

Harnessing Resilience Amid Growing Global Risks

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Executive Summary

- Global economic growth is expected to be softer as tightening cycle affecting global demand. Global economic growth is expected to grow around **3.2% in 2022, and 2.7% in 2023.**
- Global tightening cycle would continue in 1st half of 2023. Fed signaled that they would still increase their rates in 2023 **until Fed rate reached around 5.00%-5.25%.**
- Foreign capital inflow in bond market will support stronger Rupiah in 2023. Global recession risk usually affects Dollar's demand as investors tend to shift into safe-haven currencies assets. We expect that Rupiah will move around **15,400-15,600 next year.**
- Indonesia's GDP growth in **2023 is expected to record 4.9% compared to 5.25% in 2022.** The main driver of Indonesia's GDP would be private consumption while net exports and investment are expected to grow moderately amidst the global recession risk.
- Headline inflation in 2023 would likely ease on the back of normalization in Administered Prices and Volatile Food components. **Headline inflation is expected to reach 3.5% from our estimate of YE22 inflation of 5.5%** as supply-side inflation will likely normalize in 2H-2023.
- Based on the slowing down of revenue growth, followed by slightly weaker expenditure, we expect that **government budget deficit would be around 2.5%-2.7%.**
- BI is expected to continue to raise policy rate in 2023 albeit at a slower pace. BI will likely **raise BI7DRR by 50bps in 2023 to 6.00%.**
- **Sectoral performances continue to grow and all have recovered to the pre-pandemic level.** In 3Q22, 16 of 17 sectors in Indonesia's economy recorded growth, with sectors that previously have been negatively impacted by the mobility restrictions and the Covid-19 pandemic becoming the prominent driver of economic

growth. In addition, production capacity of economic sectors has returned to the pre-pandemic level.

- **Several leading indicators signaled economic deceleration in 4Q22.** Consumer indicators, such as Consumer Confidence Index (CCI) and Retail Sales Index (RSI), in 4Q22 decelerated due to the fuel price increase in September. PMI Manufacturing also slow down as the domestic and export demand experienced a downturn.
- **Going forward, the deceleration of the domestic economy potentially impacts various economic sectors with different degrees of impact.** Highly cyclical industries, such as Industries that related to mobility and leisure activities, building investment activities, and industries that trade or produce durable goods could decelerated more.
- **The global economic slowdown also has the potential to slow down Indonesia's export performance, in line with the growth deceleration of the leading export destination.** Of the 20 biggest export destination for Indonesia's in 2021, 17 are expected to experience lower growth in 2023. These countries hold 61% of the total value of Indonesia's exports in 2021.
- **Declining global commodity prices could push down Indonesia's economic growth.** As the relationship between Indonesia's economic growth and the movement of global commodity prices has increased in the last periods, the expectation of a global commodity price decline may potentially risk Indonesia's economic growth.

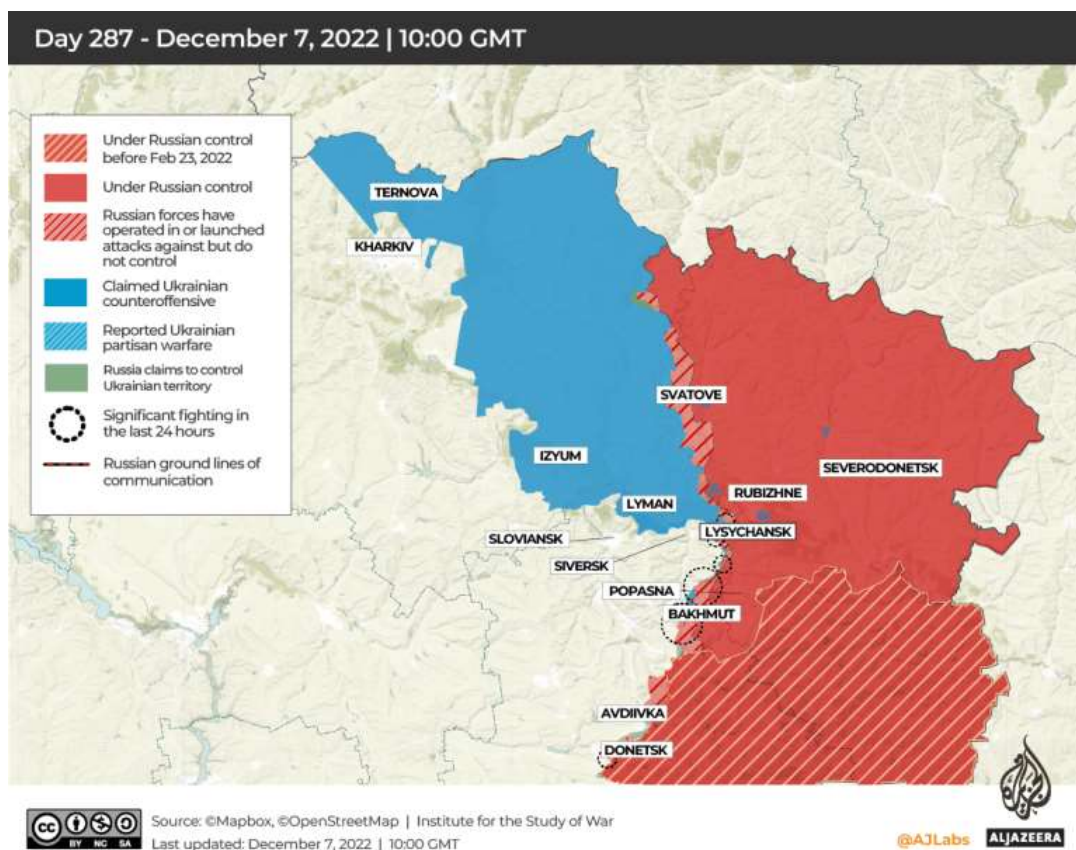
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Global Macroeconomic

a. Geopolitical Summary in 2022

Russia invaded Ukraine in the beginning of 2022. On the 21st-24th of February, Russian President Vladimir Putin signs a decree declaring the Luhansk People's Republic and Donetsk People's Republic as independent from Ukraine. Despite international condemnation and sanctions, it begins a full-scale invasion of Ukraine. The charge of Ukraine has disrupted global trade in many key resources and commodities such as fossil fuel, cooking oil, food grain, etc. causing an increase in prices for these resources. This also caused an increase in tensions between Russia and NATO countries as pro-Ukraine countries have introduced embargos to Russia such as export controls and assets freeze, and NATO countries sending aid to Ukraine such as weapons, and even many Western brands pulled out from the Russian market. A high influx of Ukrainian refugees has flooded Europe, causing the biggest refugee crisis in Europe since the Second World War.

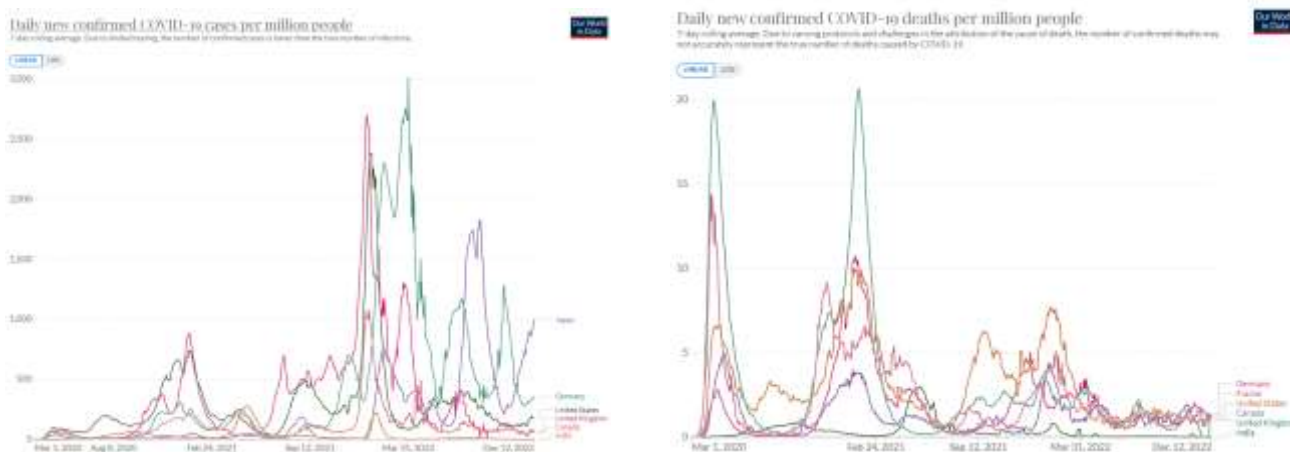


Picture 1. Progress of Russia-Ukraine War. Sources: Al-Jazeera.

British Prime Minister resigned. On July the 7th, Boris Johnson had announced his resignation from Prime Minister of the UK due to Johnson’s controversies in handling the pandemic and political scandals that severely damaged his reputation as prime minister. Right before his resignation, on July 6th, the UK saw more ministers resigned than in any single day in modern history following criticism of the prime minister Boris Johnson's handling in the recent Chris Pincher scandal.

b. Macroeconomic Environment in 2022

COVID-19 pandemic eased in 2022. In the beginning of 2022, Omicron-variant cases spread around the world and drove higher cases of COVID-19. The cases increased significantly all over the world amidst uptrend of vaccination rates. However, compared to previous mutation cases, such as Delta-variant, the cases seemed to be milder as it did not lead to high death rates. Lower death rates from Omicron-variant cases were also supported by relatively high vaccination rates. After Omicron-variant spread cooled down, COVID-19 cases subsided amidst reopening of many countries all over the world.

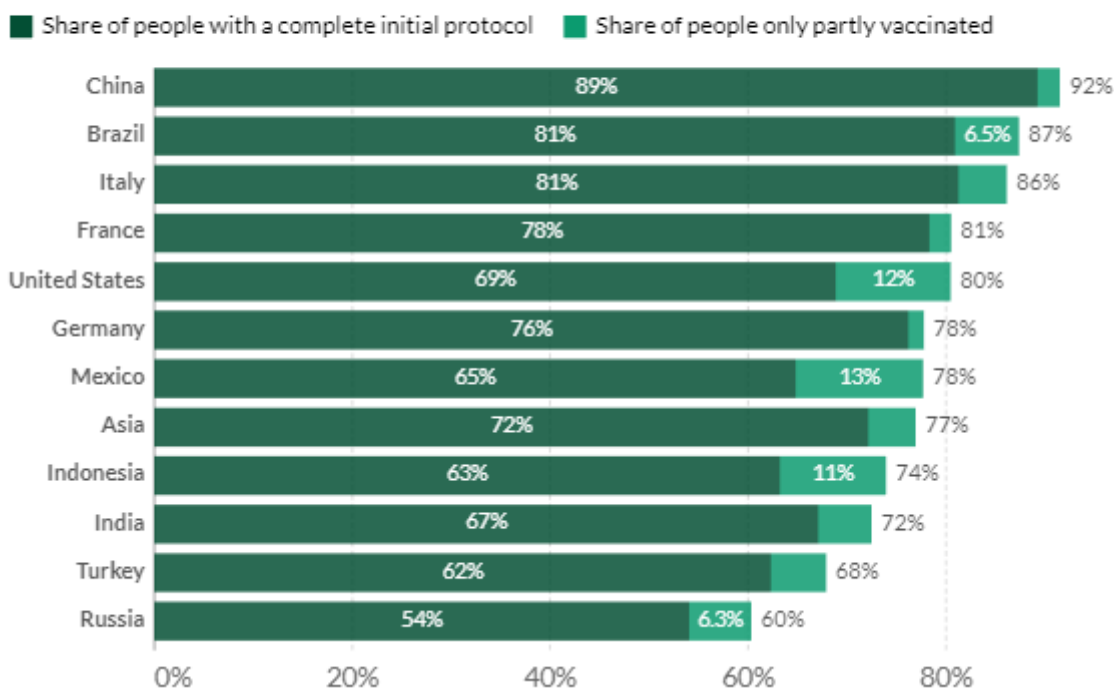


Graph 1. Death and Cases of COVID-19. Sources: OurWorldinData

Share of people vaccinated against COVID-19, Dec 12, 2022

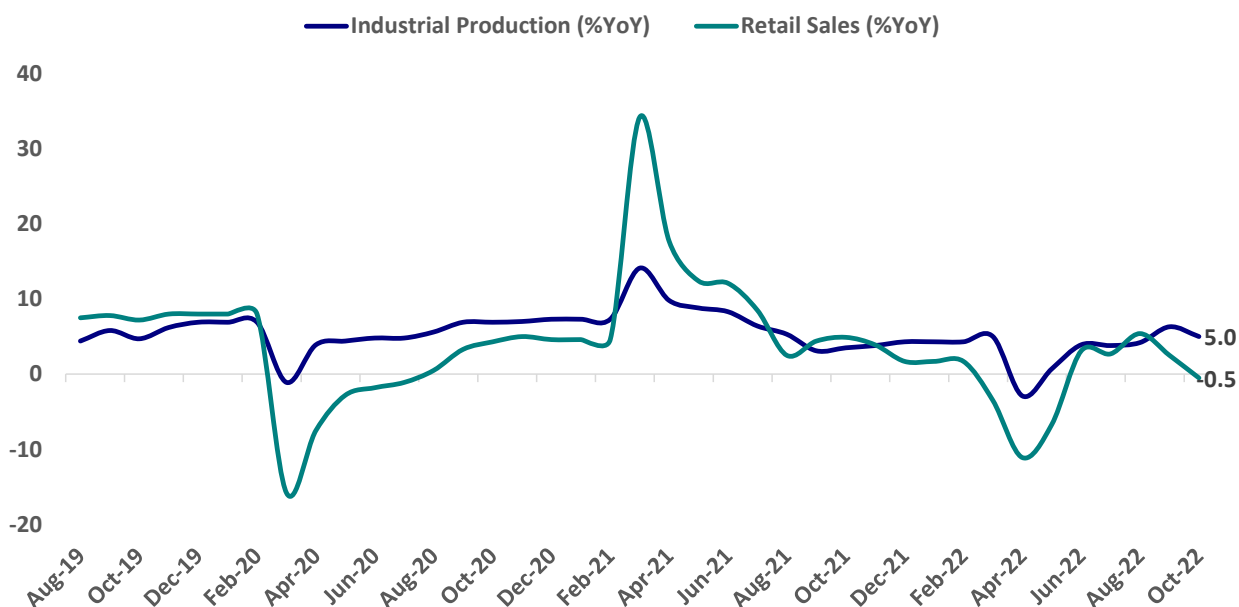


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Graph 2. Global Vaccination Rate. Sources: OurWorldinData

China maintained Zero-COVID policy, triggering slower economic development. Many countries already lifted their restriction of economic activities and visitor after Omicron-variant eased, except from China and some other countries. Japan, for example, still limited foreign tourist until 4Q22 through many requirements. In 4Q22, Japan finally eased the requirement for foreign tourist. On the other hand, global and Asia vaccination rate was already high but China still maintained their Zero-Covid policy. Zero-Covid policy made some cities to implement lockdown Covid cases passed the threshold. As a result of the policy, China manufacturing sector slowed down. Zero-Covid Policy also affected consumer spending, reflected by weaker China retail sales during 2022.



Graph 3. China Economic Condition. Sources: Bloomberg, PermataBank Economic Research

Russia-Ukraine war disrupted global macroeconomy. The war basically disrupts the production process of countries directly affected by the war, in this case, Ukraine. On the other hand, as a response to the invasion carried out by Russia, the NATO block countries issued sanctions against Russia, in terms of investment and trade. As a result, the Russian economy was also disrupted during the war. Various companies, mainly US and UK companies withdrew from Russia. Not only that, the world's financial institutions also blocked the banking payment system in Russia, so that the payment system in Russia was also disrupted at the start of the invasion.

2022 food crises started from Russia-Ukraine war. Ukraine, as a country whose production system was disrupted due to the war, is one of the main producers of agriculture for many countries in Europe. Ukraine is the world's largest producer of sunflower oil, third largest producer of rye, third largest producer of potatoes, eighth largest producer of wheat. When there was a supply chain disruption due to the Russian invasion of Ukraine, food commodity prices increase, which then prompted a global food crisis.

The global food crisis in 2022 was not driven only from the Ukrainian side. The sanctions imposed by European countries had an impact on the revitalization of the Russian side through a ban on exports to certain countries, resulting in a decrease in the supply of

agricultural products. Russia itself is a major producer of wheat, rye, and sunflower oil. Not only because of war, but various crop failures also contributed to the increase in global food prices. Several countries even were forced to ban exports as a response to the scarcity of domestic food products. The increase in these two commodities has passed its peak in March and April and began to normalize.

COUNTRY	TYPE OF FOOD PRODUCT	BAN END DATE
ARGENTINA	Soybean oil, soybean meal	Dec 31, 2022
ALGERIA	Pasta, wheat derivatives, vegetable oil, sugar	Dec 31, 2022
EGYPT	Vegetable oil, maize	June 12, 2022
	Wheat, flour, oats, lentils, pasta, beans	June 10, 2022
INDIA	Wheat	Dec 31, 2022
INDONESIA	Palm oil, palm kernel oil	Dec 31, 2022
IRAN	Potatoes, eggplant, tomatoes, onion	Dec 31, 2022
KAZAKHSTAN	Wheat, wheat flour	June 15, 2022
KOSOVO	Wheat, corn, flour, vegetable oil, salt, sugar	Dec 31, 2022
TURKEY	Beef, mutton, goat meat, butter, cooking oil	Dec 31, 2022
UKRAINE	Wheat, oats, millet, sugar	Dec 31, 2022
RUSSIA	Sugar, sunflower seeds	Aug 31, 2022
	Wheat, meslin, rye, barley, maize	June 30, 2022
SERBIA	Wheat, corn, flour, oil	Dec 31, 2022
TUNISIA	Fruits, vegetables	Dec 31, 2022
KUWAIT	Chicken meat products, grains, vegetable oils	Dec 31, 2022

Table 1. Food Export Ban in Various Countries. Sources: International Food Policy Research Institute

Energy prices remained high in late 2022. Even though food prices declined gradually in the second half, but energy prices, especially oil, coal, and gas remained high until currently. Russia is a country with the largest gas reserves in the world, the second largest coal reserves in the world, and has the eighth largest crude oil reserves in the world. This was further strengthened by Russia's status as one of the main gas producers in the European region.

