policy rate by around 80 basis points to fight a nearly 1 percentage point increase in core inflation, which leads to a decline in foreign output of about 1 percent lower than the baseline. In addition, a non-fundamental "risk-off" shock leads to sizable capital outflows from EMs. This is modeled as roughly one standard deviation shock to Indonesia's UIP premium, which has an amplified effect on the exchange rate, due to Indonesia's shallow FX markets.

13. The coordinated use of monetary, exchange rate, and fiscal policies are evaluated under this scenario to assess the impact of policy adjustments and trade-offs. The following four illustrative scenarios are used to highlight the coordinated use of these policy instruments to minimize policy trade-offs (Figure 1):

- In the first policy scenario (blue line), monetary policy responds to higher inflation through a 90-bps policy rate hike. With this policy response, core inflation rises by 1.2 percent, and the exchange rate depreciates by 5 percent. Private domestic demand contracts sharply as monetary policy tightens, which, combined with a weaker exchange rate, leads to a sharp contraction in imports. Part of the fall in imports is attributed to a higher import price in local currency after depreciation, consistent with some degree of dominant currency pricing in imports.[6] Exports decline initially as foreign demand is lower but improve over time as the exchange rate depreciation improves the competitiveness of the exporting sector. Overall, this means an improvement in net exports and a decline in total output of 0.35 percent compared to the baseline. A more aggressive interest rate hike to fight inflation—which would likely be needed if inflation is already high in the baseline—would result in even lower output.

- In the second scenario (black dashed line), the central bank delays the interest rate hike by 8 quarters and exclusively uses FXI (of about 2 percent of GDP) to respond to the shocks. In this case, the central bank can achieve a similar inflation outcome in the near term by reducing the initial exchange rate depreciation by half relative to the first scenario. But inflation expectations rise sufficiently to induce a decline in the real interest rate, which stimulates domestic demand. As a result, output is higher than in the first scenario (by about 1 percent). Despite a better

[6] Dominant Currency Pricing (DCP) posits that exports and imports are predominantly priced in U.S. dollars which also seems to be relevant for Indonesia. According to Boz and others (2020), about 94 and 87 percent of Indonesia's exports and imports respectively are traded in dollars. DCP implies that the expenditure switching effect of exchange rate depreciation is more muted as depreciation may not always lead to lower export prices in dollar terms, limiting the increase in foreign demand, and manifests itself relatively more through import compression.

inflation-output tradeoff in the short run than in the first policy scenario, the sustained use of FXI comes at the cost of lower reserves, reducing its scope to mitigate persistent inflationary shocks.

- In the third policy scenario (red dotted line), interest rate and FXI policies are used together. The exchange rate depreciates by less than in the second scenario due to the impact of higher interest rates. A smaller depreciation leads to a smaller increase in inflation (about 0.9 percentage point)—as the passthrough is more muted—and a less aggressive monetary policy response (by only 55 basis points, compared with 90 basis points in the first scenario), mitigating financial stability risks and an increase in debt-at-risk, while also reducing inflation (by 0.3 percentage points relatively to the first scenario). However, output is slightly lower than in the first scenario (by about 0.1 percentage point) because the relatively stronger domestic demand is more than offset by the relatively weaker net exports due to the milder exchange rate depreciation.

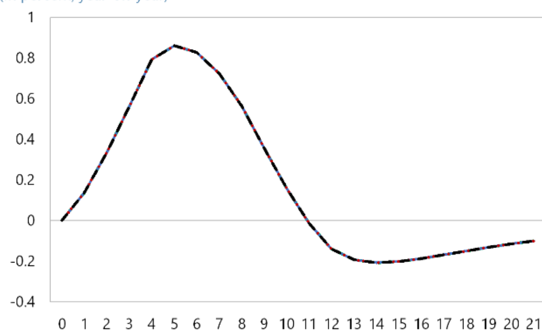
- In the fourth policy scenario (green dashed line), the authorities additionally use fiscal stimulus—through targeted transfers to vulnerable households (of about 0.5 percent of GDP for two years)—on top of interest rate and FXI policies. This mitigates the decline in output and reduces consumption inequality amongst households, but at the cost of a marginally higher interest rate and a small increase in government debt (of 1 percent of GDP in five years).

- Taken together, the use of a coordinated response of monetary, FXI, and fiscal policy in the fourth scenario achieves more exchange rate and price stability, with the least disruption to private domestic demand. In all scenarios, some degree of exchange rate flexibility is desirable, reflecting the shock to foreign interest rates and the widening interest rate differentials. At the same time, the use of FXI in response to the non-fundamental risk-off shock, alleviates the burden on monetary policy by limiting the extent of depreciation and passthrough to inflation. It would be much more costly in terms of output sacrifice to bring down inflation using interest rates alone.[7] More importantly, the smaller increase in interest rates help prevent a further rise in debt-at-risk in the corporate sector, thus mitigating financial stability risks. Use of FXI and policy tradeoffs would depend critically on initial conditions, the nature of the shocks, and the observed frictions which influence policy priorities in a downside scenario, including the level of inflation, the output gap, the stock of usable reserves and the degree of financial stability risks related to higher interest rates.

[7] Figure 2 compares the macroeconomic outcomes if only the interest rate is used to bring down inflation to a level close to what could be achieved through the combination of interest rate and FXI. Concretely, to reduce the rise in inflation from 1.2 percent to 0.9 percent using interest rate alone, the output sacrifice would be 0.7 percent, almost twice as large as the case when FXI is also used (0.4 percent).

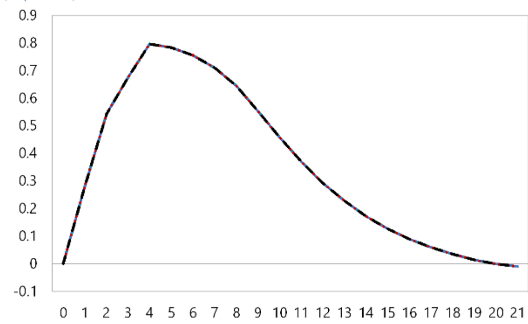
Figure 1. Illustrative Downside Scenario

Foreign Inflation
(In percent, year-on-year)



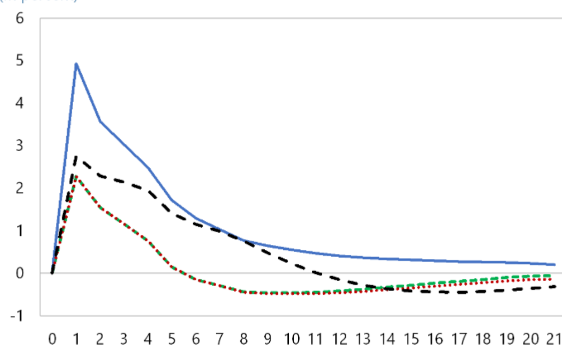
Source: IMF staff estimates.

Foreign Policy Rate
(In percent)



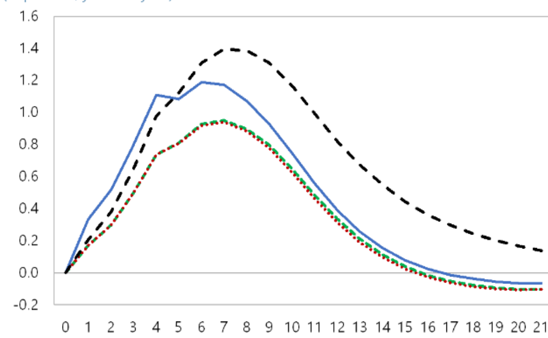
Source: IMF staff estimates.

Real Exchange Rate
(In percent)



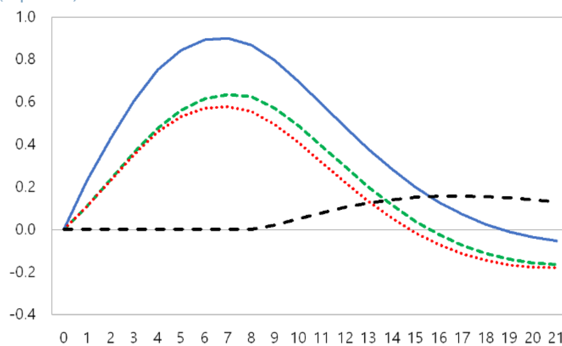
Source: IMF staff estimates.

Core Inflation
(In percent, year-on-year)



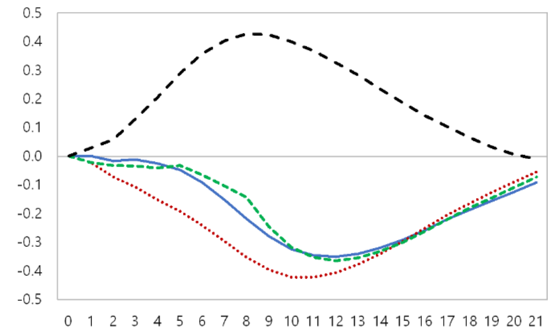
Source: IMF staff estimates.

Policy Rate
(In percent)



Source: IMF staff estimates.

Output Gap
(In percent)

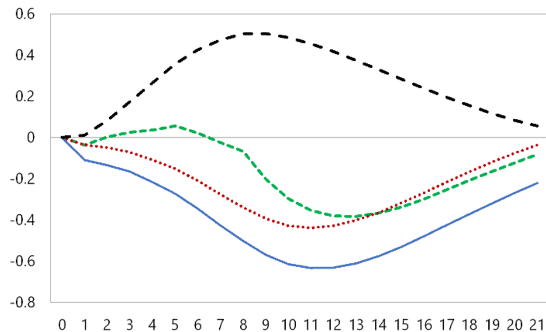


Source: IMF staff estimates.

IR + FXI + Targeted Transfers — Interest Rate (IR) Only — IR + FXI — FXI Only

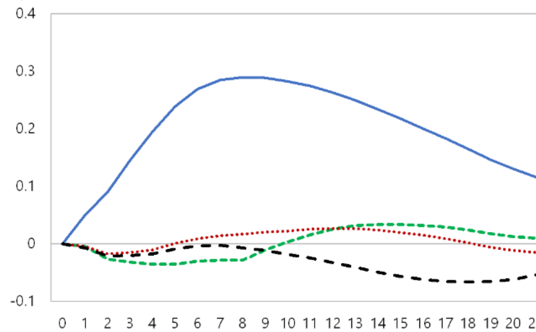
Figure 1. Illustrative Downside Scenario (Concluded)

Private Domestic Demand
(In percent, quarter-on-quarter changes)



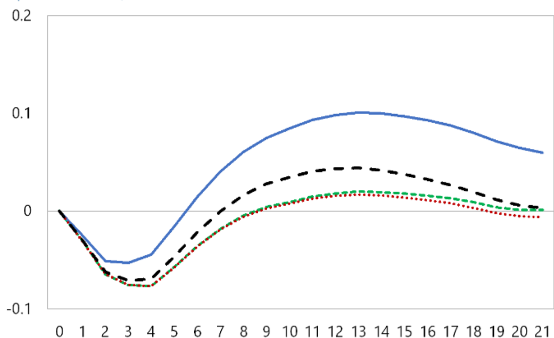
Source: IMF staff estimates.

Net Exports
(In percent of GDP)



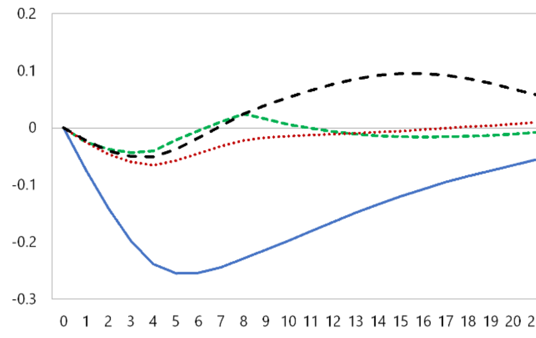
Source: IMF staff estimates.

Exports
(In percent of GDP)



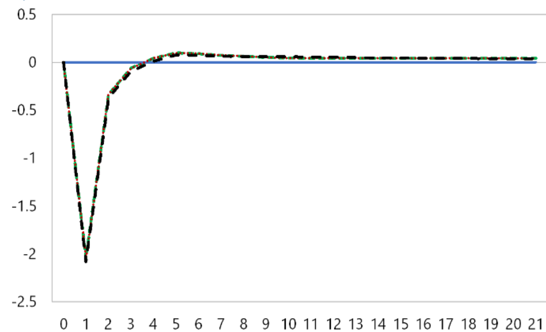
Source: IMF staff estimates.

Imports
(In percent of GDP)



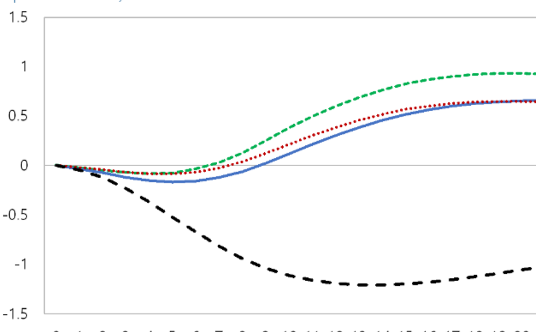
Source: IMF staff estimates.

Foreign Exchange Intervention
(In percent of GDP)



Source: IMF staff estimates.

Government Debt
(In percent of GDP)



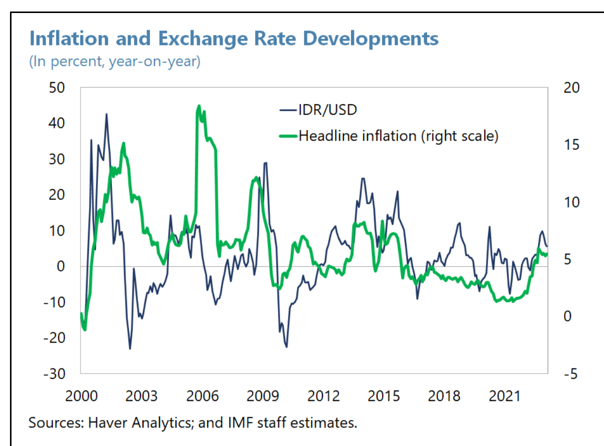
Source: IMF staff estimates.

IR + FXI + Targeted Transfers — Interest Rate (IR) Only — IR + FXI — FXI Only

14. Under large shocks, price and financial stability considerations could become paramount, necessitating the use of FXI to limit the escalation of non-linear effects.