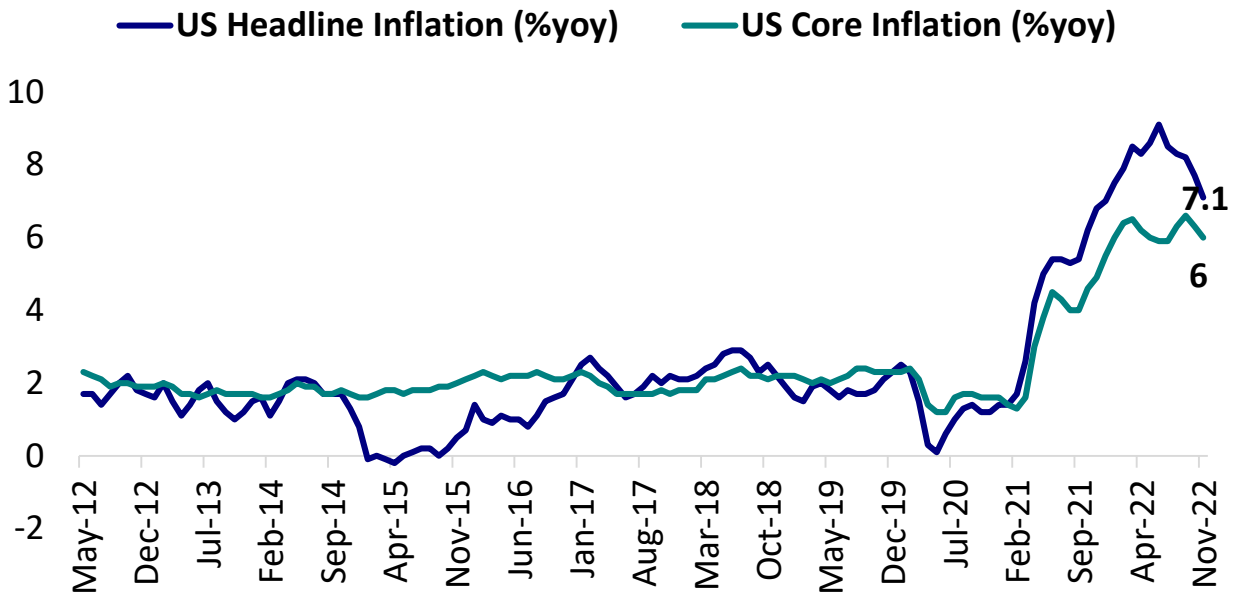
As a retaliation measure for western countries, Russia has withheld exports of crude oil and coal, causing the prices of these energy commodities to increase. Not only that, Russia,

through its gas company, is also holding back the flow of gas to Europe, resulting in energy scarcity in Europe. The average global oil price as of November has increased 19.9%ytd, gas prices in Europe have increased 41.3%ytd, while coal prices have increased 101.7%ytd.



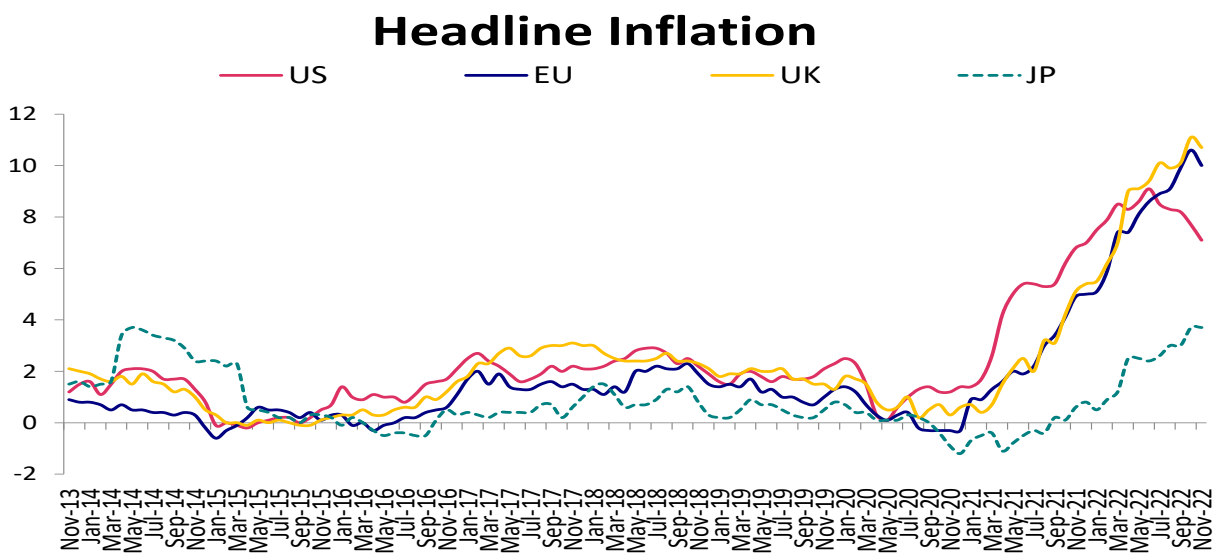
Graph 4. Development of Commodity Prices in 2022. Sources: Bloomberg, PermataBank Economic Research

Inflation surged around the world, including developed countries. The food and energy crisis caused inflation in developed and developing countries increased significantly, especially in 2Q22 and 3Q22. Monthly inflation in the US in 2022 (as of Nov'22), averaged 0.56%mom, higher than average inflation in 2017, 2018 and 2019, which recorded 0.18%mom, 0.17%mom and 0.20%mom respectively. US annual inflation even increased to 9.1% oy in June, the highest since 1981, during the global oil crisis. However, in the end of year, US inflation subsided until reached 7.1%yoy.



Graph 5. US Inflation. Sources: Bloomberg, PermataBank Economic Research

Not only the US, but the European region is also affected by global commodity prices. The European region's annual inflation reached 10.6%yoy in October, highest since it was first recorded in 1997. British inflation was also recorded to have risen to 11.1%yoy in October, the highest since 1982, for the same reason, global energy crisis.



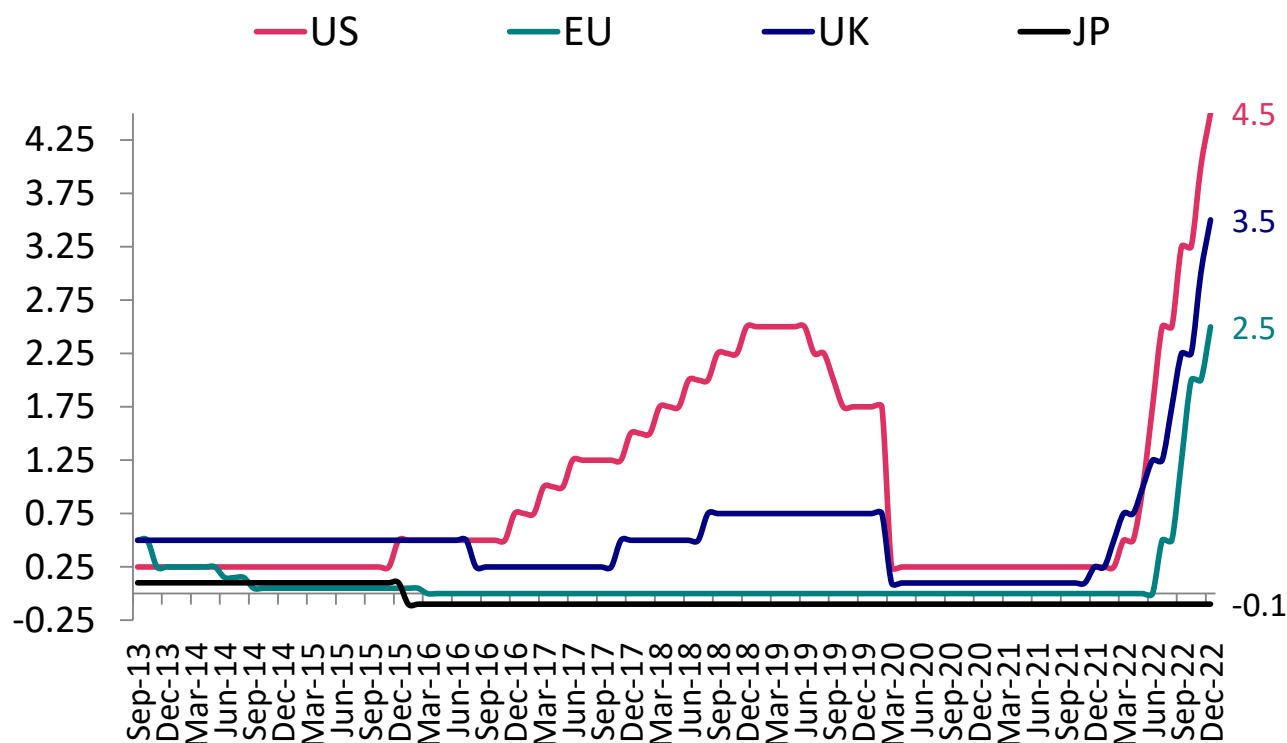
Graph 6. Global Inflation. Sources: Bloomberg, PermataBank Economic Research

Global central banks responded high inflation with aggressive monetary approach.

Majority of global central banks tried to tame the inflation through aggressive monetary approach. Among major countries only Turkey, Japan, and China, maintained their dovish policy. In the beginning of 2022, Fed signaled that they would not be aggressive in tightening the monetary policy. In 1Q22, Fed only hiked 25bps to 0.50%. However, as inflation strengthened, Fed started to increase their aggressiveness, and decided to hike interest rate until 75bps, highest hike rates since 1980. In 2Q22 and 3Q22, Fed hiked rates by 125bps and 150bps, consecutively. In 4Q22, Fed began to slow the pace of rate hike on the back of moderating inflation, and hiked 125bps to 4.50%. Overall, Fed increased 425bps during 2022.

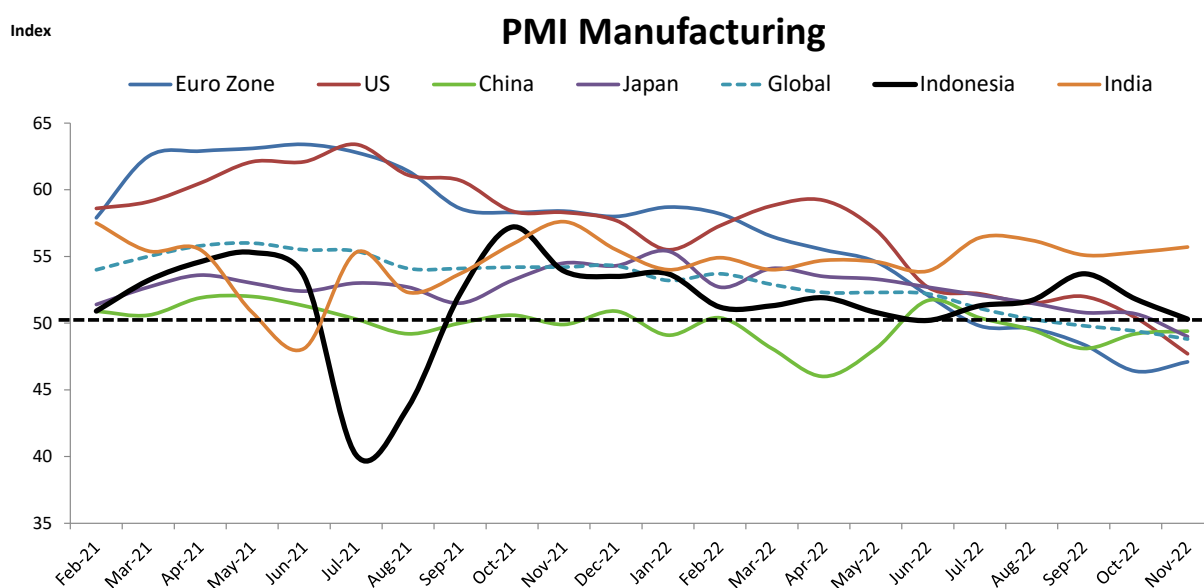
Other major central banks, such as ECB and BoE also followed the direction of Fed, especially since their inflation rate was higher than Fed. However, their policy rate hike was not as aggressive as Fed, which in turn pushed their currencies weakened against U.S. Dollar. ECB increased only 250bps to 2.50%, while BoE increased 375bps to 3.50%.

Central Bank Policy Rates



Graph 7. Global Central Bank Policy Rates. Sources: Bloomberg, PermataBank Economic Research

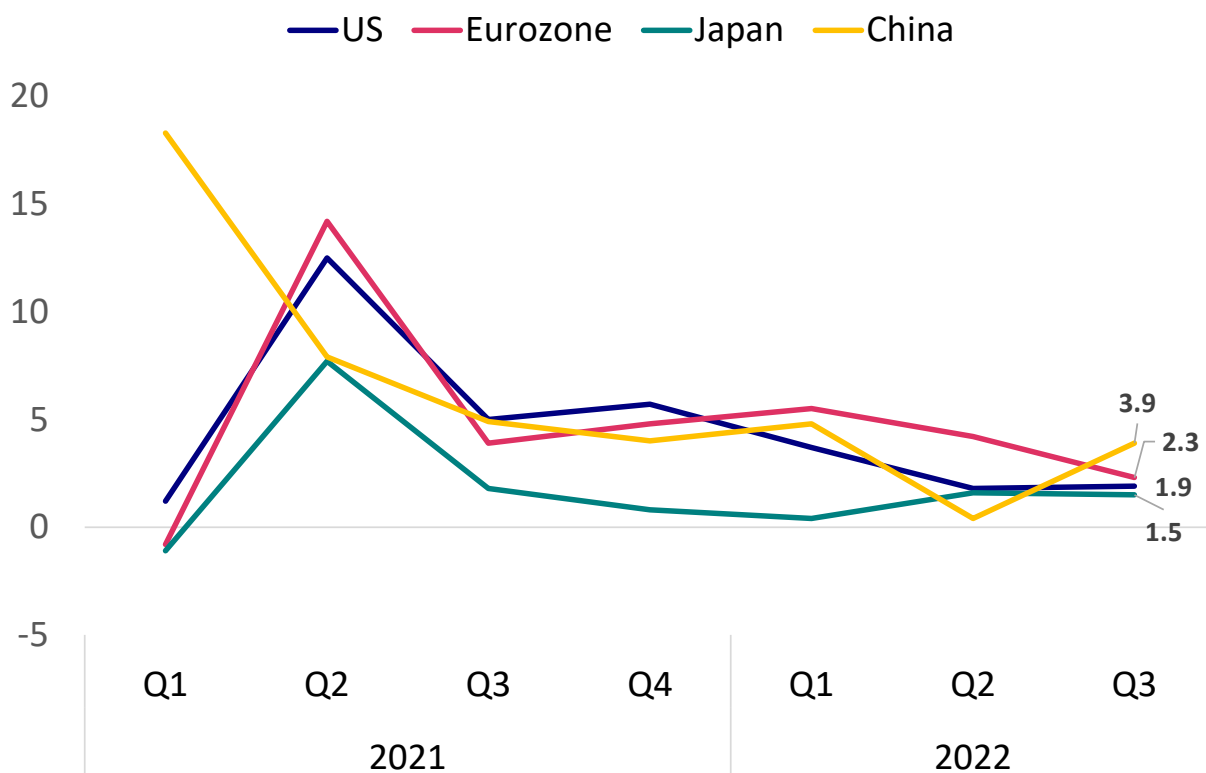
Manufacturing sector contracted as inflation soared and rate increased. Increasing inflation, followed by higher interest rates pushed manufacturing sector all around the world slowed down, even contracted. The impact of both inflation and monetary policy especially reflected in second half of 2022. Major economic countries, such as US, European region, China, and Japan recorded contraction phase in 4Q22. Aside from inflation, in China, weaker manufacturing sector was also caused by Zero-Covid policy in China, which disrupted main manufacturing city in China. Globally, contraction phase started since August'22. Contraction in manufacturing sector was already affected global economic growth rate.



Graph 8. Global Manufacturing PMI. Sources: Bloomberg, PermataBank Economic Research

Global economic growth slowed, affected by slower manufacturing sector. Manufacturing sector started to slow down in 3Q22, and affected global economic growth for some countries. US and Eurozone slowed down in 2Q22 and 3Q22, while China slowed down in 2Q22, while rebound in 3Q22. The pattern of slower phase of economic growth coincided with weaker manufacturing sector and high inflation in those countries.