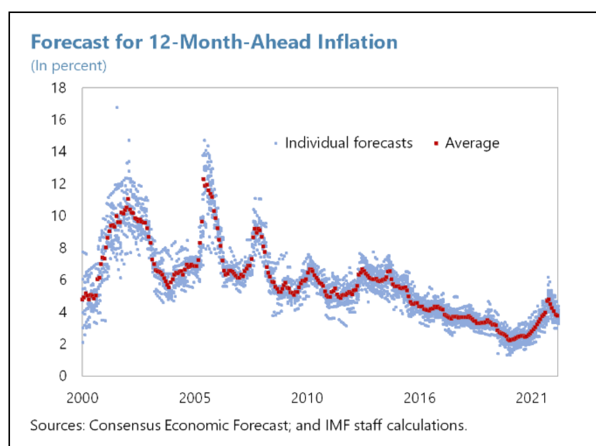
- **Inflation expectations and exchange rate passthrough**. Inflation expectations have remained well anchored in Indonesia, but a very large exchange rate depreciation could de-anchor inflation expectations. While it is difficult to pinpoint the inflection point at which the risk of de anchoring increases substantially, existing studies do find significant threshold effects associated with exchange rate shocks. For example, Caselli and Roitman (2019) find that the rate of exchange rate passthrough becomes nonlinear when the exchange rate depreciates by more than 24 percent in a sample of emerging markets. Looking at episodes of similarly large exchange rate depreciations in Indonesia since 2000, 3 episodes stand out: 2000-01, 2008-09, and 2013-14. During all three episodes, inflation increased markedly, and the exchange rate depreciated by about 27-64 percent, and during two out of the three episodes (2000-01 and 2008-09) there were indications of higher risk of inflation expectations getting de-anchored. In particular, the dispersion of market inflation forecasts increased significantly in 2000-01. There was a smaller dispersion of market forecasts in 2008-09, but long-term inflation expectations (2-year ahead Consensus forecasts) deviated from the BI's inflation target band. The experience during these historical episodes suggest that price stability risks may indeed be pertinent under large but plausible exchange rate shocks. Figure 3 illustrates a more pronounced increase in inflation where the exchange rate passthrough coefficient is assumed to be twice as high as the model estimates (through a steeper import price Phillips curve), and there is a larger and more persistent exchange rate depreciation (of about 10 percent) due to a larger U.S. monetary policy tightening. In this case, as inflation rises persistently above the inflation target band, the risks of de-anchoring of inflation expectations become much higher and the required monetary policy response stronger.

Inflation and Exchange Rate Developments
(In percent, year-on-year)



Sources: Haver Analytics; and IMF staff estimates.

Forecast for 12-Month-Ahead Inflation
(In percent)



Sources: Consensus Economic Forecast; and IMF staff calculations.

- **Balance sheet effects**. A large exchange rate depreciation could also have a non-linear impact on private sector balance sheets reflecting the partial hedging of FX exposures since minimum hedging requirements apply only to 25 percent of short-term net exposures for the corporate sector. The impact ultimately depends on the size of unhedged exposures, persistence of the exchange rate depreciation since hedging requirements only apply to near-term exposures, and

whether these exposures are systemic. Lack of information on hedging makes it difficult to assess potential non-linearities and the size of shocks that would warrant FXI to mitigate financial stability risks. The decline in total FX exposures since the Asian Financial Crisis, and strong capital buffers in the banking sector are nevertheless important offsetting factors that suggest a high threshold for such non-linear effects to kick in.

15. Nevertheless, the scope for using FXI would depend critically on its effectiveness in stabilizing the exchange rate and the level of reserves. The model's estimate of FXI effectiveness is aligned with that of Blanchard and others (2015) for a sample of EMs, which shows that a 1 percent of GDP FX intervention leads to about 1 percent movement in the exchange rate on average, although the effectiveness could be higher for Indonesia given its relatively shallow FX markets. It should also be noted that large uncertainties surround those estimates, making it difficult to draw firm conclusions, given the unavailability of historical FXI data and the low frequency (quarterly as opposed to daily) information used in the estimation. More importantly, while the effectiveness of FXI is broadly related to the shallowness of the FX market, it could be time-varying, depending on the nature and size of the shock. FXI may be more effective under stress episodes when central bank's intervention alleviates pressures as markets become shallower. In other situations, moving the exchange rate in a meaningful way may require the use of large amounts of reserves, making FXI very costly, and infeasible if reserves are limited.

Concluding Remarks

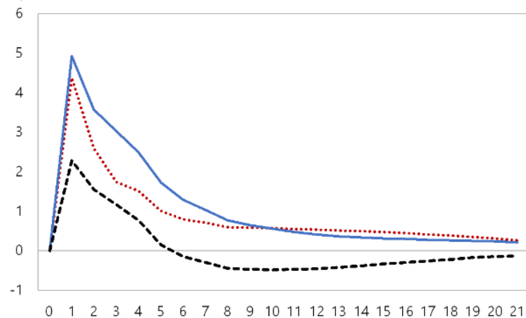
16. Additional considerations, not fully addressed in the model-based analysis, can be relevant in considering the use of FXI. The linearized model used in the scenario analysis does not capture non-linear or threshold effects and assumes away the possibility of hitting the external debt limit discussed in Adrian et al (2021). While this simplifying assumption appears justified given Indonesia's relatively modest FX currency mismatch, severe stress in currency markets and a large exchange rate depreciation could have adverse balance sheet effects on the economy (due to partial hedging for example) and possibly impact policy tradeoffs. On the other hand, use of FXI may have non-negligible longer-term costs such as impeding financial market development and encouraging excessive buildup of foreign currency debt. Moreover, using FX sales to support the exchange rate in a risk-off episode may risk large and potentially destabilizing losses of reserves if the risk-off sentiment in the currency market proves more persistent than first anticipated, or a large loss of reserves triggers a further repricing of risk premium.

17. In practice, identifying the nature of shocks and frictions in real time can be challenging. One difficulty for central banks could be distinguishing between real and financial shocks. In principle, use of FXI would not be justified in response to a fundamental shock, such as those caused by normal demand- and supply-side conditions, while it may be warranted to counter a non-fundamental UIP premium shock depending on the size of the shock and underlying frictions. However, these shocks are often correlated and hard to assess in real time, making it difficult to ascertain the optimal level of adjustment in the exchange rate. Furthermore, some financial shocks could materialize unexpectedly, e.g., a sharp spike in intraday FX volatility due to unforeseen

domestic and global events, in which case central banks may need to intervene even before a comprehensive assessment of the nature of the shock.

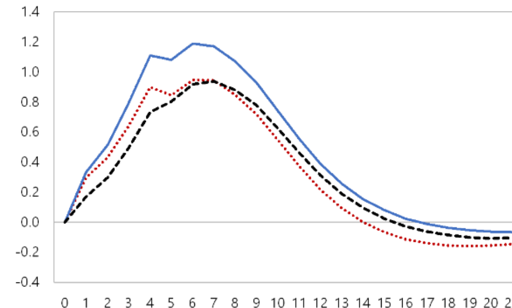
Figure 2. Aggressive Interest Rate Reaction Only

Real Exchange Rate
(In percent)



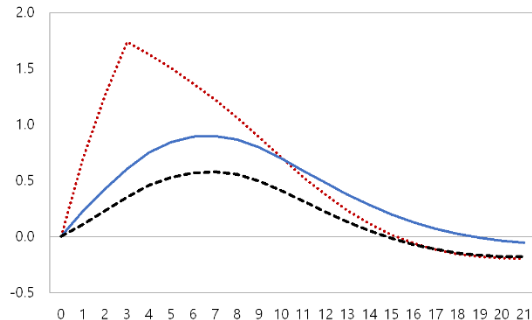
Source: IMF staff estimates.

Core Inflation
(In percent, year-on-year)



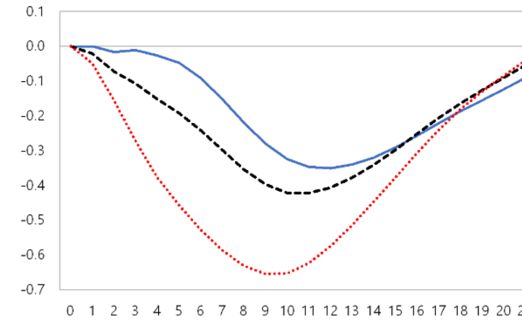
Source: IMF staff estimates.

Policy Rate
(In percent)



Source: IMF staff estimates.

Output Gap
(In percent)

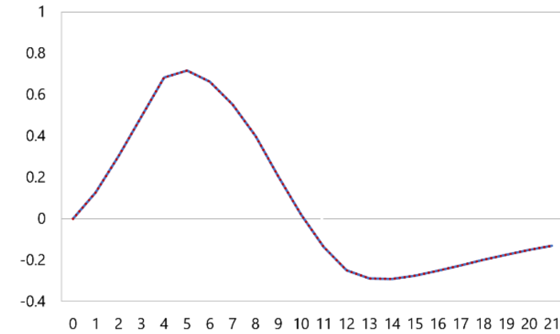


Source: IMF staff estimates.

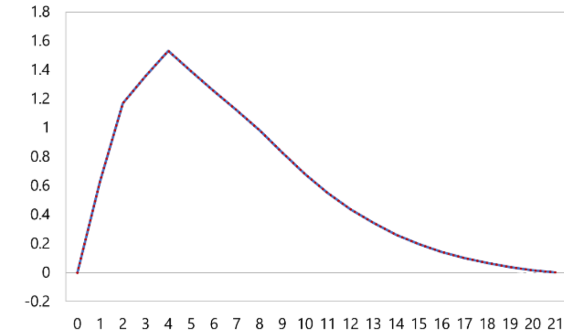
Interest Rate (IR) Only   IR + FXI   Aggressive IR Only

Figure 3. "Large Shock" Experiment

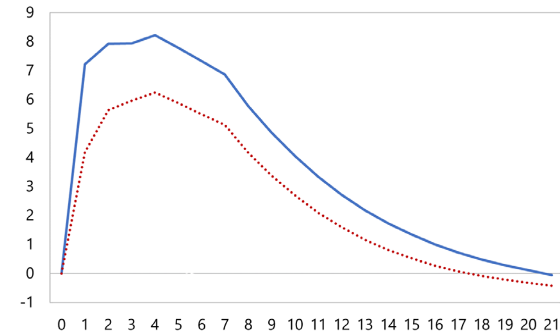
Foreign Inflation
(In percent, year-on-year)



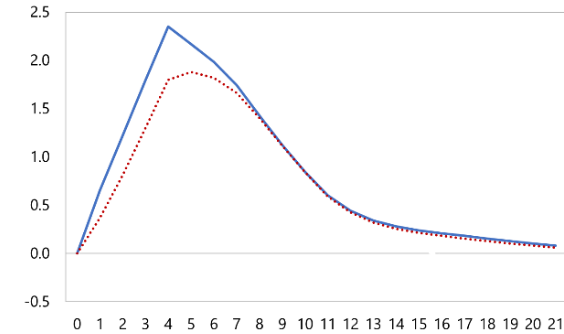
Foreign Policy Rate
(In percent)



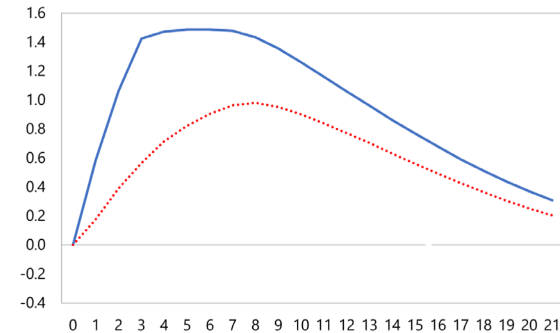
Real Exchange Rate
(In percent)



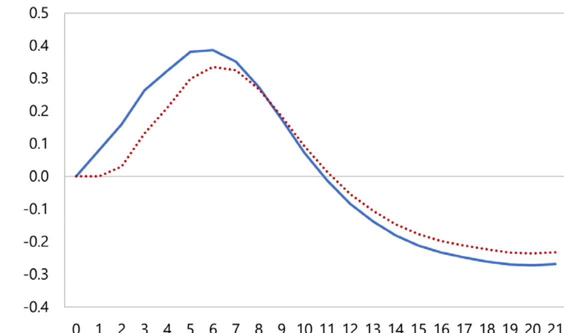
Core Inflation
(In percent, year-on-year)



Policy Rate
(In percent)



Output Gap
(In percent)

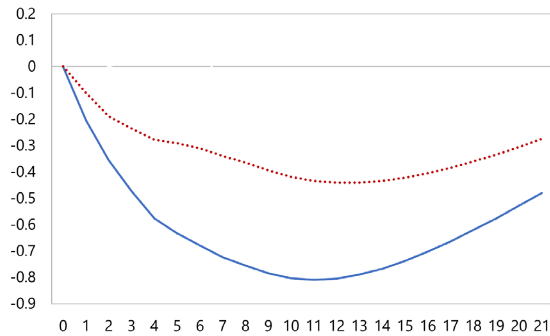


Interest Rate (IR) Only   IR + FXI

Figure 3. "Large Shock" Experiment (Concluded)

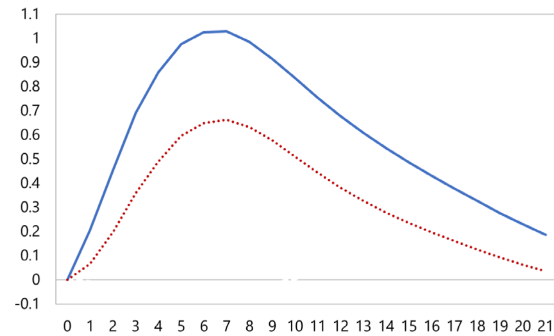
Private Domestic Demand

(In percent, quarter-on-quarter changes)



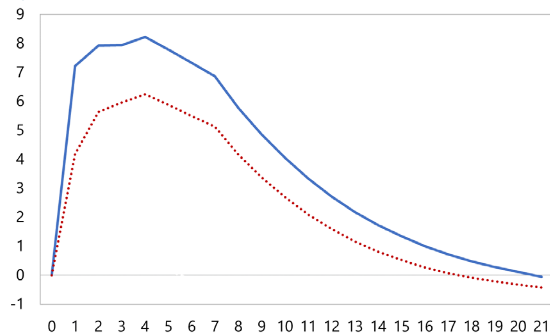
Net Exports

(In percent of GDP)



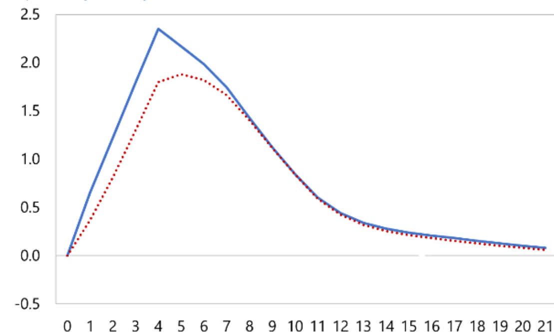
Real Exchange Rate

(In percent)



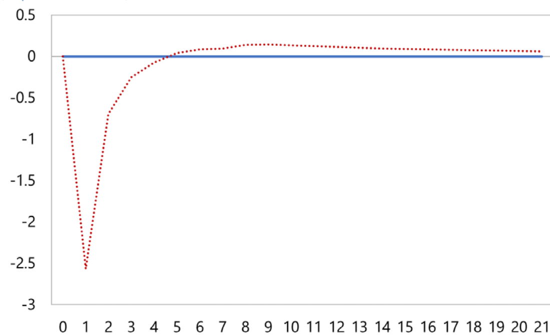
Core Inflation

(In percent, year-on-year)



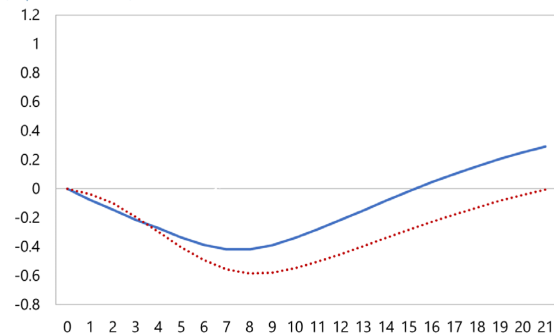
Foreign Exchange Intervention

(In percent of GDP)



Government Debt

(In percent of GDP)



Annex VI. Global Bank Stress Testing Tool: Application to Indonesia

1. **The IMF's Global Bank Stress Testing (GST) tool is an Excel-based tool for bank solvency stress test using publicly available, individual bank data in 33 banking systems**. It covers 14 largest banks in Indonesia, which consists of roughly 75 percent of the total assets in the commercial banking sector. The tool uses a solvency stress testing methodology that is based on country-specific panel econometric models to link the dynamics of individual bank income and expense components to the evolution of key macro and financial variables.