Global Quarterly GDP Growth (%yoy)



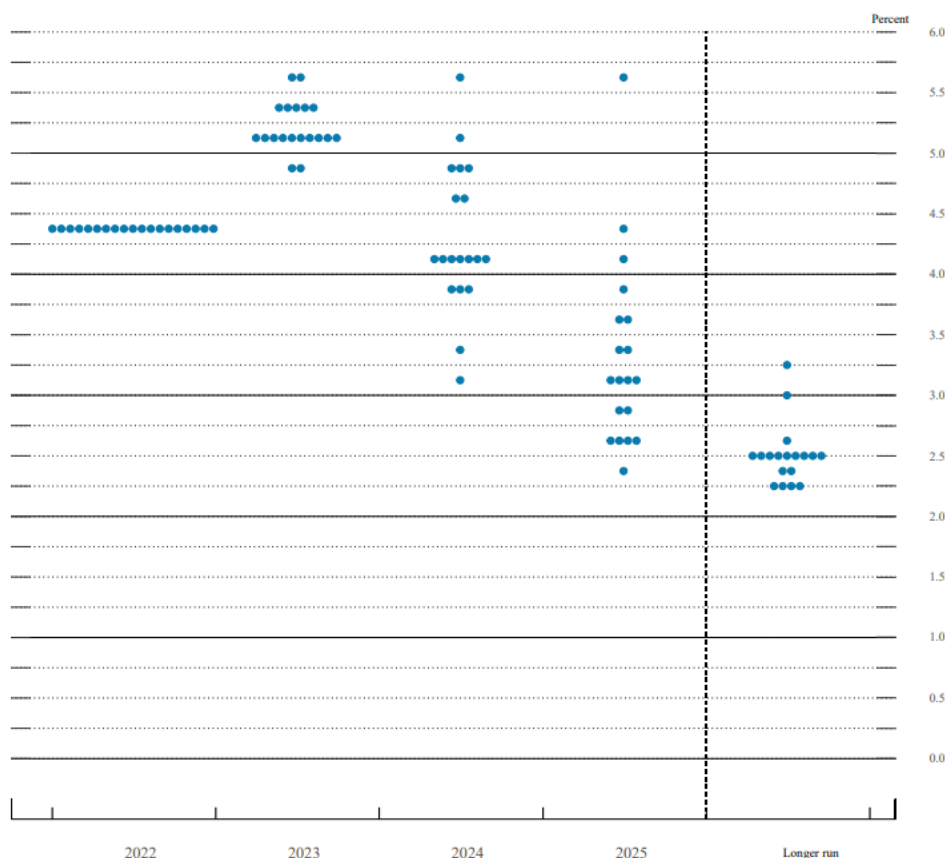
Graph 9. Real GDP in Major Economies. Sources: Bloomberg and PermataBank Economic Research

Countries	2022F							
	World Bank		OECD		IMF		ADB	
	June 2022 Report	Previous Forecast (January 2022)	November 2022 Report	Previous Forecast (September 2022)	October 2022 Report	Previous Forecast (July 2022)	December 2022 Report	Previous Forecast (September 2022)
World	2.9	4.1	3.1	3.0	3.2	3.2		
G20 Countries								
USA	2.5	3.7	1.8	1.5	1.6	2.3		
China	4.3	5.1	3.3	3.2	3.2	3.3	3.0	3.3
Japan	1.7	2.9	1.6	1.6	1.7	1.7		
Germany			1.8	1.2	1.5	1.2		
India	7.5	8.7	6.6	6.9	6.8	7.4	7.0	7.0
United Kingdom			4.4	3.4	3.6	3.2		
France			2.6	2.6	2.5	2.3		
Canada			3.2	3.4	3.3	3.4		
Italy			3.7	3.4	3.2	3.0		
Brazil	1.5	1.4	2.8	2.5	2.8	1.7		
Russia	-8.9	2.4	-3.9	-5.5	-3.4	-6.0		
South Korea			2.7	2.8	2.6	2.3	2.6	2.6
Australia			4.0	4.1	3.8	3.8		
Mexico	1.7	3.0	2.5	2.1	2.1	2.4		
Indonesia	5.2*	5.1*	5.3	5.0	5.3	5.3	5.4	5.4
Saudi Arabia	7.0	4.9	9.8	9.9	7.6	7.6		
Turkey	2.3	2.0	5.3	5.4	5.0	4.0		
Argentina	4.5	2.6	4.4	3.6	4.0	4.0		
South Africa	2.1	2.1	1.7	1.7	2.1	2.3		

Table 2. 2022 Global Economic Projection. *WB IEP Dec 2022. Sources: IMF, World Bank, OECD, and ADB

c. Global Economic Outlook

Global tightening cycle would continue in 1st half of 2023. Fed signaled that they would still increase their rates in 2023 until Fed rate reached 5.25% according to latest FOMC in December. Fed also signaled that they considered to increase rates by 25bps in the next FOMC. Furthermore, Fed stated that they would start to cut interest rates in 2024 to 4.00%. Different from Fed, ECB predicted that European region inflation would only reach inflation target of 2%, in 2025. It implying that ECB might continue the hawkish stance longer than Fed. BoE expected that inflation would be more moderate in 2023, while still comparatively higher than normal condition. BoE stance reflecting that similar with Fed, where they will still increase the rates in 2023, but with slower pace. Meanwhile, Japan central bank, BoJ, will try to start tighten their monetary policy. In recent statement, BoJ signaled that they would review their loose monetary policy on the back of rising inflation and wage level.



Graph 10. Fed Rate Projection. Sources: Federal Reserve

We expect that Fed might only hike interest rates by 50bps in 2023, in line with potential downward of US inflation. Downward US inflation was contributed by weaker commodity prices followed by softer demand from US consumer.

Global economic growth is expected to be softer as tightening cycle affecting global demand. Tightening cycle is expected to peak at 2023, as central banks might still increase their rates in the first half and paused until end of year. Due to the high interest rates, consumer and investment growth will be much slower globally, especially developed countries, which implement more aggressive monetary approach. Downtrend of economic growth have already affected some of countries' manufacturing sector in this year. Slower growth of global economic will affect trade volume over the world and overall commodity prices.

Countries	2023F							
	World Bank		OECD		IMF		ADB	
	June 2022 Report	Previous Forecast (January 2022)	November 2022 Report	Previous Forecast (September 2022)	October 2022 Report	Previous Forecast (July 2022)	December 2022 Report	Previous Forecast (September 2022)
World	3.0	3.2	2.2	2.2	2.7	2.9		
G20 Countries								
USA	2.4	2.6	0.5	0.5	1.0	1.0		
China	5.2	5.3	4.6	4.7	4.4	4.6	4.3	4.5
Japan	1.3	1.2	1.8	1.4	1.6	1.7		
Germany			-0.3	-0.7	-0.3	0.8		
India	7.1	6.8	5.7	5.7	6.1	6.1	7.2	7.2
United Kingdom			-0.4	0.0	0.3	0.5		
France			0.6	0.6	0.7	1.0		
Canada			1.0	1.5	1.5	1.8		
Italy			0.2	0.4	-0.2	0.7		
Brazil	0.8	2.7	1.2	0.8	1.0	1.1		
Russia	-2.0	1.8	-5.6	-4.5	-2.3	-3.5		
South Korea			1.8	2.2	2.0	2.1	1.5	2.3
Australia			1.9	2.0	1.9	2.2		
Mexico	1.9	2.2	1.6	1.5	1.2	1.2		
Indonesia	4.8*	5.3*	4.7	4.8	5.0	5.2	4.8	5.0
Saudi Arabia	3.8	2.3	5.0	6.0	3.7	3.7		
Turkey	3.2	3	3.0	3.0	3.0	3.5		
Argentina	2.5	2.1	0.5	0.4	2.0	3.0		
South Africa	1.5	1.5	1.1	1.1	1.1	1.4		

Table 3. 2023 Economic Projection, *WB IEP Dec 2022. Sources: IMF, World Bank, OECD, and ADB

China growth will increase as China left Zero-Covid Policy. Compared to 2022, we expect that China economic growth will rise on the back of easing Covid policy from China. In the December, China's government ease the Zero-Covid policy, considering weaker economic growth and protest in China. Economic activities are expected to rise in 2023, which resulting higher economic growth in China. Furthermore, compared to other major

economies, China’s economic condition is not disrupted by inflation and tightening cycle, considering inflation remained low in 2022. China’s central bank even eased monetary policies in 2022.

Europe economic growth remain under pressure as Russia-Ukraine war have not seen the end yet. European countries have been heavily affected by Russia-Ukraine war, especially because of inflation and scarcity of goods in the region. Currently, there are no significant peace talk between them, which implied that war will still become main challenge to Europe economic growth in 2023. Another risk to the European economic come from ECB hawkish monetary approach.

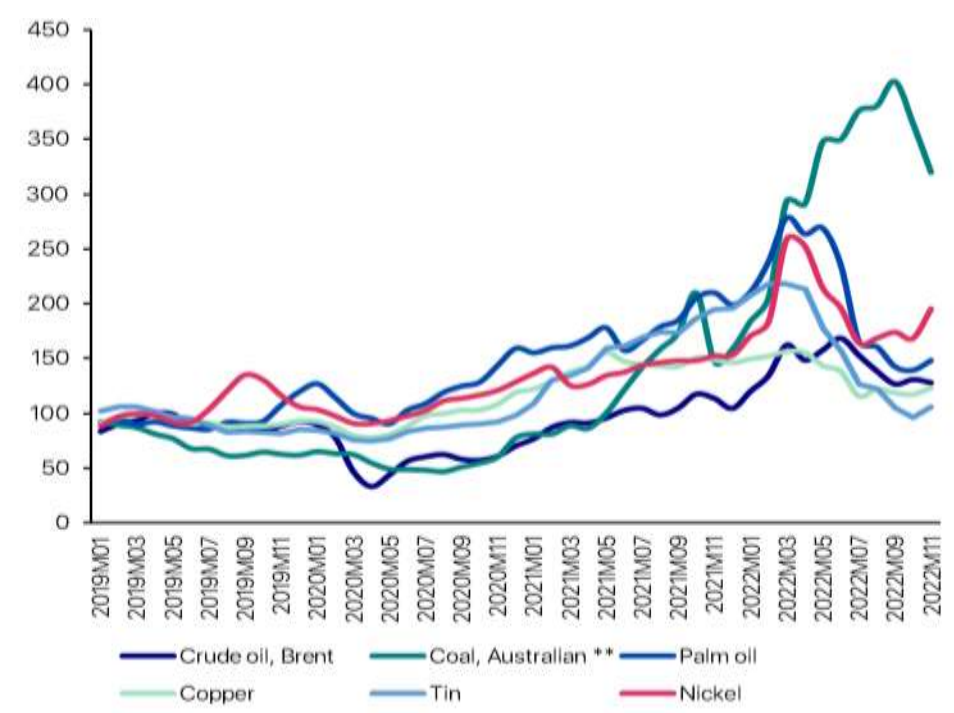
Fed’s hawkish stance will push weaker economic growth. Similar with Europe condition, tightening cycle will lead to weaker economic growth in US. Furthermore, tightening policy in US is comparatively tighter than other developed countries. As Fed will cut interest rates in 2023, US economy will be under pressure from high interest rates policy. Recession risk will also haunt the US economic in 2023, especially after high interest rates will lead to higher borrowing cost, especially mortgage rates. Many international institutions predict that US economic growth in 2023 would be only around 0-1%.



Graph 12. US Recesson Probability. Source: Bloomberg.

d. Commodity Prices Outlook

Global commodity price has been gradually declining in 2H22, in line with the expectation of global economic deceleration. After reaching its peak in the 1H22, triggered by the Russian-Ukrainian War, various global commodity prices have declined. As of December 6, 2022, several commodity prices are reportedly lower than their average price in 2022. Zero covid policy in China triggered an expectation of declining commodity demand from China, ultimately giving a negative sentiment to global commodity prices. Moreover, the expectation of global economic deceleration gives additional negative sentiment to commodity prices.



Graph 13. Commodity Price Index (Average 2018=100). Source: World Bank, PermataBank Economic Research

Period	Crude oil, Brent	Coal, Australian **	Palm oil	Copper	Tin	Nickel
2019	64	78	601	6,010	18,661	13,914
2020	42	61	752	6,174	17,125	13,787
2021	70	138	1,131	9,317	32,384	18,465
2022 Ytd Average	102	342	1,307	8,863	31,987	25,551
Spot December 6, 2022	79	409	919	8,422	24,814	29,271

Table 4. Yearly Average of Commodity Price. Source: World Bank, PermataBank Economic Research

In line with global economic growth, which is expected to slow down in 2023, commodity prices that important for Indonesia are also expected to decline next year. According to the World Bank's projections, all important commodity prices for Indonesia, such as coal, CPO and nickel, are expected to be lower than 2022.

Commodity	Unit	Realization			Forecast					
		2019	2020	2021	2022f		2023f		2024f	
					April	October	April	October	April	October
Crude oil, Brent	\$/bbl	64.0	42.3	70.4	100.0	100.0	92.0	92.0	80.0	80.0
Coal, Australia	\$/mt	77.9	60.8	138.1	250.0	320.0	170.0	240.0	154.7	212.3
Palm oil	\$/mt	601.4	752.0	1131.0	1650.0	1275.0	1400.0	1050.0	1372.0	1054.0
Coffee, Arabica	\$/kg	2.9	3.3	4.5	5.5	5.9	5.3	5.5	5.2	5.4
Coffee, Robusta	\$/kg	1.6	1.5	2.0	2.3	2.4	2.0	2.1	2.0	2.1
Rubber, RSS3	\$/kg	1.6	1.7	2.1	2.1	1.8	2.2	1.9	2.2	1.9
Aluminum	\$/mt	1794.5	1704.0	2473.0	3400.0	2700.0	3100.0	2400.0	3000.0	2434.0
Copper	\$/mt	6010.1	6174.0	9317.0	10100.0	8700.0	9700.0	7300.0	9000.0	7361.0
Nickel	\$/mt	13913.9	13787.0	18465.0	28000.0	25000.0	22000.0	21000.0	21000.0	20708.0
Gold	\$/toz	1392.5	1770.0	1800.0	1880.0	1775.0	1700.0	1700.0	1650.0	1650.0
		Higher than Previous Forecast								
		Lower than Previous Forecast								
XYZ		Higher than Last Year								
XYZ		Lower than Last Year								

Table 5. World Bank Price Forecast for Indonesia's Important Commodities. Source: World Bank, PermataBank Economic Research

Financial Market

a. Global Market

Stronger Dollar weakened all other assets. As Fed started to increase its rates since March 2022, all other assets tended to weaken, both safe-haven assets and riskier assets. In 2022, higher rates of Fed drove investors to reallocate their assets into U.S. Dollar, which in turn triggered capital outflow from developing countries to developed countries. Dollar Index even reached the highest record since 2002. Dollar Index strengthened by 9.14%ytd to 104.81 (per 09 Dec'22). In the September and October, Dollar Index even moved around 110-114. Lower Dollar Index in the end of year was caused by signal from Fed that they would start to

Fed rate aggressive hike also pushed higher U.S. Treasury (UST) yield until reached around 4%. However, due to less-hawkish signal from Fed by the end of year, UST yield recorded downtrend, and moved around 3.4%-3.7%.

Major Currencies	09-Dec-22	Daily Changes		WTD		MTD		YTD	
		%	Value	%	Value	%	Value	%	Value
DXY	104.81	0.03%	0.04	0.3%	0.27	-1.1%	-1.14	9.6%	9.14
EUR	1.0540	-0.15%	0.00	0.0%	0.00	1.3%	0.01	-7.3%	-0.08
GBP	1.2259	0.20%	0.00	-0.2%	0.00	1.7%	0.02	-9.4%	-0.13
AUD	0.6795	0.38%	0.00	0.1%	0.00	0.1%	0.00	-6.4%	-0.05
NZD	0.6410	0.52%	0.00	0.1%	0.00	1.8%	0.01	-6.1%	-0.04
JPY	136.56	0.08%	-0.11	-1.6%	2.25	1.1%	-1.51	-15.7%	21.48
CHF	0.93	0.30%	0.00	0.3%	0.00	1.2%	-0.01	-2.3%	0.02

Asian Currencies	09-Dec-22	Daily Changes		WTD		MTD		YTD	
		%	Value	%	Value	%	Value	%	Value
INR	82.3	0.18%	-0.15	-1.2%	0.96	-1.0%	0.85	-9.7%	7.94
IDR	15,583.0	0.24%	-38.00	-0.99%	155.00	1.0%	-149.00	-8.5%	1330.00
JPY	136.6	0.08%	-0.11	-1.6%	2.25	1.1%	-1.51	-15.7%	21.48
KRW	1,301.4	1.25%	-16.26	-0.1%	0.97	1.3%	-16.99	-8.6%	111.51
MYR	4.4045	-0.15%	0.01	-0.4%	0.02	0.9%	-0.04	-5.4%	0.24
PHP	55.3900	0.46%	-0.26	0.7%	-0.42	2.2%	-1.20	-7.9%	4.40
SGD	1.3539	-0.02%	0.00	-0.2%	0.00	0.6%	-0.01	-0.4%	0.00
HKD	7.7863	0.00%	0.00	0.0%	0.00	0.3%	-0.02	0.1%	-0.01
THB	34.7550	-0.10%	0.04	0.1%	-0.03	1.0%	-0.36	-4.4%	1.54
TWD	30.6230	0.14%	-0.04	-0.3%	0.09	0.6%	-0.19	-9.6%	2.95
CNY	6.9584	0.13%	-0.01	1.4%	-0.10	1.9%	-0.13	-8.7%	0.60
CNH	6.9643	-0.04%	0.00	0.8%	-0.06	1.2%	-0.08	-8.7%	0.61

Table 6. Global Currencies. Source: Bloomberg, PermataBank Economic Research

Country	10-yr Govt Bond Yield (%)	Δ bps	Δ WTW (bps)	Δ MTD (bps)	Δ YTD (bps)
United States	3.58	10	9	-3	207
Euro Zone	1.93	11	8	0	211
Japan	0.26	0	0	0	19
Australia	3.30	-7	-10	-23	163
Korea	3.48	-5	-10	-20	123
Singapore	2.95	-1	-4	-12	129
Thailand	2.64	1	-2	-8	75
Malaysia	4.07	2	5	-4	49
India	7.30	1	8	2	84
Indonesia	6.94	-3	8	0	56

Table 7. Global Bond Yield. Source: Bloomberg, PermataBank Economic Research

Only energy sector in equity market performed better. During 2022, due to uncertainty in geopolitical side and high inflation, major sector in global equity market tended to weaken. Technology sector also performed worse as economic activity started to normalize, which reduce the demand. However, as commodity prices increased, majority of energy-related stocks increased on the back of higher business profitability.

STOCK INDICIES	09-Dec-22	Daily Changes		WTD		MTD		YTD	
		%	Value	%	Value	%	Value	%	Value
Dow Jones	33,476	-0.9%	(305.0)	-2.8%	(953.4)	-3.2%	(1,113.3)	-7.9%	(2,861.8)
S&P 500	3,934	-0.7%	(29.1)	-3.4%	(137.3)	-3.6%	(145.7)	-17.5%	(831.8)
NASDAQ	11,005	-0.7%	(77.4)	-4.0%	(456.9)	-4.0%	(463.4)	-29.7%	(4,640.4)
Euro Stoxx	3,943	0.5%	21.4	-0.9%	(35.3)	-0.6%	(22.1)	-8.3%	(355.8)
FTSE 100	7,477	0.1%	4.5	-1.1%	(79.6)	-1.3%	(96.4)	1.2%	92.1
CAC 40	6,678	0.5%	30.3	-1.0%	(64.6)	-0.9%	(60.9)	-6.6%	(475.4)
DAX	14,371	0.7%	106.2	-1.1%	(158.7)	-0.2%	(26.3)	-9.5%	(1,514.1)
Nikkei	27,901	1.2%	326.6	0.4%	123.1	-0.2%	(68.0)	-3.1%	(890.7)
Hang Seng	19,901	2.3%	450.6	6.6%	1,225.5	7.0%	1,303.6	-14.9%	(3,496.8)
Sensex	62,182	-0.6%	(389.0)	-1.1%	(686.8)	-1.5%	(918.0)	6.7%	3,927.9
Straits Times	3,246	0.3%	9.9	-0.4%	(13.2)	-1.4%	(44.5)	3.9%	122.3
FTSE Malay KLCI	1,477	0.8%	11.3	-0.3%	(4.6)	-0.8%	(11.6)	-5.8%	(90.3)
SE Thai	1,623	0.2%	2.6	-1.5%	(25.3)	-0.7%	(12.2)	-2.1%	(34.5)
JCI	6,715	-1.31%	(89.1)	-4.3%	(304.5)	-5.2%	(366.2)	2.0%	133.6

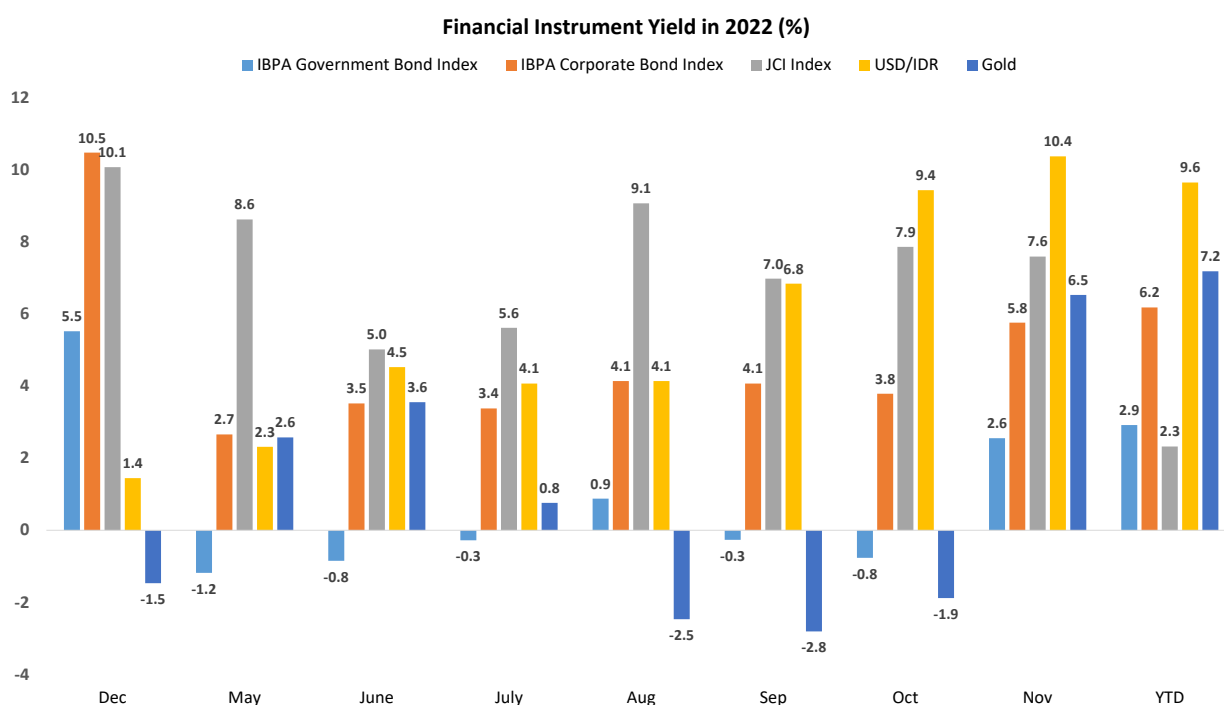
Table 8. Stock Performance. Source: Bloomberg, PermataBank Economic Research

U.S. Dollar will weaken on the back of slower rate hike. Based on statement from many Fed's officials and policy guidance, Fed would likely to stop increase interest rates in 2023, especially in the beginning of the year. As a result, U.S. Dollar uptrend would be less-likely to happen in 2023, which in turn drove stronger global currencies. However, as global economic would be slower, demand for riskier assets might not increase significantly despite U.S. Dollar weaken. Global sentiment still in the cautious stance as potential recession loom in Europe and US.

Slower economic sentiment and faded Fed sentiment boost demand for UST, given that UST is also safe-haven assets. We expect that UST yield in 2023 would be around 3.0%-3.5%, lower than current UST yield, around 3.4%-3.7%.

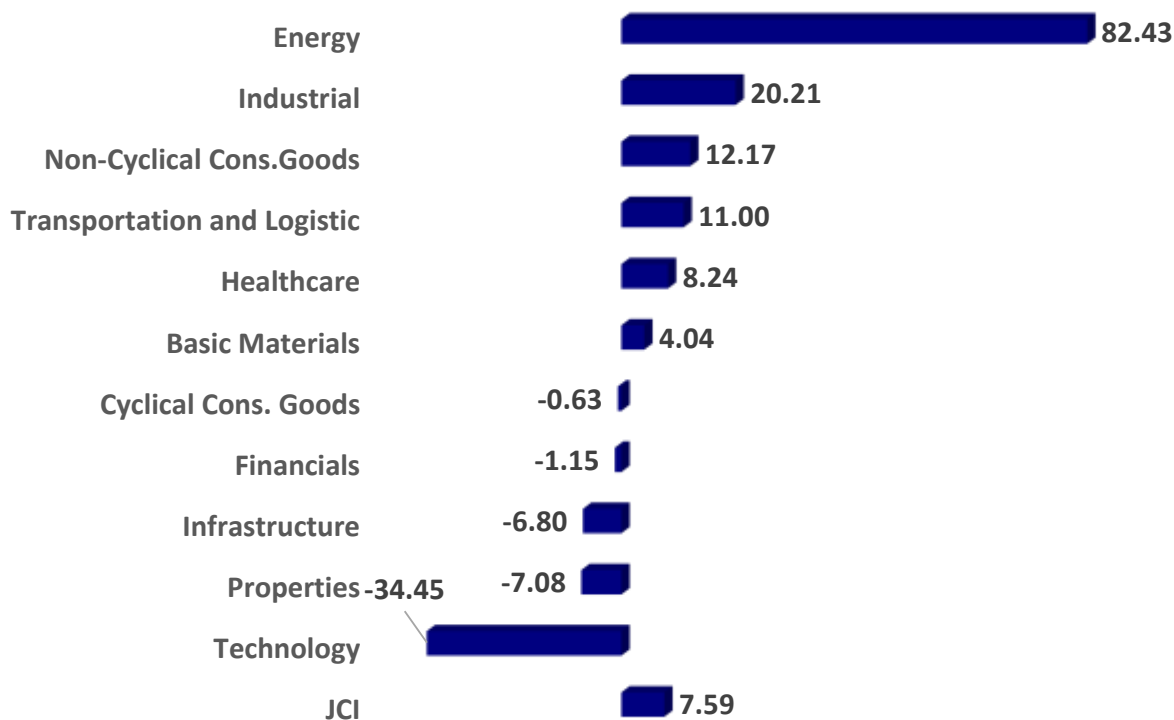
b. Domestic Market

Indonesia stock market lead the highest return until Nov'22. Compared to other assets, stock market recorded highest yield until end of November. However, in December, return of stock market decreased significantly after technological stock fell significantly further. Meanwhile, corporate bond return increased amidst high uncertainties in government bond market, followed by better profitability of corporate performance. Different from stock market, bond market and gold prices reversed loss in Nov'22 after Fed signaled less-hawkish direction.



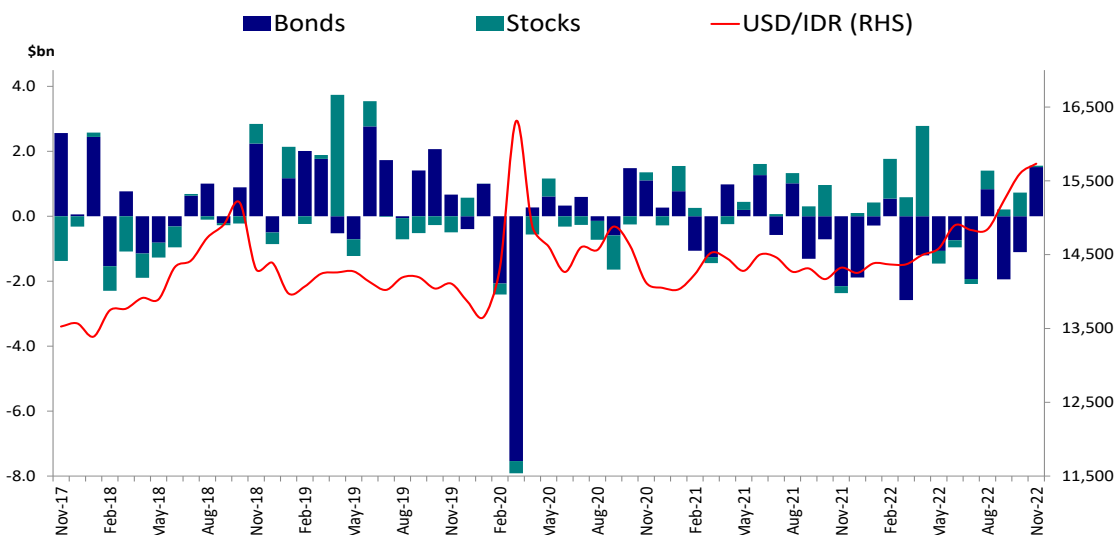
Graph 14. Financial Instrument Yield. Source: Bloomberg, PermataBank Economic Research

Energy sectors lead Indonesia's stock market to strengthened. JCI rose by 2.03%ytd (per 12 December'22), driven by energy sectors. Until November, JCI rose by 7.6%ytd, but downtrend in December erased the return until around 2%. Energy sectors rose by 85.55%ytd during 2022 after commodity prices increased. Higher commodity prices lead to higher profitability of the companies, especially export-related companies. Thus, it affected perception toward energy sector companies. On the other side, technology sector loss the most in 2022 after financial report of startup companies still showed loss in the last 3 quarters. Stock in this sector was also affected by report regarding employee termination for many startups since middle of 2022.



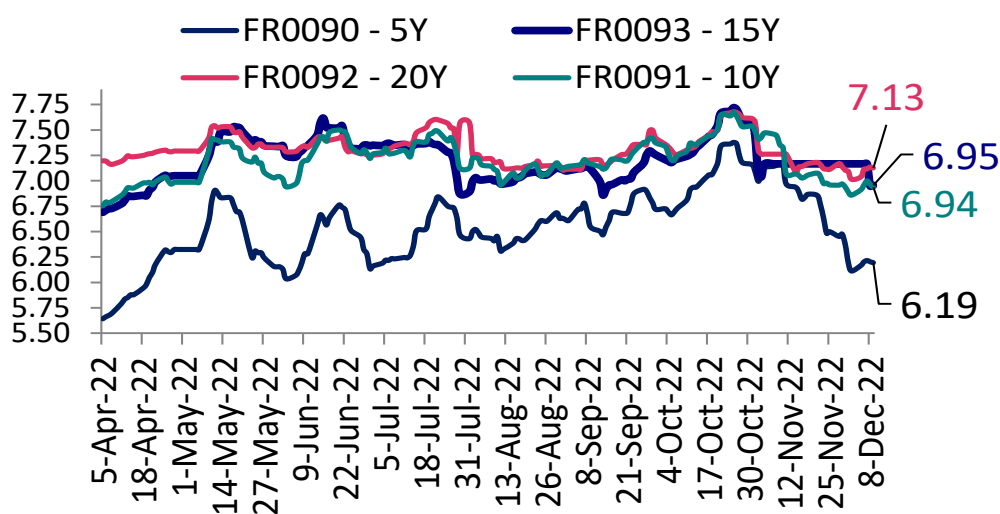
Graph 15. JCI by Sector. Source: Bloomberg, PermataBank Economic Research

Capital outflow in bond market recorded deeper than capital outflow during pandemic. During pandemic, foreign investors recorded outflow until \$4.68bn in bond market. The outflow continued in 2021 on the back of concern regarding Fed’s tightening policy. In 2022, foreign investors recorded deeper capital outflow compared to 2020 and 2021 as it posted \$7.96bn of outflow until November. In contrast, stock market posted \$5.81bn of net inflow in 2022, highest in the last 5 years. It implied that bond market during tightening cycle was less attractive than other assets.



Graph 16. Capital Flow in Indonesia Financial Market. Source: Bloomberg, PermataBank Economic Research

Foreign investors decreasing demand became main driver of higher yield of IDR bond, especially after UST yield increased significantly. Compared to other countries' bond yield, IDR bond yield only rose by 56bps (per 9 Dec'22) compared to UST yield, which already rose by 207bps. Moderate increase of IDR bond yield was also affected by comparatively weaker inflation during Ukraine-Russia war. During tightening session, shorter bond tended to increase higher than longer tenor.



Graph 17. Benchmark Bond Yield. Source: Bloomberg, PermataBank Economic Research

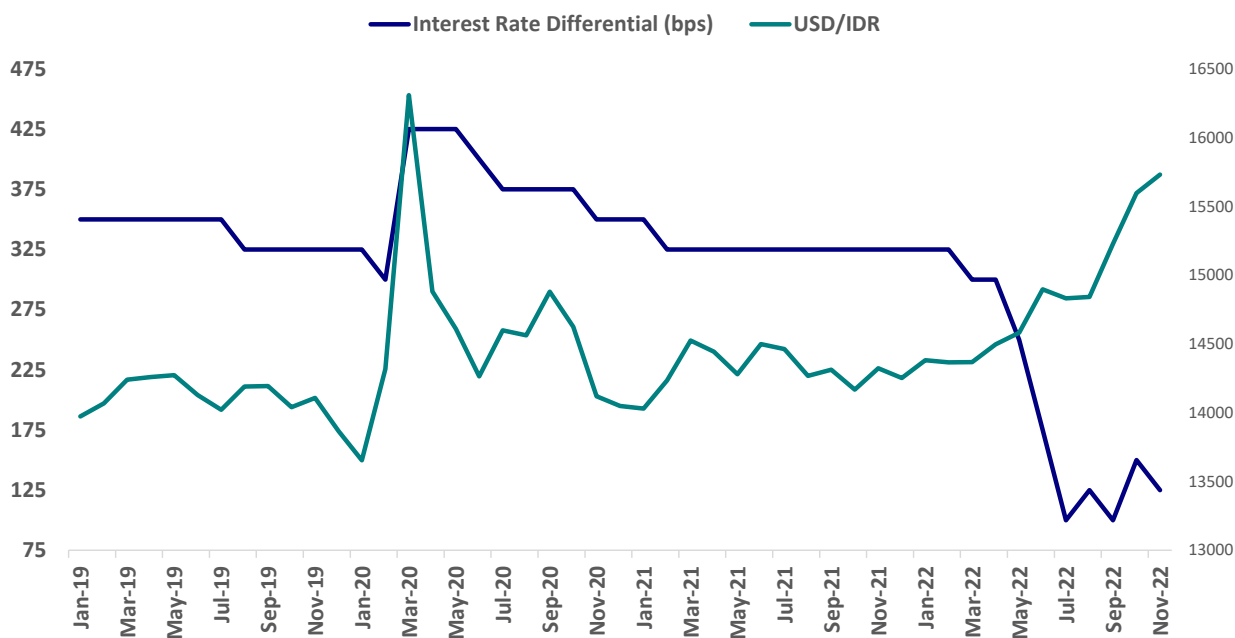
Based on table below, along the year, foreign investors recorded net sell on the back of Fed's sentiment, and but gradually reversed the position in the 4Q22. Meanwhile, central bank tended to reduce their ownership of government bond, especially in second half of

2022. Other large institution, banking sector still increased their bond ownership despite credit growth already surged until more than 10%. Banking sector behavior was reflecting ample liquidity of banking sector amidst tightening policy from BI. Institution recorded highest net buy in 2022 was insurance and pension fund, which posted \$217tn increase. The bond ownership of this institution leaped into second highest contributor after banking sector.