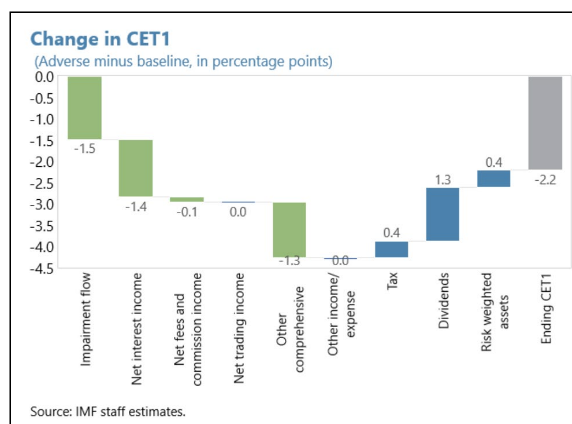
2. **We construct staff's baseline scenario and an adverse scenario that features higher interest rates and slower economic growth**. In the adverse scenario, inflation surprises on the upside, prompting a more aggressive monetary policy response. The central bank tightens monetary policy with an additional 200bps hike in the policy rate relative to the baseline in 2023. The aggressive monetary tightening coupled with weaker demand in the economy leads to a sharp slowdown in GDP growth to 2 percent. Long-term interest rates also rise, by 250bps higher than the baseline, as the term premia increases. Corporate bond spreads widen, and stock market index sees no growth.

3. **The GST results show that, in aggregate, Indonesian's banks are well-capitalized to absorb losses in the adverse scenario**. Compared to the baseline, the CET1 ratio would fall by 4.3 percentage points due to higher loan impairments, lower net interest income, and reduction in other comprehensive income (mostly unrealized valuation gains and losses on available for sale/fair value securities). At the same time, some factors could help lessen the decline in capital, such as lower dividend payouts. Taken together, the reduction in aggregate bank capital is likely to be around 2.2 percentage points in the adverse scenario. The impact on individual banks varies, with the reduction in the CET1 ratio ranging from -8.9 to -0.4 percentage points.

Scenario Assumptions

	Baseline	Adverse	Difference
Real GDP growth	5.0	2.0	-3.0
Unemployment rate	5.3	6.8	1.5
Short-term interest rate	6.2	8.2	2.0
Long-term interest rate	7.8	10.3	2.5
Stock price growth	10.0	0.0	-10.0
Corporate bond spreads	5.6	8.6	3.0
VIX	30.0	35.0	5.0

Note: Short-term interest rate is defined as commercial banks' 3-month time deposit rate. Long-term interest rate is defined as the 10-year government bond yield. Corporate bond spread is the difference between working capital lending rate and overnight interbank rate.



Source: IMF staff estimates.

4. **Due to the lack of granularity, the GST does not explicitly capture the effects of sector-specific policies on banks' balance sheets**. Nor does it take account of endogenous policy actions likely to be introduced to mitigate the effects on banks' balance sheets should severe shocks materialize, such as regulatory forbearance to delay loss recognition and facilitate loan restructuring.

INTERNATIONAL MONETARY FUND

INDONESIA

May 5, 2023

STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

Prepared By
Asia and Pacific Department

CONTENTS

FUND RELATIONS ____ 2

RELATIONS WITH OTHER INTERNATIONAL FINANCIAL INSTITUTIONS ____ 4

STATISTICAL ISSUES ____ 5

FUND RELATIONS

(As of March 31, 2023)

Membership Status: Joined February 21, 1967; Article VIII

General Resources Account

	SDR Millions	Percent of Quota
Quota	4,648.40	100.00
IMF's holdings of currency (holding rate)	3,860.02	83.04
Reserve tranche position	792.91	17.06

SDR Department

	SDR Millions	Percent of Allocation
Net cumulative allocation	6,435.72	100.00
Holdings	5,567.62	86.51

Outstanding Purchases and Loans: None

Financial Arrangements

Type	Approval Date	Expiration Date	Amount Approved (SDR Millions)	Amount Drawn (SDR Millions)
EFF	02/04/00	12/31/03	3,638.00	3,638.00
EFF	08/25/98	02/03/00	5,383.10	3,797.70
Stand by	11/05/97	08/25/98	8,338.24	3,669.12

Projected Payments to Fund (SDR millions; based on existing use of resources and present holdings of SDRs):

	Forthcoming				
	2023	2024	2025	2026	2027
Principal					
Charges/Interest	22.50	30.16	30.13	30.14	30.14
Total	22.50	30.16	30.13	30.14	30.14

Exchange Arrangements

The rupiah has had a *de jure* free floating exchange arrangement since August 14, 1997, and the current *de facto* arrangement is floating. The market exchange rate was Rp 14,995 per U.S. dollar as of March 31, 2023. Indonesia has accepted the obligations of Article VIII, Sections 2, 3, and 4, and maintains an exchange system free of restrictions on payments and transfers for current international transactions and multiple currency practices.

Article IV Consultation

The last Article IV consultation report (IMF Country Report No. 21/46) was discussed by the Executive Board on March 11, 2022.

Resident Representative

Mr. James Walsh served as Senior Resident Representative from August 2020 to March 2023.

RELATIONS WITH OTHER INTERNATIONAL FINANCIAL INSTITUTIONS

- World Bank: https://www.worldbank.org/en/country/indonesia
- Asian Development Bank https://www.adb.org/countries/indonesia/main

STATISTICAL ISSUES

I. Assessment of Data Adequacy for Surveillance

General: Data provision is broadly adequate for surveillance with some shortcomings in fiscal and external sector statistics.

National accounts: Statistics Indonesia (BPS) regularly disseminates annual and quarterly GDP (QGDP) by economic activity and expenditure components at current prices and in volume terms. GDP estimates are generally based on the latest international methodologies following the System of National Accounts *(2008 SNA)*. However, the base year (2010) is outdated. The QGDP estimates are based on a limited set of indirect indicators. Some economic sectors experience strong seasonality, and BPS prepares seasonally adjusted data, which are not disseminated. The authorities have expressed interest in receiving technical assistance to rebase the national accounts and to improve the seasonal adjustment processes.

Price statistics: A revised consumer price index (CPI) with updated weights and an index reference periods (2018) was introduced in January 2020. This update improved the representativeness of consumer expenditure patterns, incorporated improved imputation methods, and expanded coverage of e-commerce transactions. BPS has expressed interest in technical assistance to improve the seasonal adjustment of the CPI. The quarterly Producer Price Index (PPI) has weights and an index reference period dating back to 2010. The PPI weights should be updated to reflect current production. Recent technical assistance supported the BPS to draft a workplan to update the PPI weights and further expand coverage to include freight transportation and telecommunications industries. STA supported Bank Indonesia (BI) to develop an enhanced Residential Property Price Index (RPPI) that uses Internet property listings datasets.

Government finance statistics (GFS): The Ministry of Finance (MOF) is committed to keeping the development of improved fiscal statistics at the forefront of ongoing fiscal reforms, and better statistical monitoring is one of the goals of the administration's current efforts. The authorities have adopted the *Government Finance Statistics Manual (GFSM) 2001/2014* standards, with assistance from STA as part of a regional GFS project. Indonesia disseminates annual general government operations data, including balance sheet data, starting from 2008. Annual general government data are currently available within 12 months after the end of the reference period and are published on the national GFS website: http://www.gfs.djpbn.kemenkeu.go.id/en. Aggregated monthly data on the budget of the central government are available within one month.