INSTITUTION	31-Dec-21	31-Mar-22	30-Jun-22	30-Sep-22	30-Nov-22	8-Dec-22	MTD	QTD	YTD
	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL			
BANK*	1,591	1,691	1,432	1,603	1,791	1,796	5	193	205
Conventional Bank	1,520	1,616	1,355	1,519	1,704	1,708	3	189	188
Islamic Bank	71	75	78	84	87	89	2	5	17
BANK INDONESIA	801	732	1,013	989	806	811	5	(178)	9
NON-BANK	2,286	2,406	2,403	2,510	2,565	2,578	13	68	292
Mutual Fund	158	154	153	156	147	145	(2)	(11)	(13)
Insurance and Pension Fund	655	735	773	844	870	872	2	28	217
FOREIGN INVESTORS	891	848	780	730	737	751	14	20	(141)
Individual	221	271	282	325	344	344	(0)	19	123
Others	360	397	415	455	467	466	(1)	11	106
TOTAL	4,679	4,829	4,848	5,102	5,162	5,185	22	83	506

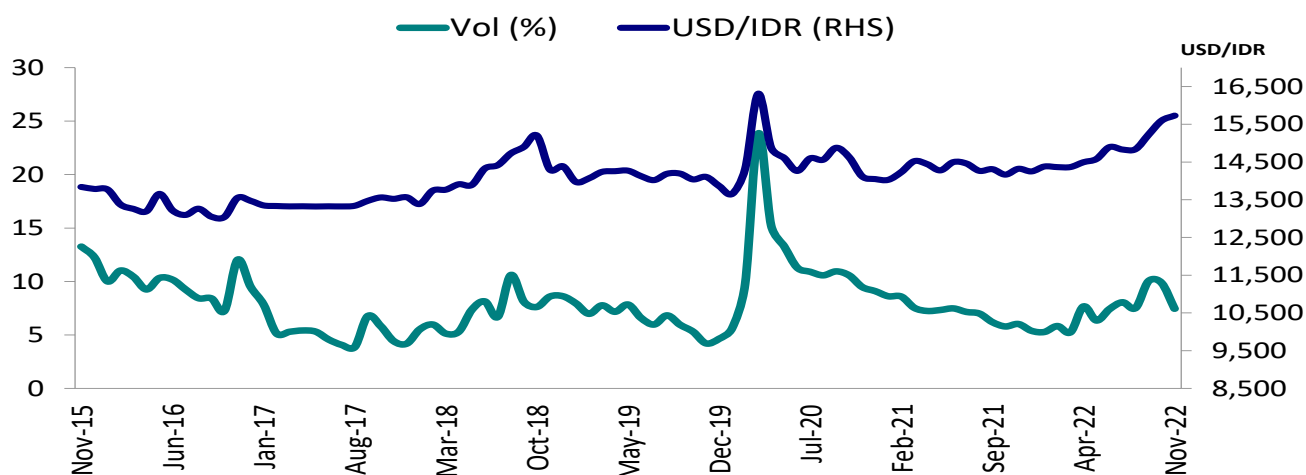
Table 9. Bond Ownership. Source: DJPPR, PermataBank Economic Research

Rupiah weakened as Fed's aggressive sentiment soured global currencies momentum. Rupiah weakened significantly after Fed shifted into more aggressive monetary approach in 2Q22. When Russia-Ukraine war was triggered in February, USD/IDR remain stable as peoples expected that higher coal and CPO prices would compensate impact of higher oil prices, thus maintain surplus of current account. However, in the second half, as food prices and energy prices drove higher inflation in developed countries, especially US. Higher inflation in US pushed Fed to move into more aggressive monetary approach. In the second half the sentiment was getting stronger, drove Rupiah to weaken until reached above 15,700 per U.S. Dollar. U.S. Dollar strengthening was supported by interest rate differential between US and Indonesia was getting narrower, and in turn make U.S. Dollar more attractive. Before tightening cycle, the differential between Indonesia rates and US rates were around 325bps. In November, the differential were 100bps. Currently, Rupiah still move around 15,500-15,600 in December amidst expectation that Fed might start to slow the hike rate pace.



Graph 18. Interest Rate Differential and Rupiah. Source: Bloomberg, PermataBank Economic Research

Compared to condition in 2020 pandemic, volatility of Rupiah remains manageable, but increased gradually over the time. Rupiah volatility started to decline slightly in the last 2 months as Fed’s sentiment moderated.



Graph 19. Rupiah and Volatility. Source: Bloomberg, PermataBank Economic Research

Foreign investor is expected to return. In the last 2 months, despite Fed only signaled that they would “only” hike interest rates, many foreign investors entered bond market, and pushed stronger IDR bond yield. It implies that if Fed stop their aggressive monetary

approach, foreign investors would return into riskier assets, such as developing countries government bond. We expect that main driver of bond demand increase in 2023 come from foreign investors, and in some degree insurance and pension fund and individual. Banking sector is likely to focus on allocate their liquidity into credit, which slowing down the demand from them.

On the other hand, government bond supply is likely to similar with 2022 supply as government planned the similar net securities issuance target amidst lower deficit. It implying that government bond yield would be affected mainly from demand side as supply side is similar. We expect that 10-yrs government bond yield would range around 6.5%-6.9%.

Rupiah gradually strengthened on incoming capital inflow. Capital inflow in bond market will also support stronger Rupiah in 2023. Furthermore, we also still expect that current account would remain in surplus area, albeit lower, and contribute to stronger Rupiah. Despite slowing down the rate hike, we still expect that interest rate differential will still around 100bps, and as a result will not contribute much to the Rupiah’s potential upside.

Meanwhile, there are still some of downside risk to Rupiah next year, which mainly related to global recession risk. Global recession risk usually affects Rupiah’s demand as investors tend to shift into safe-haven currencies assets. We expect that Rupiah will move around 15,400-15,600 next year.

Indicators	2021	2022				2023			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
JCI	6,581	7,071	6,912	7,041	6,950	7,050	7,125	7,210	7,300
IDR 10yrs Bond Yield (%)	6.38	6.564	7.17	7.37	6.87	6.94	6.71	6.73	6.58
US Treasury 10yrs Bond Yield (%)	1.51	2.34	2.97	3.83	3.65	3.60	3.52	3.49	3.38

Table 10. Financial Market Outlook Source: PermataBank Economic Research

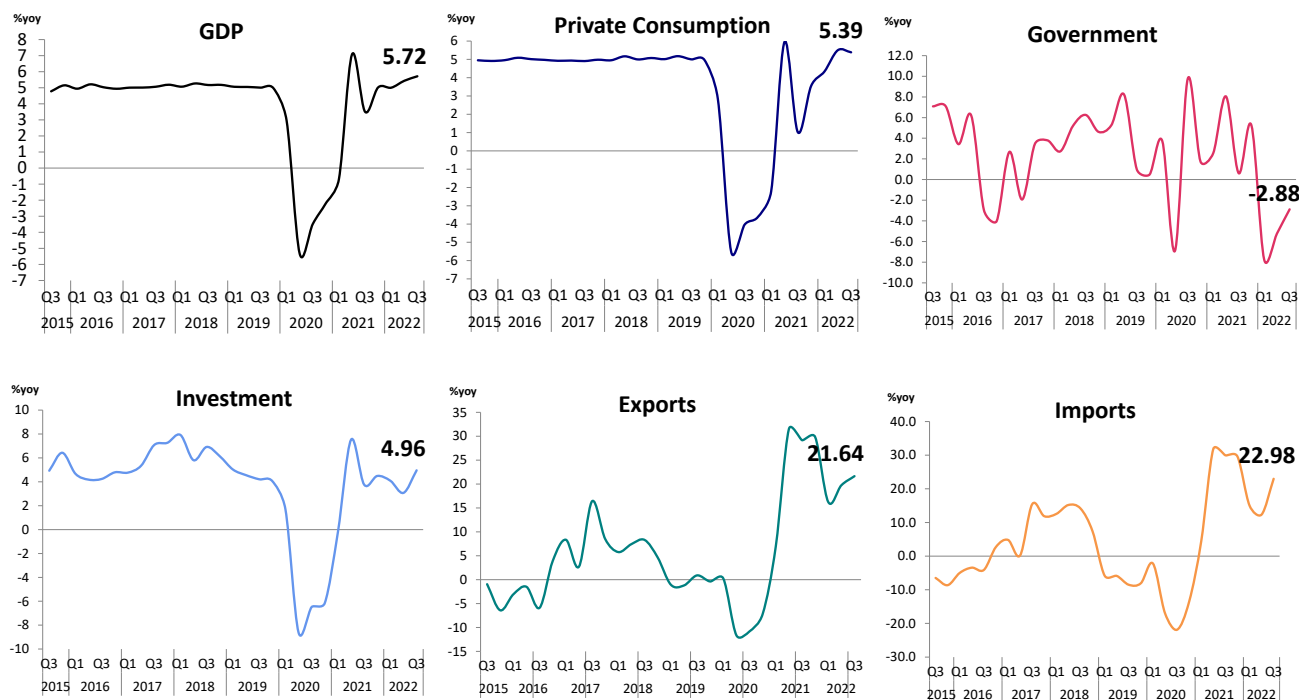
Domestic Economic Condition

a. GDP Growth

Indonesia's GDP growth in 2023 is expected to be ranging 4.9% compared to 5.25% in 2022. The main driver of Indonesia's GDP would be private consumption while net exports and investment are expected to grow moderately amidst the global recession, particularly Advanced Economies namely Eurozone, the United Kingdom and the United States. In terms of structure from the demand side, we think that the condition will remain the same that the proportion of household consumption will be the biggest one, followed by investment.

GDP by Expenditure	Growth (%)									Share to GDP (%)								
	2020	2021				2022				2020	2021				2022			
		Q1	Q2	Q3	Q4	2021	Q1	Q2	Q3		Q1	Q2	Q3	Q4				
Household Consumption	-2.6	-2.2	6.0	1.0	3.6	2.0	4.3	5.5	5.4	57.7	56.9	55.1	53.1	52.9	54.4	52.9	53.6	51.5
Non-Profit Institution Consumption	-4.3	-3.7	4.0	2.8	3.3	1.6	5.8	5.0	6.1	1.3	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Government Consumption	1.9	2.5	8.1	0.6	5.2	4.2	-6.9	-4.9	-2.9	9.3	6.7	8.6	9.1	11.8	9.1	11.8	5.5	7.0
Investment	-4.9	-0.2	7.5	3.8	4.5	3.8	4.1	3.1	5.0	31.7	32.0	29.9	30.4	31.0	30.8	31.0	30.4	27.3
Exports of Goods and Services	-7.7	6.9	31.5	29.2	29.8	24.0	16.7	20.0	21.6	17.2	19.3	20.5	22.5	23.7	21.6	23.7	23.2	24.7
Less Imports of Goods and Services	-14.7	4.4	31.8	29.9	29.6	23.3	15.9	12.4	23.0	16.0	17.7	18.7	18.3	20.5	18.9	20.5	20.6	20.5
Gross Domestic Product	-2.1	-0.7	7.1	3.5	5.0	3.7	5.0	5.4	5.7	100.0								

Table 11. GDP by Expenditure Source: Statistics Indonesia, PermataBank Economic Research



Graph 20. Indonesia GDP Growth and Components, Statistics Indonesia, PermataBank Economic Research

Private consumption will likely ease in 2023. The private consumption is estimated to grow by 4.4%, slower than our forecast in FY22 of 5.1%. There would some factors affecting moderation in consumption. First, the low base effect leading to stronger consumption growth in 2022 on the back of improving people mobility will likely dissipate. Second, the rising headline inflation driven by Volatile Food and Administered Prices components, will likely lead to lower consumption for middle income people. Third, the transmission of Bank Indonesia’s policy rate on banking interest rate will likely materialize in 1H-2023 which would impact the consumption behavior. Four, the expectation of normalization in commodity prices particularly Crude Palm Oil (CPO) and coal will likely affect consumption in commodity related regions namely Sumatera and Kalimantan.

	Growth (%)										Share (%)										
	2019	2020	2021				2022			2019	2020	2021				2022					
			Q1	Q2	Q3	Q4	2021	Q1	Q2	Q3			Q1	Q2	Q3	Q4	2021	Q1	Q2	Q3	
GDP Total	5.0	-2.1	-0.7	7.1	3.5	5.0	3.7	5.0	5.4	5.7											
Household Consumption	5.0	-2.6	-2.2	6.0	1.0	3.6	2.0	4.3	5.5	5.4											
Food & Beverages, Other than Restaurant	5.2	0.5	-2.3	4.2	0.8	3.2	1.4	3.6	4.1	2.6	39.4	41.2	41.0	41.5	41.4	40.7	41.2	41.1	41.7	41.7	
Apparel, Footwear & Maintenance Services	4.3	-4.2	-2.7	1.7	-0.5	1.2	-0.1	6.5	4.3	4.4	3.6	3.6	3.4	3.5	3.5	3.5	3.5	3.4	3.4	3.3	
Equipments	4.7	2.3	1.3	2.1	2.3	3.1	2.2	3.2	3.3	2.3	12.8	13.3	13.3	13.2	13.4	13.1	13.2	13.1	12.7	12.9	
Health & Education	6.6	3.1	0.3	1.0	2.4	3.0	1.7	2.2	4.3	1.0	6.9	7.3	7.4	7.0	7.6	7.3	7.3	7.2	6.8	7.1	
Transportation & Communication	4.8	-9.6	-4.2	10.5	-0.2	5.3	2.6	7.0	9.7	12.9	22.8	20.2	20.2	20.1	19.6	20.7	20.2	20.6	20.9	21.7	
Restaurant & Hotel	6.0	-8.1	-4.2	16.4	2.4	2.8	3.9	4.2	6.6	9.1	10.1	9.6	9.9	9.8	9.7	10.0	9.8	9.9	9.9	10.0	
Others	3.1	-0.7	-1.4	4.6	1.5	2.8	1.8	2.6	3.6	1.7	4.5	4.8	4.8	4.8	4.8	4.7	4.8	4.7	4.7	4.6	

Table 12. Historical Table of Household Expenditure Growth, Statistics Indonesia, PermataBank Economic Research

Government expenditure will grow positively. Government expenditure in 2023 is projected to grow positively by around 2.6% amidst fiscal consolidation efforts. With the pandemic under control, spending allocations that were previously focused on handling the spread of the Covid-19 virus and stabilizing the economy can be reallocated into spending that has a higher multiplier effect for the sustainability of economic transformation.

Investment will likely ease moderately. The investment is expected to grow by 4.0% from our estimation in FY22 of 4.2%. The investment climate in 2023 will likely slightly moderate on the back of several factors. First, the non-building investment related to machine & equipment sales will likely ease on the back of normalization in commodity prices during 2H-2023. Meanwhile, the building investment in 2023 will likely improve on the back of higher government’s capital expenditure on infrastructure. Second, the investor would tend to be wait and see heading to General Elections (Regional Election, Legislative Election and Presidential Election) in February 2024. This implies that investment would be

impacted during 2H-2023 as historical data showed that investment eased one to two quarters ahead of Election in 2004, 2009, 2014 and 2019.

	Growth (%)									Share (%)										
	2019	2020	2021				2022				2019	2020	2021				2022			
			Q1	Q2	Q3	Q4	2021	Q1	Q2	Q3			Q1	Q2	Q3	Q4	2021	Q1	Q2	Q3
GDP Total	5.0	-2.1	-0.7	7.1	3.5	5.0	3.7	5.0	5.4	5.7										
Gross Fixed Capital Formation	4.5	-4.9	-0.2	7.5	3.8	4.5	3.8	4.1	3.1	5.0										
Buildings & Structures	5.4	-3.8	-0.7	4.4	3.4	2.5	2.3	2.6	0.9	0.1	75.0	75.9	75.7	75.9	75.2	74.1	75.2	74.1	75.3	75.0
Machine & Equipment	4.9	-11.6	3.5	19.0	11.5	13.5	11.7	19.2	16.3	36.5	10.6	9.7	10.0	10.3	9.8	10.8	10.2	10.8	11.1	11.2
Vehicles	-4.5	-13.0	2.1	42.4	9.0	3.6	11.7	0.3	7.0	17.1	5.0	4.6	5.4	4.9	4.7	4.8	4.9	4.8	5.1	5.0
Other Equipments	-3.0	-10.6	-4.9	36.7	10.0	3.4	9.3	6.0	-4.3	0.1	1.7	1.5	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
Cultivated Biological Resources	5.1	3.3	-1.1	1.1	-5.3	10.0	1.2	3.4	3.7	1.7	5.4	5.8	5.0	4.8	6.2	6.3	5.6	6.3	4.8	4.7
Intellectual Property Products	-0.2	-7.7	0.9	4.2	-3.8	19.4	4.6	-5.9	6.9	6.1	2.3	2.4	2.3	2.5	2.4	2.3	2.4	2.3	2.1	2.5

Table 13. Historical Table of Investment Growth, Source: Statistics Indonesia, PermataBank Economic Research

Net exports to ease on expectation of global economic slowdown. The net export would likely ease in the coming year as export performance would decrease moderately on expectation of global recession leading to softer global commodity prices. Nevertheless, considering relatively steady coal price, we think that export performance will likely remain solid until 1H-2023. Real export is expected to grow by 11.4% while real import is estimated to grow by 13.3%.