The authorities compile quarterly general government operations data, with data starting from 2015. However, the quarterly general government data are yet to be published on the national GFS website The coverage and timeliness of public debt statistics are generally adequate, with quarterly data published in the World Bank's Quarterly Public Sector Debt Database.

Monetary and financial statistics (MFS) and financial sector surveillance: Monetary statistics are compiled by BI on a timely basis using the Standardized Report Forms (SRFs), from which an integrated database and alternative presentations of monetary statistics can be drawn to meet the needs of BI and the IMF. BI compiles the Other Financial Corporations survey, including finance companies, insurance companies, pension funds, the state-owned pawn shop (PT Pegadaian), and the Indonesian export financing institution (Eximbank).

BI compiles all core financial soundness indicators (FSIs) (18) for deposit-takers and real estate markets and 19 additional FSIs for deposit-takers, other financial corporations, and other economic sectors in line with the *2019 Financial Soundness Indicators (FSIs) Compilation Guide*. These data are disseminated quarterly on the Fund's FSI website**.**

Indonesia reports data on some key series of the Financial Access Survey (FAS), including mobile and internet banking, mobile money, gender disaggregated data, and the two indicators adopted by the UN to monitor Target 8.10 of the Sustainable Development Goals (SDGs).

External sector statistics (ESS): Indonesia's quarterly balance of payments statistics, compiled by the BI, generally follow the concepts and definitions set out in the sixth edition of the IMF's *Balance of Payments and International Investment Position Manual (BPM6*). Trade data have been improved in recent years. Import and export transactions of free trade zones and bonded warehouses are captured in goods data of balance of payments (BOP) statistics. The methodological basis for the compilation of direct investment (DI) data needs improvement. Inflows are currently calculated based on actual data from different sources. The errors and omissions in BOP has been predominantly negative, which could be related to the under coverage of imports in current account or assets in the financial account. Financial transactions data are reconciled with changes in the international investment position (IIP). IIP and external debt data are disseminated quarterly and are fully consistent, as the BI regularly performs a reconciliation exercise. However, improvements are still needed with respect to components of private corporate sector data, particularly in distinguishing between scheduled and actual debt service, in estimating the accumulation/reduction of private sector payments arrears, and in estimating reschedulings/debt reductions received by the private sector from external creditors. Indonesia participates in the Coordinated Portfolio Investment Survey and the Coordinated Direct Investment Survey.

II. Data Standards and Quality

A subscriber to the IMF's Special Data Dissemination Standard (SDDS) since September 1996, Indonesia met the SDDS specifications in June 2000. Indonesia uses the SDDS flexibility options for the periodicity and timeliness of the labor market indicators (employment, unemployment, and wages/earnings) and a timeliness flexibility option for general government operations data. Indonesia's latest SDDS Annual Observance Report is available on the Dissemination Standards Bulletin Board.

A Report on *Observance of Standards and Codes—Data Module; Response by the Authorities, and Detailed Assessments Using the Data Quality Assessment Framework* was published in July 2005.

Indonesia: Table of Common Indicators Required for Surveillance

(As of May 2, 2023)

	Date of Latest Observation	Date Received	Frequency of Data[1]	Frequency of Reporting[1]	Frequency of Publication[1]
Exchange rates	5/2/2023	5/2/2023	D	D	D
International reserve assets and reserve liabilities of the monetary authorities[2]	2/2023	3/2023	M	M	M
Reserve/base money	2/2023	3/2023	W/M	W/M	W/M
Broad money	2/2023	3/2023	M	M	M
Central bank balance sheet	2/2023	3/2023	M	M	M
Consolidated balance sheet of the banking system	2/2023	4/2023	M	M	M
Interest rates[3]	5/2/2023	5/2/2023	D	D	D
Consumer price index	4/2023	5/2023	M	M	M
Revenue, expenditure, balance and composition of financing—general government	2021	10/2022	A	A	A
Revenue, expenditure, balance and composition of financing—central government	3/2023	4/2023	M	M	M
Stocks of central government and central government–guaranteed debt	Q4/2022	2/2023	Q	Q	Q
External current account balance	Q4/2022	2/2023	Q	Q	Q
Exports and imports of goods and services	Q4/2022	2/2023	Q	Q	Q
GDP/GNP	Q4/2022	2/2023	Q	Q	Q
Gross external debt[4]	Q4/2022	3/2023	Q	Q	Q
International investment position[5]	Q4/2022	3/2023	Q	Q	Q

[1] Daily (D); Weekly (W); Monthly (M); Quarterly (Q); Annually (A); NA: Not Available.
[2] Any reserve assets that are pledged or otherwise encumbered should be specified separately. Also, data should comprise short-term liabilities linked to a foreign currency but settled by other means as well as the notional values of financial derivatives to pay and to receive foreign currency, including those linked to a foreign currency but settled by other means.
[3] Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.
[4] Including currency and maturity composition.
[5] Includes external gross financial assets and liability positions vis-à-vis nonresidents.

Statement by Rosemary Lim, Executive Director for Indonesia,
Irfan Hendrayadi, Senior Advisor to Executive Director and
Ferry Kurniawan, Advisor to Executive Director
May 22, 2023

On behalf of our Indonesian authorities, we would like to thank the IMF mission team led by Ms. Cheng Hoon Lim for the constructive policy dialogue during the 2023 Article IV consultation and insightful staff report. Our authorities broadly share staff's analysis and recommendations to navigate the economic recovery and advance structural reforms.

I. Economic Development and Outlook

Indonesia has seen strong economic recovery from the pandemic in 2022. GDP grew by 5.31% (year-on-year), the highest since 2013 and has returned to the pre-pandemic growth path. External stability was supported by a surplus BOP and adequate international reserve position. Inflation was recorded at 5.51% (year-on-year), and while higher than the upper-bound target range due to soaring global commodity prices and domestic fuel price adjustment, inflation is considerably lower than market projection and is on a significant downward path. Financial system remained sound with sustained resilience and strong credit growth. The rapid development of digital economy and finance also contributed to the strong economic recovery.

The momentum in economic growth is expected to continue and strengthen in the medium term despite headwinds from the global economic environment. Economic growth in 2023 is predicted with an upward bias towards the top end of the range of 4.5-5.3%, with potential gains driven by improving domestic demand, primarily private consumption in line with the easing of mobility restrictions in 2022, and solid exports. GDP growth recorded at 5.03% in the first quarter of 2023, in line with authorities' projections. Inflation is expected to descend within the 3.0%±1% target range. The current account is also projected to remain at a healthy level in the range of a 0.4% surplus to a 0.4% deficit of GDP while capital and financial account is expected to record a larger surplus. Credit growth is projected to remain at the 10-12% (year-on-year) range on strong banking intermediation. In the medium term, supported by the progressing structural reform and acceleration of digitalization, the economy is expected to improve further and return to its long-term trajectory. Given the highly uncertain global economic environment, the authorities remain vigilant to both short-term and medium-term risks that could weaken the economic outlook.

II. Policy Responses

Indonesian authorities acted decisively and with strong policy coordination to maintain macroeconomic stability. Fiscal-monetary policy synergy was strengthened during the COVID-19 pandemic including through three types of Joint Agreement mechanism between Minister of Finance and the Governor of Bank Indonesia (BI).[1] Coordinated policy responses from the Financial System Stability Committee (KSSK) were also instrumental to maintain financial stability and accelerate recovery in the

[1] First, the purchase of SBN by BI from the primary market as a stand-by buyer with a yield rate according to the market mechanism, when not all of the SBN auction targets for Government fiscal funding can be absorbed by the market which is valid for a period of three years (2020-2022). Second, the purchase of SBN by BI in the primary market directly with a burden sharing mechanism to meet the increasing needs of the APBN for social protection programs and national economic recovery, which applied to the 2020 APBN financing. Third, the purchase of SBN by BI in the primary market directly with a coupon at the Reverse Repo BI interest rate for three months to finance the enormous health and humanitarian funding needs in the 2021 and 2022 APBN due to the outbreak of the COVID-19 delta variant.

business sector. Price stability and food security were the main economic and financial challenges for Indonesia in 2022, as in other countries. Under the Inflation Controlling Team, both at central and regional levels, government efforts to contain food price increase and the spillover impact of fuel price adjustments worked in concert with the central bank to rein in inflation. The government utilized reserve funds for food price stabilization that has been allocated in the 2022 budget to support food security and topped up social assistance program for vulnerable families to sustain purchasing power affected by fuel price increases. The subnational governments were also required to spend 2% of general transfer fund to rein in inflation in the region. The National Movement for Food Inflation Control (GNPIP) was introduced as a new policy synergy to further support price stability. GNPIP seeks to optimize measures to control food inflation from the supply side and boost production to bolster food security.

Authorities will continue to enhance the economic policy mix, through innovation and synergy, to strengthen resilience, maintain economic recovery momentum and foster long-term growth potential. The policy mix includes five interrelated and complementary components, namely: (i) fiscal and monetary coordination; (ii) accelerate transformation of the financial sector; (iii) accelerate transformation of the real sector; (iv) digitalization of the economy and finance; and (v) green economy and finance. From the fiscal side, the 2023 state budget (APBN) which is formulated conservatively, will continue its role as a shock absorber to dampen the impact of global turmoil to macroeconomic stability, while strengthening spending priority on social protection, education, health, and infrastructure. The government remains committed to keeping fiscal deficit below 3% of GDP to preserve fiscal sustainability and expedite structural reform agendas including tax reform. BI will maintain a mix of policy instruments to maintain stability and support economic growth. Monetary policy will still be oriented towards maintaining stability (*pro-stability*), while the four other instruments (macroprudential policy, payment system digitalization, money market development, and the green and inclusive economy and finance) will continue to be directed to support recovery (*pro-growth*). Efforts to promote inclusive economic growth include accelerating the national sharia economy and finance and strengthening MSME competitiveness.

Fiscal Policy

Budget outturn in 2022 showed a strong performance. Fiscal deficit recorded at 2.38% of GDP (preliminary outturn), much lower than its target of 4.85%, and returned to the 3% ceiling[2] one year earlier than initially planned. Revenues grew significantly, 30.6% compared to the previous year, supported by solid economic recovery, higher commodity prices, and early gains of the tax reforms. The implementation of the Harmonized Tax Regulations Law, such as voluntary program disclosure and adjustment of the value added tax rate, provided a positive contribution in improving compliance, broadening tax base, and increasing tax revenue. On the expenditure side, Government spending increased by 10.9% and supported the achievement of development targets such as bringing down poverty and unemployment rates, and functioning as a shock absorber in preserving economic recovery amid heightened global risk. With a lower state budget deficit than its initial target, the government debt ratio declined to 39.70% of GDP at the end of 2022 from 40.74% in 2021.

The 2023 state budget deficit is designed conservatively with fiscal deficit to be maintained below 3% of GDP to enhance fiscal sustainability. The Government projects the revenue collection very conservatively, considering weaker global demand as well as moderation of commodity prices amid

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[2] Government Regulation in Lieu of Law Number 1 of 2020 and Law Number 2 of 2020 regarding fiscal consolidation set the deficit for 2023 below 3 % of GDP.

continued efforts to enhance the effectiveness of the tax reform. On the expenditure side, spending priorities are geared towards enhancing productivity and protecting vulnerable groups, through well-targeted subsidy and social safety net programs. The Government commits to maintain allocation for priority spending to boost competitiveness and productivity, for example by maintaining 20% and 5% allocation of total spending for education and health, respectively. The share of social protection and infrastructure expenditures are also substantial, reaching around 15,5% and 12,8% of total budget. Based on the latest tracking, the budget outturn in the first quarter 2023 still showed promising sign, with revenue increasing by 29% from its high base in 2022.

Monetary Policy and Exchange Rate Policy

Monetary policy was implemented by optimizing exchange rate stabilization, liquidity normalization and policy rate hikes, while maintaining adequate foreign exchange (FX) reserves. BI continuously strengthened Rupiah exchange rate stabilization measures in line with the currency's fundamental value amid escalating external pressures. Exchange rate stabilization policy was implemented through FX market intervention, including spot and domestic non-deliverable forward (DNDF) transactions as well as buying/selling government bonds (SBN) in the secondary market and strengthened through an innovative "twist operation" by selling short-term SBN in the secondary market to increase the attractiveness of SBN yields for foreign portfolio investment inflows to strengthen Rupiah stabilization measures. As excess liquidity in the banking industry gradually normalized, authorities ensured sufficient liquidity in the system in anticipation of credit growth post pandemic. For the policy rate, after staying at historically low level at 3.50% for 18 months since August 2022, BI raised the rate as a front-loaded, pre-emptive, and forward-looking measure to ensure lower inflation expectations and inflation moving forward.

Monetary policy in 2023 will consistently focus on Rupiah stabilization and inflation control to ensure inflation returns to its target corridor as part of the mitigation measures against the spillover effects of global turmoil. The authorities view the policy rate, which is kept unchanged at 5.75% since February 2023, sufficient to direct core inflation within the level of 3.0%±1% and return CPI inflation within the target range of 3.0%±1%, sooner than previously projected. Rupiah stabilization measures will be directed to mitigate imported inflation. BI will continue its "twist operation" and prompt a return of portfolio investment inflows, thus supporting Rupiah stabilization efforts and maintaining adequate FX reserves. Stabilization policy to control imported inflation will be strengthened with foreign exchange proceeds of exports management through the implementation of foreign currency term deposit instruments in accordance with market mechanisms.

The authorities noted staff's assessment regarding BI's FX intervention using estimated data from study by Adler and others (2021). While recognizing the Fund staff's assessment and intention for more precise assessments of the country's external sector and better policy advice on exchange rate policy, BI views that the application of this data as the proxy for the direction of FX intervention could be misleading and inaccurate, based on the consideration that (i) measuring the effectiveness of FXI in a more extended period will need to be more accurate to avoid failing to capture the dynamics in the FX market that occur in a very short time, and (ii) understanding the policy intentions of implementing FX interventions and domestic circumstances is necessary to avoid misleading interpretations.

Macroprudential and Financial Sector Policy

Macroprudential policy was kept accommodative to facilitate credit intermediation and support economic recovery while maintaining financial system stability. The policy focus is on balanced

intermediation, financial sector resilience, and inclusion. BI refined Macroprudential Inclusive Financing Ratio (RPIM) policy to facilitate inclusive lending in line with banks' expertise and business model while adhering to robust risk management. BI continued to promote lending rate transparency by publishing the assessment of bank's prime lending rate. BI recently increased the macroprudential incentives to facilitate bank lending to targeted sectors, including inclusive and green finance in the form of reserve requirement reductions up to 280bps.

The authorities reiterated that the corporate prudential FX regulation should not be seen as a CFM nor a CFM/MPM. The regulation aims to ensure macrofinancial stability through the adoption of prudential principles on corporate foreign borrowing. The hedging and liquidity requirements for non-bank corporations, first introduced in 2014 and later strengthened in 2016, significantly mitigated financial stability risks associated with FX maturity and balance sheet mismatches.

The financial sector remains sound, and authorities have further enhanced measures to strengthen financial services industry resilience and increase financial sector support for the economic recovery. The Financial Services Authority (OJK) unwound forbearance measures for loan/financing restructuring introduced during the pandemic, except for targeted sectors, mostly MSMEs, as they need longer time to overcome the impact of the pandemic due to scarring effect. These MSMEs mostly engage in accommodation and food service activities and labor-intensive business, namely the textile and footwear industries. The extension to March 31, 2024 was specifically allocated only to loans that were previously restructured during the pandemic-time and will be discontinued in time. OJK also strengthened anticipative and calibrated policies by increasing infrastructure, supervision, and governance in the financial sector, as well as consumer protection to maintain the financial sector stability, resilience, and its contribution to national economic recovery.