(in \$mn)	Exports			Imports			Trade Balance		
	TOTAL	Non Oil&Gas Export	Oil&Gas Export	TOTAL	Non Oil&Gas Import	Oil&Gas Import	TOTAL	Non Oil&Gas Balance	Oil&Gas Balance
FY2017	168,828	153,084	15,744	156,975	132,659	24,316	11,853	20,425	-8,572
FY2018	180,013	162,841	17,172	188,711	158,842	29,869	-8,699	3,999	-12,697
FY2019	167,683	155,894	11,789	171,276	149,390	21,885	-3,593	6,503	-10,096
FY2020	163,192	154,941	8,251	141,569	127,312	14,257	21,623	27,629	-6,006
FY2021	231,609	219,332	12,278	196,190	170,661	25,529	35,420	48,671	-13,251
Jan-22	19,174	18,273	901	18,211	15,982	2,229	963	2,291	-1,328
Feb-22	20,473	19,478	995	16,639	13,736	2,902	3,834	5,742	-1,908
Mar-22	26,497	25,092	1,405	21,962	18,470	3,492	4,535	6,622	-2,087
Apr-22	27,322	25,889	1,433	19,757	15,944	3,814	7,565	9,946	-2,381
May-22	21,510	20,014	1,496	18,609	15,256	3,354	2,901	4,758	-1,858
Jun-22	26,150	24,601	1,549	21,004	17,331	3,673	5,146	7,270	-2,124
Jul-22	25,563	24,195	1,368	21,345	16,890	4,455	4,218	7,306	-3,087
Aug-22	27,862	26,176	1,687	22,151	18,449	3,701	5,712	7,726	-2,015
Sep-22	24,777	23,467	1,311	19,808	16,382	3,426	4,969	7,085	-2,116
Oct-22	24,728	23,440	1,288	19,135	15,771	3,364	5,593	7,669	-2,076
Nov-22	24,121	22,985	1,136	18,962	16,158	2,804	5,159	6,827	-1,669
11M21	209,252	198,065	11,184	174,838	152,687	22,151	34,414	45,379	-10,967
11M22	268,178	253,610	14,568	217,584	180,369	37,215	50,594	73,241	-22,647
Growth	28.2	28.0	30.3	24.4	18.1	68.0			

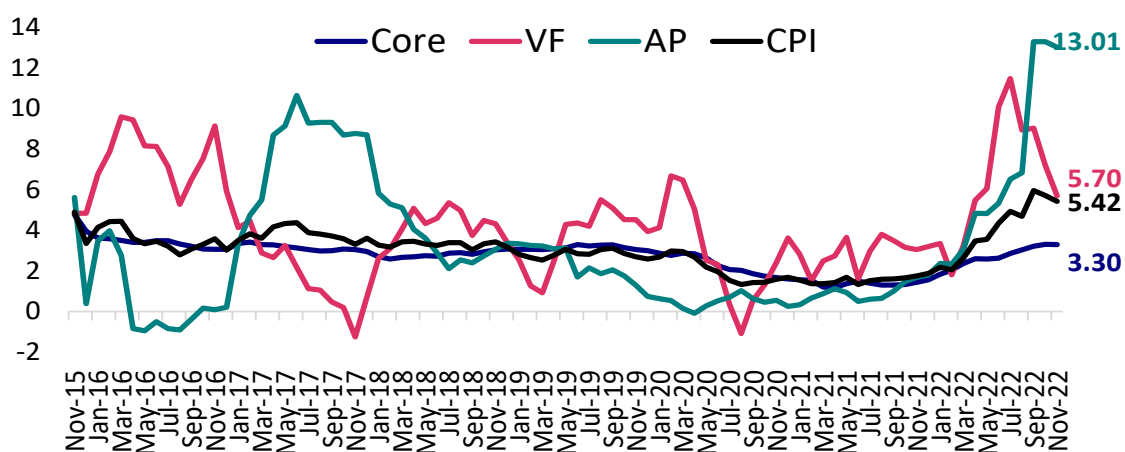
Table 14. Indonesia Trade Balance. Source: Statistics Indonesia, PermataBank Economic Research

b. Inflation

The movement of the inflation rate in 2023 would likely be influenced by the risk of a global economic recession and movements in global commodity prices. The core inflation rate is expected to continue growing in line with domestic economic activity which continues to improve and return to normal conditions amidst sluggish external pressure. We think that second round effect of fuel price adjustment to core inflation remained limited since producers do not fully pass through the rising input cost (more expensive raw material, higher container price and weaker Rupiah exchange rate) to the selling price. Moreover, Bank Indonesia also raised policy rate by around 175bps to 5.25% since Aug'22 as it is considered as pre-emptive, forward looking and ahead the curve moves to anchor the expectation of inflation. Therefore, demand-side inflation so called core inflation will continue to decrease below 4% by the end of 2023.

Volatile food inflation is still a challenge, especially the impact of the weather factor, and efforts will continue to be controlled through upstream and downstream strengthening and price policy interventions. The government also continues to be committed to reducing price disparities between regions by ensuring the availability of supply and smooth distribution and continuing to improve food governance as support for maintaining national food security.

Headline inflation in 2023 would likely ease on the back of normalization in Administered Prices and Volatile Food components. Headline inflation is expected to reach 3.5% from our estimate of YE22 inflation of 5.5% as supply-side inflation will likely normalize in 2H-2023.



Graph 21. Indonesia Inflation and Components. Source: Statistics Indonesia, PermataBank Economic Research

c. Balance of Payment, Current Account, and FX Reserves

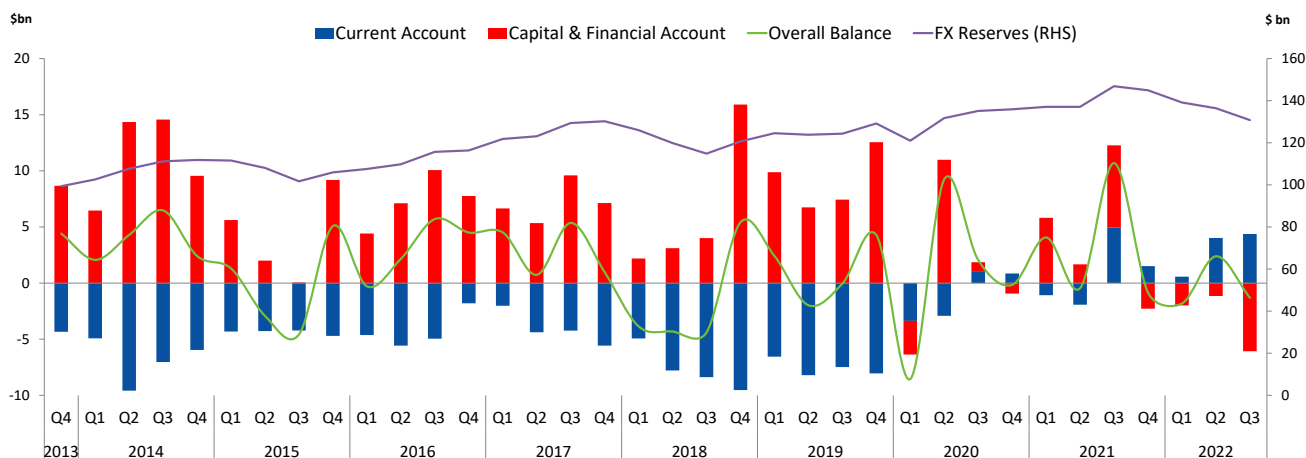
Balance of Payment (BoP) posted deficit until 3Q22 amidst strong current account.

Indonesia current account in 2022 strengthened significantly, driven by ongoing goods trade surplus. Current account increased in 2022 after commodity prices increased due to Russia-Ukraine war. Aside from prices, the trade volume also increased as war drove scarcity of goods from Russia and Ukraine, especially energy and foods, and lead importer into shift into Indonesia's producer. Indonesia's current account surplus even surpassed the total surplus in 2021. Indonesia's current account until 3Q22 recorded \$8.97bn.

However, BoP still recorded deficit due to capital outflow from financial market. As Fed tightened the monetary policy, investors shifted their assets into Dollar, especially government securities assets. Meanwhile, investors in equity market still recorded inflow as many companies in Indonesia got spillover profitability from higher commodity prices. Deficit in financial account reached \$6.65bn, deeper than 2020 crises. Capital outflow in financial market also affected Foreign Exchange Reserves (FX Reserves) Indonesia as it decreased by \$14.12bn to \$130.78bn at the end of 3Q22. Overall, BoP recorded deficit of \$0.73bn.

ITEMS	2020	2021*	2022			
	Total	Total	Q1*	Q2*	Q3**	Total
I. Current Account	-4,433	3,465	569	4,023	4,376	8,969
A. Goods ¹⁾	28,301	43,806	11,301	16,797	17,515	45,613
B. Services	-9,755	-14,644	-4,377	-4,942	-5,273	-14,592
C. Primary Income	-28,911	-31,961	-7,849	-9,355	-9,275	-26,478
D. Secondary Income	5,932	6,264	1,494	1,523	1,408	4,426
II. Capital Account	37	80	1	3	2	6
III. Financial Account ²⁾	7,885	12,423	-1,991	-1,160	-6,073	-9,223
1. Direct Investment	14,142	17,423	4,194	3,401	2,779	10,373
2. Portfolio Investment	3,369	5,072	-3,188	-347	-3,112	-6,647
3. Financial Derivatives	18	333	137	-86	9	59
4. Other Investment	-9,645	-10,405	-3,133	-4,128	-5,748	-13,009
IV. Total (I + II + III)	3,488	15,968	-1,421	2,866	-1,694	-248
V. Net Error and Omissions	-891	-2,507	-396	-477	391	-482
VI. Overall Balance (IV + V)	2,597	13,461	-1,817	2,389	-1,304	-731

Table 15. Indonesia Balance of Payment. Source: Bank Indonesia



Graph 22. Indonesia Balance of Payment. Source: Bank Indonesia, PermataBank Economic Research

Current account would be lower, albeit still surplus. As we expect weaker commodity prices due to global economic slowdown, we predict that current account surplus would be reduced in 2023. On the other hand, as Fed would reduce the pressure from tightening policy, foreign investors would return to Indonesia, and driving higher portfolio account. As 2023 is the political years, foreign investors in direct investment tend to be more cautious, which lead to lower direct investment account. We project that BoP will record surplus, followed by higher foreign reserves. Current account surplus in 2022 is expected to around 0.80% of GDP, while current account surplus in 2023 would be reduced to 0.23% of GDP. We also expect that FX Reserves in 2022 would record \$134.5bn, while Fx Reserves in 2023 would increase to \$143bn.

Items	2021	2022				2022	2023
		I	II	III	IV (F)		
I. Current Account	3,459	569	4,023	4,375	1,542	10,509	3,235
I.a. Goods	43,806	11,301	16,797	17,515	12,551	58,164	44,619
I.b. Services	(14,651)	(4,377)	(4,942)	(5,273)	(4,410)	(19,002)	(14,368)
I.c. Primary Income	(31,961)	(7,849)	(9,355)	(9,275)	(8,269)	(34,748)	(33,904)
I.d. Secondary Income	6,264	1,494	1,523	1,408	1,670	6,095	6,887
CA Percentage of GDP (%)	0.29	0.13	1.14	1.28	0.47	0.80	0.23
II. Financial Account	10,002	(1,991)	(1,160)	(6,073)	(1,951)	(11,650)	5,766
II.a. Direct Investment	17,106	4,194	3,401	2,779	4,358	14,732	13,290
II.b. Portofolio Investment	5,072	(3,188)	(347)	(3,112)	(791)	(7,438)	2,080
II.c. Other Investment	(12,175)	(3,392)	(4,688)	(5,346)	(5,519)	(18,944)	(9,605)
FA Percentage of GDP (%)	0.29	0.13	1.14	(1.82)	(0.59)	(0.88)	0.41
Balance of Payment	13,461	(1,817)	2,389	(1,304)	(409)	(1,140)	9,000
FX Reserves	144,905	139,129	136,379	130,782	134,547	134,547	143,010

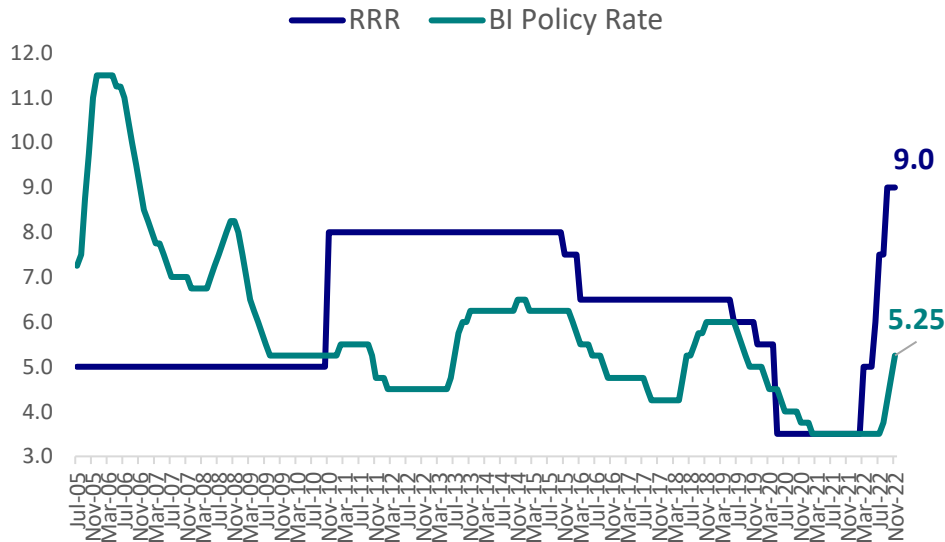
Table 16. Balance of Payment Projection. Source: PermataBank Economic Research

d. Monetary Policy

BI will maintain monetary policy tightening albeit at slower pace. BI7DRR policy rate was raised since August 2022 as a front loaded, pre-emptive, and forward-looking measure to anchor inflationary pressure. Until mid-2022, core inflation was maintained at a low level below 3%, in line with the limited impact of demand-side inflation, well-anchored inflation expectations, maintained exchange rate stability, and fiscal policy support in maintaining subsidized fuel prices. Given low core inflationary pressures and an improvement in the national economy, which is still in the early stages of national economic recovery, Bank Indonesia continues to maintain a low BI7DRR policy rate of 3.50%. However, in line with the increasing intensity of global uncertainty, and higher global energy and food prices, the core inflation and inflation expectations were showing signs of rising. Responding to rising core inflation and inflation expectations as a second-round effect of rising volatile food inflation and fuel price adjustments, Bank Indonesia started to raise BI7DRR by 25bps in August 2022. This policy was strengthened by further BI7DRR hikes in September 2022, October 2022, and November 2022, each by 50bps to 5.25%, to manage inflation expectations and ensure that future core inflation can quickly return to the $3\pm 1\%$ target in the first half of 2023. The BI7DRR hikes also aims to strengthen the exchange rate stabilization policy and to keep Rupiah in line with its fundamental value amidst stronger US dollar and rising uncertainty in global financial markets. In addition, Bank Indonesia implemented normalizing liquidity policy, while safeguarding the banking industry's ability to extend financing to the corporate sector. BI raised Reserve Requirement Ratio (RRR) gradually since March 2022 by 150bps to 5.00%. It was followed by a RRR hike by 100bps in June 2022, and 150 bps RRR hike in July 2022 and ultimately another RRR hike of 250bps in September 2022. All in all, BI raised RRR by 550bps from 3.50% to 9.00%.

Looking ahead, BI is expected to continue to raise policy rate in 2023 albeit at a slower pace. BI will likely raise BI7DRR by 50bps in 2023, following policy rate hikes by 175-200bps in 2022, as BI frontloaded the rate hikes to anchor inflation expectation. We think that global central bank particularly the Federal Reserve already sent signal of slower pace in rate hikes policy next year as global commodity prices are expected to normalize, leading to softening inflationary pressure. Fed is expected to raise policy rate to the terminal rate of 5% in order to tackle inflation to 2% level. Therefore, in order to manage Rupiah stability by

maintaining the interest rate differential with Fed rate, it is sufficient for BI to raise policy rate by 50bps in the coming year.