In 2023, macroprudential and microprudential policy will still be directed to facilitate bank lending and support the national economic recovery, while maintaining financial system stability. The accommodative macroprudential policies stance is consistent with the financial cycle that is still below its long-term trend. BI will maintain accommodative macroprudential policy stance in 2023 and gradually return the policy to pre-pandemic setting when the financial cycle closes the gap and enters the expansionary phase that is predicted to begin at the second quarter of 2024. The macroprudential policies will subsequently be tightened when the financial cycle is peaking up and nearing its peak, to avoid excessive risk taking that increases systemic risk to the financial system. From the microprudential side, three policy priorities will be laid out by OJK. First, strengthening financial service sector, which includes promoting bank consolidation and strengthening accountability in managing investments in NBFI capital market. Second, optimizing the role of the financial sector to support economic recovery, such as to continue to accelerate enhancement of financial access for MSMEs. Third, improving services and strengthening capacity of OJK in enhancing the system of Financial Information Service to create level playing field among financial services industry participants.

Financial market deepening will be accelerated to strengthen the effectiveness of monetary policy transmission as well as financing for infrastructure and businesses. Various programs were implemented as part of the BI Blueprint for Money Market Development (BPPU) 2025 based on three main initiatives: (i) digitalization and strengthening of financial market infrastructure; (ii) strengthening the effectiveness of monetary policy transmission; and (iii) developing financial instruments as a source of economic financing and strengthening risk management. To strengthen monetary policy transmission effectiveness, repurchase agreement transaction was developed in close coordination with relevant authorities and industry associations to standardize repo transaction among market participants and repo

transactions under BI Open Market Operations. The application of the blueprint will also support efforts to diversify and strengthen the investor base in the context of SBN holding, which has so far been dominated by banks. This will mitigate the risks arising from the 'sovereign-bank nexus', going forward.

Payment System Policy

Payment system digitalization continued to be accelerated and expanded. In accordance with the Indonesia Payment System Blueprint (BSPI) 2025, the policy focus in 2022 was oriented towards regulatory reform, retail payment system infrastructure development, and payment standardization. The retail payment infrastructure was modernized to be nationally driven and operating non-stop (24/7) in real time through its new settlement system (BI-FAST) to meet demand for retail transactions that is growing rapidly. BI expanded Quick Response Code Indonesia Standard (QRIS) use as the QR national standard to accelerate payment system digitalization. As of first quarter 2023, QRIS is accepted by 25.4 million merchants and utilized by more than 32 million users, becoming a key entry point to the digital ecosystem for MSMEs to support economic and financial inclusion. QRIS also enabled cross-border payment linkages in the region to reduce the cost. Application of the National Open API Payment Standard (SNAP) also strengthened to accelerate development of the digital economy and finance ecosystem.

Payment system policy in 2023 will be implemented through five key strategies that mutually strengthen national integration of the digital economy and finance ecosystem. First, formulating national standards as ‘One Language’ for payment system services collaboratively between BI and the industry as well as implementing a campaign of acceptance and use by consumers. Second, accelerating regulatory reform and end-to-end national payment system industry consolidation as ‘One Nation’ to develop healthy and innovative unicorns in Indonesia that are competitive nationally and internationally. Third, developing further (retail and wholesale) payment system infrastructure as ‘One Country’ to accelerate national integration of the digital economy and finance ecosystem and as a future prerequisite for issuance of the Digital Rupiah. Fourth, promoting safe, efficient and fair pricing policy and market practices for the national payment system industry to support the national interest and interests of consumers. Fifth, further development of the Digital Rupiah (CBDC) as legal tender through finalization of the conceptual design, development of business models, including preparations for access arrangement and development of the technology platforms required to issue and circulate the Digital Rupiah moving forward.

Structural Reforms

The authorities have reiterated their commitment to pursue comprehensive structural reform agenda to improve productivity, increase investment, create jobs, and boost export competitiveness. Among others, four reform milestones have been achieved through the issuance of the Omnibus Law on Job Creation, Harmonized Tax Regulations Law, Intergovernmental Fiscal Transfer Law, and Omnibus Law on Financial Sector Development and Strengthening (P2SK). The comprehensive and integrated reforms aim to build stronger economic fundamentals and enhance long-term growth potential. Implementing the Job Creation Law, such as speeding up business licensing process, accelerating the National Strategic Project, and implementing risk-based business analysis licensing to encourage FDI, will boost economic capacity through increased efficiency, productivity, and a more conducive business and investment climate. Furthermore, the tax and fiscal decentralization reforms underscore Indonesia’s strong commitment to strengthening fiscal sustainability considering the vital role of fiscal policy in supporting the achievement of the development agenda and navigating global challenges. The enactment

of the financial omnibus law is a crucial moment for Indonesia to establish a deep, innovative, efficient, inclusive, trusted, and stable financial sector.

The post-pandemic world provides both challenges and opportunities to drive transformation and enhance economic resilience. The downstreaming policy aims to increase the added value and competitiveness of Indonesia's commodity exports and to revitalize manufacturing sector as a critical strategy for Indonesia's more sustainable and higher economic growth. This policy will ultimately improve the structure of the balance of payments, strengthen the external position and create a more resilient economy. Downstreaming policies cover various aspects of policy in a comprehensive manner including fiscal, financing and investment as well as real sector policies. These policies are implemented in line with the stepwise market approach and will be calibrated from time to time according to the stages of downstream development. The downstreaming policy is also expected to create jobs and attract more foreign investment. In this regard, the Government's decision to conduct downstreaming on nickel ore has stimulated domestic nickel processing and refining industry. Empirical data shows that this policy has had significant results, boosting exports and current account performance. According to the Indonesian Investment Coordinating Board (BKPM), foreign direct investment in 2022 recorded a new high, supported mainly by downstreaming policy. Downstreaming policy will also enable Indonesia to reap benefits from the emerging global trend, such as green economy, and support Indonesia's more intensive involvement in the global value chain, for instance, in the electric vehicle supply chain industry.

The green economy is a key pillar of Indonesia's economic transformation strategies. A roadmap to ensure just and affordable transition is being prepared, along with supporting policies, infrastructure, legislation, and social impact mitigation plan. The September 2022 Enhanced NDC highlights Indonesia's ambitions by increasing the country's emission reduction target from 29% to 31.89% within its own capacity, or 41% to 43.20% with international support. As a concrete step forward in the green economy, particularly in energy transition activity, Indonesia's Energy Transition Mechanism Country Platform was officially announced, which aims to mobilize international and private participation in financing. Accordingly, the Just Energy Transition Partnership (JETP) represents the largest partnership in support of ambitious new targets for Indonesia's just energy sector transition. Under its ASEAN chairmanship, Indonesia supports the ASEAN Taxonomy for Sustainable Finance (ATSF) Version 2, regarded as the first taxonomy to include energy transition activities in its green and amber categories of activities eligible for financing. Indonesia is also keen on developing different aspects of the green economy, including the roadmap of carbon pricing, development of the vehicle industry, as well as providing the basis for establishing a blue economy.

III. Conclusion

Consistency, innovation, and synergy are key elements to strengthen economic resilience, sustain economic recovery, and unlock Indonesia's potential in pursuit of Advanced Indonesia (Indonesia Maju). Consistency in formulating and implementing policies to achieve the set targets needs to be continued. Creative policy innovations are needed to deal with the dynamics and increasing complexity of the multifaceted challenges. Strong synergy between authorities and stakeholders is a necessity for optimizing the achievement of social welfare goals. The spirit of policy synergy is also brought up to the regional forum in Indonesia's ASEAN Chairmanship in 2023, adopting the theme 'ASEAN Matters: Epicentrum of Growth'.