Graph 23. BI 7RR and Inflation. Source: Bank Indonesia

e. Financial Intermediaries

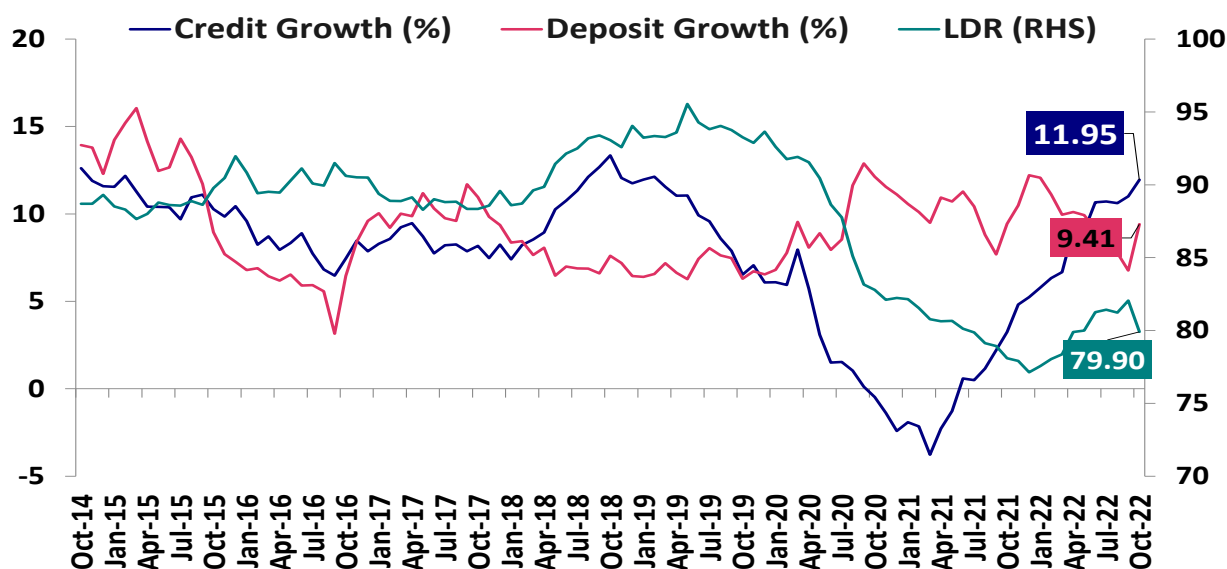
Bank intermediation will likely grow slower. The bank intermediation function expanded 11.95%yoy in October 2022, boosted by broad-based increases across all loan types and all economic sectors. Working capital loans grew by 11.90%, while investment loans and consumption loans grew by 15.47% and 8.79% respectively. On the supply side, a stronger intermediation function was supported by lending standards that remain loose in the banking industry given the improving appetite to disburse loans, particularly to the manufacturing industry, mining, trade, and agriculture sectors. On the demand side, an ongoing corporate and household sector recovery drive the bank’s intermediation. Corporate sector performance is reflected by improving repayment capacity, sales, and capital expenditures (Capex), particularly in the trade and mining sectors. Similarly, household performance continues to improve as indicated by rising consumption and investment in line with consumer optimism.

Looking ahead, loan growth is expected to remain solid albeit at slower pace. The expectation of resilient Indonesia’s economic growth in 2023 will imply that the financing needs from real sectors would remain strong. However, as global economy is expected to grow slower, the performance of export-oriented industries will be impacted negatively. Moreover, the Capex growth in 2023 for several industries would also be decreasing due to strong growth in 2022. In addition, in response to the expiration of the loans/financing restructuring policies in March 2023, OJK adopts a policy that supports targeted segments, sectors, industries, and regions that would require an additional period of loans/financing restructuring for another year until 31 March 2024. Those targeted segment/sectors are:

- MSMEs, covering all sectors;
- Accommodation and food and beverages sectors; and
- Several industries with a high number of employments, i.e., textile and textile products and footwear industries.

The extension of credit restructuring policy would also lead to manageable credit risk in the coming year.

From the demand side of lending, the interest rate transmission from BI’s policy rate hike to the banking rate would also affect the loan demand. All in all, we expect loan growth to be slower to the range of 8-10%yoy compared to 9-11% in 2022. The deposit rate would also grow at slower pace to the range of 6-8% from 7-9% in 2022.



Graph 24. BI 7RR and Inflation. Source: Bank Indonesia

Loan Growth (%yoy)									NPL (%)										
Sectors	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Jul-22	Aug-22	Sectors	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Jul-22	Aug-22
Agricultures & Forestry	4.24	1.93	5.74	4.34	7.76	8.55	10.14	11.75	10.57	Agricultures & Forestry	1.94	1.78	2.13	1.97	1.57	1.59	1.56	1.56	1.55
Fishery	13.58	13.81	19.85	15.94	16.56	14.98	12.99	13.04	12.00	Fishery	5.53	5.53	5.83	5.72	5.64	5.87	6.27	7.22	6.89
Mining and Quarrying	-7.22	-16.41	-6.14	-1.24	23.42	31.90	52.83	47.94	51.45	Mining and Quarrying	7.26	7.51	5.80	5.36	4.42	4.25	3.04	3.03	2.81
Processing Industry	-4.09	-7.07	-1.59	-0.47	6.43	8.66	16.03	16.99	15.07	Processing Industry	4.58	4.73	5.33	5.58	5.18	4.87	4.59	4.58	4.64
Electricity, Gas and Water	-14.82	-20.80	-19.09	-8.58	-5.44	-8.07	-0.96	-5.59	-7.52	Electricity, Gas and Water	1.24	1.26	1.19	0.95	1.04	0.91	1.09	1.14	1.15
Construction	3.92	5.71	4.87	3.60	1.04	0.08	-0.04	-0.01	-0.33	Construction	3.45	3.48	3.52	3.59	3.62	3.83	3.76	3.75	3.87
Wholesale and Retail Trade	-6.35	-5.88	0.63	2.57	3.42	6.25	9.36	7.35	8.31	Wholesale and Retail Trade	4.43	4.52	4.34	4.43	4.08	4.14	4.19	4.31	4.21
Hotel & Restaurant	5.77	4.88	6.01	3.71	3.92	2.90	1.99	2.44	3.07	Hotel & Restaurant	5.39	5.99	5.78	5.66	6.34	6.42	5.42	5.53	5.69
Transportation and Communications	7.80	9.55	13.18	14.59	15.05	7.79	12.85	9.90	8.26	Transportation and Communications	2.16	2.49	2.42	2.27	2.07	2.00	1.61	1.69	1.81
Financial Intermediaries	-13.41	-20.50	-10.78	-1.56	3.89	12.56	25.24	31.59	30.08	Financial Intermediaries	0.50	1.05	0.93	0.47	1.30	1.46	0.98	1.12	1.00
Real Estate and Business Services	-3.48	-5.22	-2.49	-3.61	2.05	5.65	11.18	12.95	13.91	Real Estate and Business Services	3.10	3.31	3.53	3.18	2.79	2.86	2.85	2.86	2.68
Government administration	6.87	-2.05	3.20	2.74	10.96	7.85	11.67	10.77	16.82	Government administration	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.04	0.04
Education Services	-4.23	-2.04	-1.62	4.33	2.92	8.12	3.39	5.73	5.04	Education Services	1.80	1.79	1.68	1.78	1.51	1.86	1.88	1.72	1.79
Health Services and Social Activities	-15.83	-2.77	-5.11	0.54	0.89	-1.08	8.37	5.86	8.12	Health Services and Social Activities	1.35	0.90	0.89	0.63	0.60	0.61	0.58	0.58	0.53
Community, Sociocultural, and Entertainment	8.38	9.88	14.57	15.21	6.97	6.22	11.03	14.08	13.89	Community, Sociocultural, and Entertainment	3.24	3.06	3.04	3.00	2.35	2.40	2.60	2.52	2.49
Individual Services	-12.47	-5.81	-1.08	22.39	29.53	27.72	26.44	3.32	1.20	Individual Services	1.85	2.27	2.34	2.30	2.06	2.45	2.73	2.72	2.94
International Agency	28.15	5.60	17.64	9.22	1.94	-8.74	-5.80	-9.11	-96.65	International Agency	0.00	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.96
Other Business Activities	26.00	14.43	-35.04	-50.94	-71.25	-100.00	-100.00	-100.00	-100.00	Other Business Activities	5.56	6.59	12.58	10.35	13.35	0.00	0.00	0.00	0.00
For Home Ownership	3.47	4.30	7.22	9.32	9.55	10.55	6.81	7.13	7.52	For Home Ownership	2.57	2.58	2.53	2.50	2.24	2.23	2.23	2.23	2.19
For Apartement Ownership	2.31	2.53	7.66	10.93	14.34	14.72	12.59	11.91	11.15	For Apartement Ownership	2.22	2.49	2.70	2.61	2.03	1.97	1.84	1.92	1.89
For Shop House Ownership	-9.60	-9.55	-7.23	-7.72	-5.60	-2.90	-0.94	-1.89	-0.39	For Shop House Ownership	4.88	5.12	5.12	5.21	4.54	4.74	5.11	5.19	5.10
For Vehicles Ownership	-24.66	-28.89	-23.19	-16.49	-6.31	1.81	8.36	11.02	13.16	For Vehicles Ownership	2.05	2.04	2.72	2.49	1.99	1.89	1.87	1.86	1.83
Others Consumption Loan	3.16	2.42	4.04	3.38	3.23	5.08	7.61	8.19	8.72	Others Consumption Loan	1.22	1.35	1.41	1.42	1.29	1.32	1.38	1.41	1.41
Others	-5.39	-4.56	-0.67	-1.69	3.78	1.19	4.91	5.96	6.18	Others	1.30	1.28	1.22	1.16	1.18	1.12	1.08	1.09	1.10
Total Banking Sector Loan	-2.41	-3.77	0.59	2.21	5.24	6.67	10.66	10.71	10.62	Total Banking Sector Loan	3.06	3.17	3.24	3.22	3.00	2.99	2.86	2.90	2.88

Table 17. Financial Intermediaries Performance. Source: OJK

f. Fiscal and Government Policy

Government deficit would be lower-than-expected in 2022 due to stronger revenue growth. During 2022, commodity prices increased on the back of Russia-Ukraine war, including main export of Indonesia, namely palm oil and coal. Higher prices lead to stronger profitability in those business, which lead to stronger tax revenue from them. Aside from that, higher prices of commodity also lead to stronger growth of non-tax revenue for natural resources. Meanwhile, amidst pressure from energy subsidy in the beginning of the year, expenditure realization growth remained stable and slower than revenue growth, which resulting in surplus of state budget in 9th consecutive months. Until end of 3Q22, state budget still recorded surplus, while in Oct'22, state budget started to post deficit. Despite posted deficit, but primary balance in Oct'22 remained surplus, amounting Rp146.36tn.

Item	Jan-Oct'21 State Budget Realization (Rp trillion)	Realization of 2021 State Budget (Rp trillion)	Jan-Oct'22 State Budget Realization (Rp trillion)	2022 State Budget (Rp trillion)	2022 State Budget Outlook (Perpres 98/2022) (Rp trillion)	Growth (%)	2022 Realization (% of Target)
A. REVENUES & GRANTS	1,510.2	2,011.3	2,181.6	1,846.1	2,266.2	44.46	96.3
I. Domestic Revenues	1,508.8	2,006.3	2,181.0	1,845.6	2,265.6	44.55	96.3
1. Tax Revenue	1,159.6	1,547.8	1,704.5	1,510.0	1,784.0	47.00	95.5
2. Non-Tax Revenue	349.2	458.5	476.5	335.6	481.6	36.43	98.9
II. Grants	1.4	5.0	0.6	0.6	0.6	-	100.0
B. EXPENDITURE	2,058.9	2,786.4	2,351.1	2,714.2	3,106.4	14.19	75.7
I. Central Government Expenditure	1,416.3	2,000.7	1,671.9	1,944.5	2,301.6	18.05	72.6
II. Transfer to Regions & Village Funds	642.6	785.7	679.2	769.6	804.8	5.70	84.4
C. Primary Balance	(266.8)	(431.6)	146.4	(462.2)	(434.4)		
FISCAL SURPLUS/DEFICIT	(548.70)	(775.10)	(169.52)	(868.10)	(840.23)		
As a percentage of GDP	(3.23)	(4.57)	(0.91)	(4.85)	(4.50)		

Table 18. Government Budget Realization in 2022. Source: Ministry of Finance

Government returned to pre-pandemic deficit. In 2023, government returned their state budget deficit into below 3% after rules about wider deficit expired by the end of 2022. Compared to the outlook of 2022 state budget, government expenditure was contracted by 4.02%, mainly driven by contraction from central government expenditure. Transfer to regions still grew by 1.58%. On the other side, revenue realization in 2023 would be slowed down due to lower commodity price expectation.

Item	2022 State Budget (Rp trillion)	2022 State Budget Outlook (Perpres 98/2022) (Rp trillion)	2022 State Budget Outlook (Rp trillion)	2023 State Budget (Rp trillion)	Growth from 2022 Outlook (%)
A. REVENUES & GRANTS	1,846.1	2,266.2	2,436.9	2,443.6	0.28
I. Domestic Revenues	1,845.6	2,265.6	2,435.9	2,443.2	0.30
1. Tax Revenue	1,510.0	1,784.0	1,924.9	2,016.9	4.78
2. Non-Tax Revenue	335.6	481.6	510.9	426.3	(16.57)
II. Grants	0.6	0.6	1.0	0.4	(59.47)
B. EXPENDITURE	2,714.2	3,106.4	3,169.1	3,041.7	(4.02)
I. Central Government Expenditure	1,944.5	2,301.6	2,370.0	2,230.0	(5.91)
II. Transfer to Regions & Village Funds	769.6	804.8	799.1	811.7	1.58
1. Transfer to Regions	701.6	736.8	731.2	741.7	1.44
2. Village Funds	68.0	68.0	67.9	70.0	3.04
C. Primary Balance	(462.2)	(434.4)	(328.4)	(156.8)	
FISCAL SURPLUS/DEFICIT	(868.10)	(840.23)	(732.25)	(598.15)	
As a percentage of GDP	(4.85)	(4.50)	(3.92)	(2.85)	

Table 19. Government Budget for 2023. Source: Ministry of Finance

In the expenditure side, government mainly reduced capital expenditure and goods expenditure in 2023. Personnel expenditure, subsidy, and social assistance components still increase in 2023. Capital expenditure and goods expenditure fell by 14.46% and 6.58%, respectively. Amidst slowing down of expenditure components, government still allocated the state budget for infrastructure in 2023, reflected by rising infrastructure budget rose by 7.75%. Meanwhile, based on function, contraction of government expenditure was caused by lower allocation for economy and health function. It implying that government gradually reduced the expenditure components for COVID-19 mitigation, mainly because the pandemic impact started to fade away.



Graph 25. Government Expenditure Development. Source: Ministry of Finance

As stronger revenue realization in 2022 was driven by commodity prices, potential lower commodity prices will drag down the revenue realization, especially revenue from natural resource and income tax. Income tax realization is predicted to be slowed down to 4.47% from previously 28.48% despite government predicted 5% economic growth in 2023. All other revenue components are expected to grow solidly on the back consumption and investment growth, which was main determinant of VAT and income tax.



Graph 26. Government Revenue Development. Source: Ministry of Finance

Based on the development of government expenditure and revenue planning, we also expect that government budget deficit would be below 3%. Aside from that, we also expect

that in the beginning of the year, government state budget would record surplus for 2-3 months as commodity prices remained strong. We expect that government budget deficit would be around 2.5%-2.7%.

Bond supply remain stable in 2023 despite lower state budget deficit. Overall, government financing needs in 2023 will be lower than 2022. However, net issuance for government securities tended to remain stable compared to 2022. Government choose to reduce bilateral/unilateral debt to fill the gap of lower financing needs. Net issuance of government securities still rose by 0.2% to Rp712.9tn.

Item	State Budget 2022 (Rp trillion)	Outlook of State Budget 2022 (Rp trillion)	State Budget 2023 (Rp trillion)	2023 Financing Growth (%)	Change in State Budget 2023 (Difference in Rp trillion)
A. DEBT FINANCING	973.6	757.6	696.3	(8.1)	(61.2)
I. Government Securities (net)	991.3	711.6	712.9	0.2	1.4
II. Debt (net)	(17.7)	46.0	(16.6)	(136.1)	(62.6)
1. Domestic	1.3	1.6	0.7	(52.5)	(0.8)
2. Foreign	5.7	44.4	(17.4)	(139.1)	(61.8)
B. INVESTMENT FINANCING	(182.3)	(154.2)	(175.9)	14.1	(21.7)
C. LOAN PROVISION	0.6	2.3	5.3	131.4	3.0
D. GUARANTEE OBLIGATION	(1.1)	(1.1)	(0.3)	(70.8)	0.8
E. OTHER FINANCING	77.3	127.8	72.8	(43.0)	(54.9)
TOTAL GOVERNMENT FINANCING	868.0	732.2	598.2		(134.07)

Table 20. Government Budget Financing 2023. Source: Ministry of Finance

g. Regional Economy Condition

Economic recovery in 2022 is supported by improving economic growth in all regions of Indonesia. The economy in all regions of Indonesia in 1Q22 – 3Q22 continued to record strong growth, confirming the continued national economic recovery. This positive development was supported by improving domestic demand in line with greater mobility in all regions and various large-scale events, as well as exports performance. Growth in the regions of Java, Sumatera and Kalimantan accelerated in 1Q22 – 3Q22 to 5.50%yoy, 4.57%yoy and 4.44%yoy respectively. Economic gains in those three regions were mainly supported by domestic demand in line with increased mobility, including manufacturing and trading activities. Likewise, export performance in Kalimantan remained strong, especially CPO and coal. Meanwhile, the Sulawesi-Maluku-Papua (Sulampua) and Sumatera regions posted strong growth of 8.04%yoy and 4.71%yoy respectively, despite slightly moderating from the previous quarter, supported by solid domestic demand and natural resource-based

exports. For 2022 overall, therefore, the regional economies of Sumatra, Java, Kalimantan, Balinusra and Sulampua are predicted to grow in the range of 4.5 - 4.7%, 5.4 -5.6%, 4.3 - 4.5%, 4.5 - 4.9%, and 8.4 - 8.6% respectively.

Looking ahead, some regions in Indonesia are expected to remain resilient would be Sulawesi-Maluku-Papua (Sulampua) on the back of investment activities in down-streaming of nickel product. However, taking into account slowdown economic growth leading to moderating global commodity prices, we expect commodity-led regions such as Sumatera and Kalimantan would be more affected by global condition. In addition, manufacturing-based regions especially Java, is expected to grow at slower pace due to impact of slowing global demand coupled with higher input costs namely raw material, logistic cost and labor cost.

Province	2017	2018	2019	2020	2021				2021	2022			2021	2022		
					Q1	Q2	Q3	Q4		Q1	Q2	Q3		Q1	Q2	Q3
West Kalimantan	5.2	5.1	5.1	-1.8	-0.1	10.8	4.6	4.3	4.8	4.1	4.5	6.5	4.8	4.1	4.5	6.5
Central Kalimantan	6.8	5.6	6.1	-1.4	-3.1	5.6	3.7	7.6	3.4	7.3	7.3	6.7	3.4	7.3	7.3	6.7
South Kalimantan	5.3	5.1	4.1	-1.8	-1.2	4.6	4.9	5.5	3.5	3.5	5.8	5.6	3.5	3.5	5.8	5.6
East Kalimantan	3.1	2.6	4.7	-2.9	-3.0	5.8	4.5	2.9	2.5	2.0	3.3	5.3	2.5	2.0	3.3	5.3
North Kalimantan	6.6	5.4	6.9	-1.1	-2.0	5.8	5.2	7.1	4.0	4.5	4.9	5.4	4.0	4.5	4.9	5.4
Kalimantan	4.3	3.8	5.0	-2.3	-2.2	6.3	4.5	4.3	3.2	3.3	4.4	5.7	3.2	3.3	4.4	5.7
North Sulawesi	6.3	6.0	5.6	-1.0	1.9	8.5	3.2	3.4	4.2	3.9	5.9	6.6	4.2	3.9	5.9	6.6
Central Sulawesi	7.1	20.6	8.8	4.9	7.2	16.7	11.1	11.9	11.7	11.1	11.2	19.1	11.7	11.1	11.2	19.1
South Sulawesi	7.2	7.0	6.9	-0.7	-0.2	7.7	3.2	7.9	4.6	4.3	5.2	5.7	4.6	4.3	5.2	5.7
Southeast Sulawesi	6.8	6.4	6.5	-0.6	0.1	4.3	4.2	7.7	4.1	5.1	6.1	5.4	4.1	5.1	6.1	5.4
Gorontalo	6.8	6.5	6.4	0.0	-1.9	3.4	3.0	5.3	2.4	3.2	4.9	4.1	2.4	3.2	4.9	4.1
West Sulawesi	6.7	6.3	5.6	-2.4	-1.2	5.2	2.9	3.3	2.6	0.8	2.1	3.4	2.6	0.8	2.1	3.4
Sulawesi	7.0	8.9	7.0	0.2	1.4	8.8	4.8	7.7	5.7	5.5	6.5	8.2	5.7	5.5	6.5	8.2
Maluku	5.8	5.9	5.4	-0.9	-1.8	4.6	4.1	5.3	3.0	3.7	4.9	6.0	3.0	3.7	4.9	6.0
North Maluku	7.7	7.9	6.2	5.4	13.3	18.5	12.4	21.0	16.4	28.3	27.7	24.8	16.4	28.3	27.7	24.8
West Papua	4.0	6.3	2.7	-0.8	1.5	-2.7	-2.0	1.0	-0.5	-1.0	6.1	3.7	-0.5	-1.0	6.1	3.7
Papua	4.7	7.3	-15.7	2.4	14.7	13.5	14.9	17.2	15.1	13.3	14.4	5.8	15.1	13.3	14.4	5.8
Maluku-Papua	4.9	7.0	-7.4	1.5	9.2	9.0	9.4	12.5	10.1	10.6	13.0	7.5	10.1	10.6	13.0	7.5
Bali	5.6	6.3	5.6	-9.3	-9.8	2.8	-2.9	0.5	-2.5	1.4	3.1	8.1	-2.5	1.4	3.1	8.1
West Nusa Tenggara	0.0	-4.5	3.9	-0.6	-1.2	4.8	2.4	3.2	2.3	7.7	6.0	7.1	2.3	7.7	6.0	7.1
East Nusa Tenggara	5.2	5.1	5.2	-0.8	0.2	4.3	2.4	3.1	2.5	1.9	3.1	3.3	2.5	1.9	3.1	3.3
Balinusra	3.7	2.7	5.0	-5.0	-5.1	3.8	-0.1	1.9	0.1	3.5	4.0	6.7	0.1	3.5	4.0	6.7
EAST REGION	5.1	5.6	4.0	-1.4	-0.2	7.1	4.5	6.1	4.4	4.9	6.1	6.9	4.4	4.9	6.1	6.9

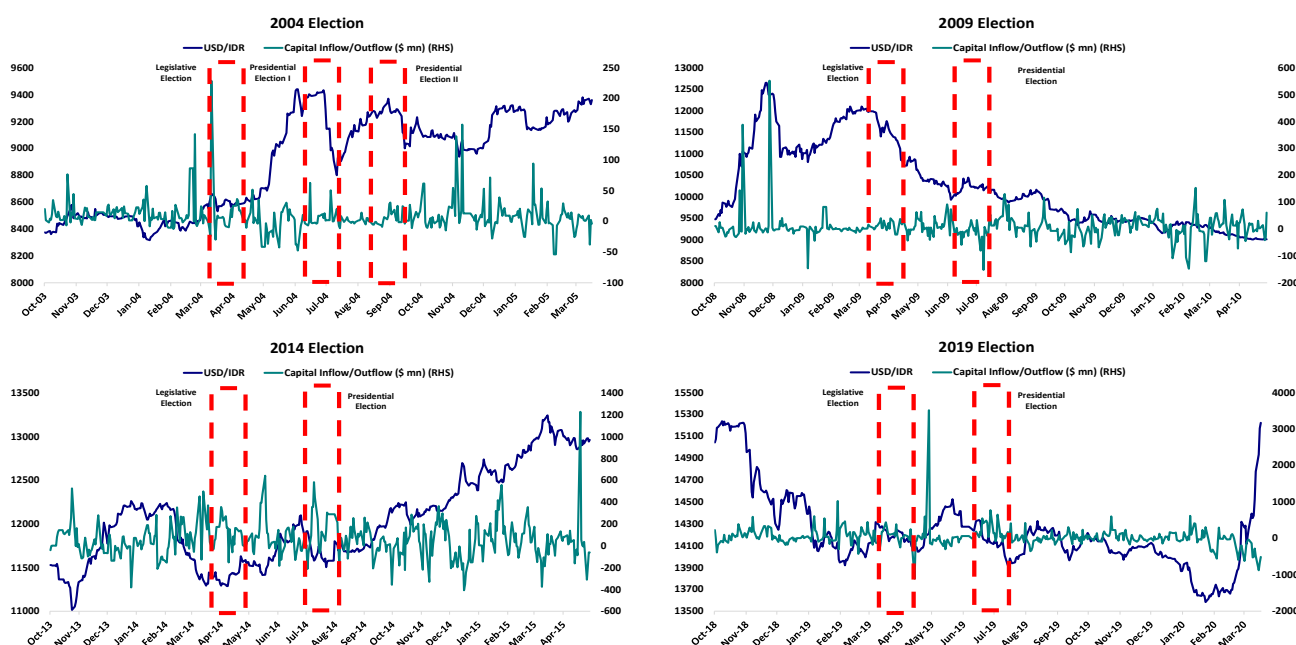
Table 21. Regional Economic Growth. Source: Statistics Indonesia

h. Political Year Impact to Market and Economy

General Election (Pemilu) will be held in 2024 to elect government executive and legislative. In addition, the election will be held simultaneously on all government level, namely central government, provinces, regencies, and municipality. As the election will be held around Feb'24, the impact of election to socio-economic condition would start to

appear in the 2nd half of 2023. Thus, the election will also contribute to change in market and economy in 2023.

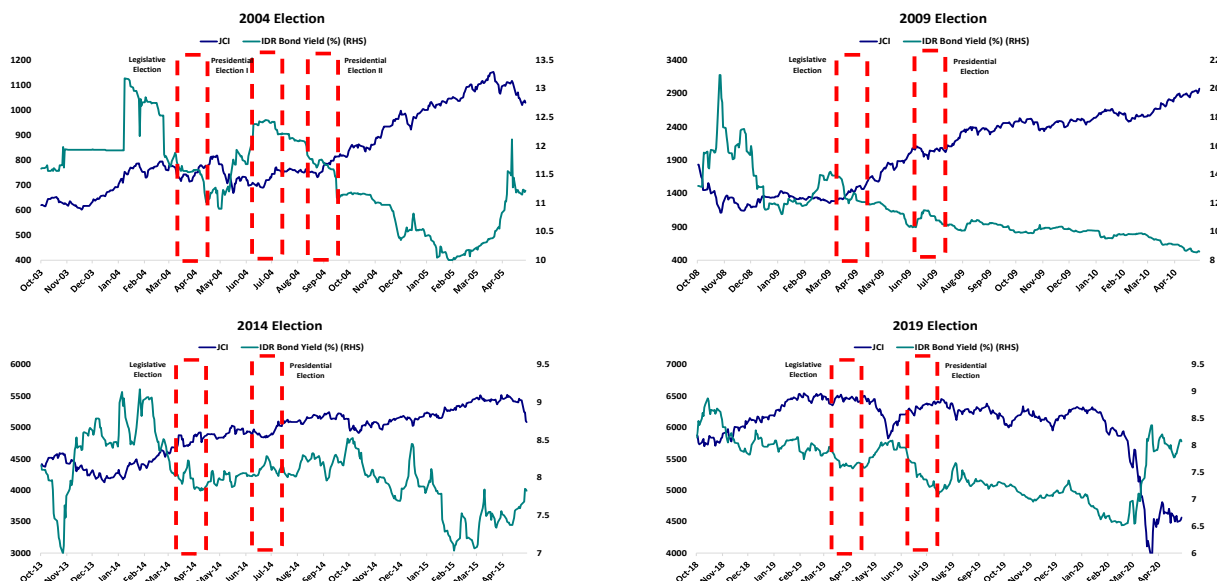
USD/IDR rose temporarily ahead of presidential election. In the market sector, the impact of election in the last 4 election seemed to be mixed, especially because other factors also played roles in affecting the market. Ahead of legislative election, there were not unique behavior pattern in capital inflow and Rupiah in financial market. Meanwhile, before the presidential election, aside from 2009 election, USD/IDR tended to rise. Pattern difference in 2009 might related to QE policy from Fed, which in turn affecting the lower demand for U.S. Dollar. Weaker Rupiah tendency as general was caused by tendency from investors to keep the U.S. Dollar ahead of election, which would change the economic direction of Indonesia. We could see that spike in USD/IDR was very short-term around 1-2 month. On the other side, there were also no clear pattern in capital inflow ahead of election.



Graph 27. USD/IDR and Capital Flow in Financial Market. Source: PermataBank Economic Research, Bloomberg, Statistics Indonesia

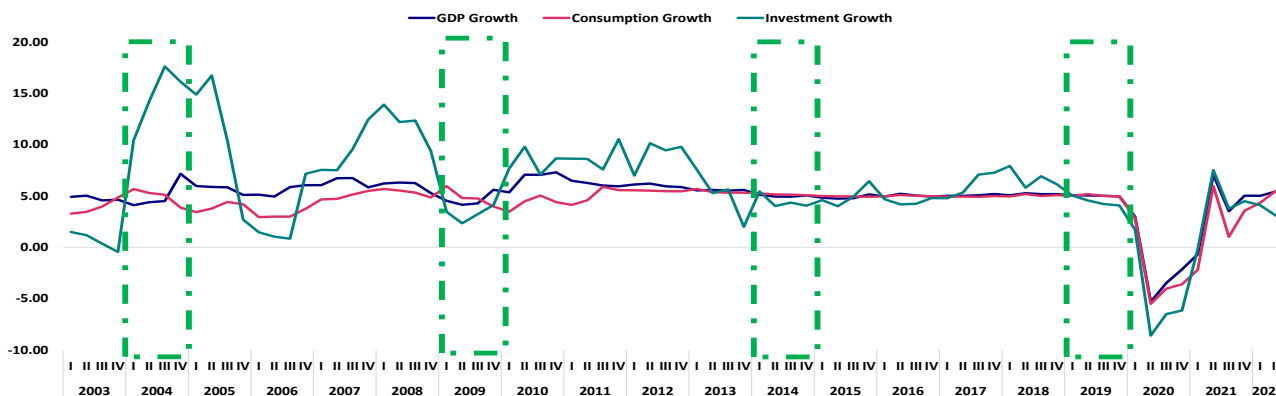
Temporary pressure increased ahead of election year. Pattern of JCI and IDR bond yield was also similar with USD/IDR pattern. JCI tended to weaken until presidential election finished, while IDR benchmark bond yield rose until presidential election. Overall, the pattern seemed to be more mixed as market in 2014 also showed less respond to the

election process. 2009 election year became another anomaly as Indonesia domestic market was affected by aftereffects of global financial crises in 2008



Graph 28. JCI and IDR Bond Yield. Source: PermataBank Economic Research, Bloomberg, Statistics Indonesia

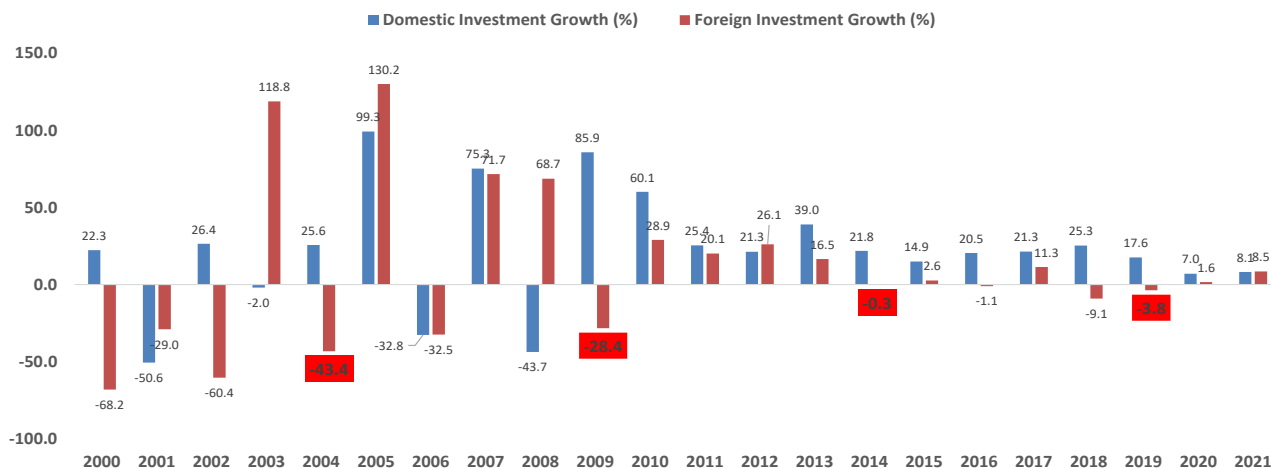
Election year tended to slow down the investment. During and ahead of election year, investment growth tended to be slowing down in all of election year. In the next year, investment growth usually surges, and started to normalize. 2019 election year was anomaly as pandemic started in 2020. Meanwhile, consumption growth in 2004 and 2009 election strengthened during and ahead of election year, however, in 2014 and 2019, the strengthening was not seen anymore.



Graph 29. GDP Growth during Election Year. Source: PermataBank Economic Research, Statistics Indonesia

Foreign investment led the slowdown ahead of election year. Compared with domestic investment, foreign investment usually recorded lower 1 year before election year.

Domestic investment still posted growth, while foreign investment recorded contraction. It reflected that foreign investors were more wary about change of policy direction in the election year.



Graph 30. Investment Growth in Election Year. Source: Ministry of Investment, PermataBank Economic Research

Election year is more about challenge than opportunity. Based on market and economic condition during election year. Election year can be looked as challenge in domestic economic condition. In very short period, especially during the second half of 2023, we expect that Rupiah, stock market, and IDR bond, will be potentially weakened as the impact of uncertainty in election year. Meanwhile, investment side will slow in the second half of 2023, especially ahead of presidential candidate registration in September.

Macro Economic Indicators	Actual	Projection									
	FY 2021	2022				FY 2022	2023				FY 2023
		Q1 (A)	Q2 (A)	Q3 (A)	Q4 (P)		Q1 (P)	Q2 (P)	Q3 (P)	Q4 (P)	
GDP growth (%)	3.69	5.01	5.44	5.72	4.81	5.25	5.09	5.18	4.79	4.53	4.90
Inflation (% YoY)	1.87	2.64	4.35	5.95	5.45	5.45	5.08	4.51	3.16	3.53	3.53
FX rate (IDR/USD)	14,253	14,369	14,898	15,228	15,500	15,500	15,600	15,500	15,450	15,400	15,400
Interest Rate											
- BI 7RR	3.50	3.50	3.50	4.25	5.50	5.50	6.00	6.00	6.00	6.00	6.00
- Fed Rate	0.25	0.50	1.75	3.25	4.50	4.50	5.00	5.00	5.00	5.00	5.00
Growth (% YoY)											
- Credit	5.20	6.67	10.66	11.00	10.27	10.27	9.82	9.46	9.19	8.98	8.98
- Deposits	12.21	9.95	9.13	6.67	7.09	7.09	8.39	8.10	7.85	6.16	6.16
Automotive Sales (Units)											
- Motorcycle Sales	5,057,516	1,262,586	984,041	1,365,733	1,445,779	5,058,139	1,095,038	1,223,104	1,382,621	1,573,546	5,274,309
Motorcycle Sales (% YoY)	38%					0.0%					4.3%
- Car Sales	887,205	263,821	211,500	283,186	236,192	994,699	264,266	265,506	268,605	272,109	1,070,487
Car Sales (% YoY)	67%					12.1%					7.6%
Interest Rates											
- Lending Rate	9.26	9.08	8.96	9.06	9.77	9.77	10.05	10.14	10.07	10.04	10.04
- Working Capital Loan Rate	8.70	8.59	8.40	8.63	9.34	9.34	9.61	9.70	9.62	9.59	9.59

Table 22. Key Macroeconomic Indicators Outlook. Source: PermataBank Economic Research

Industry Outlook

a. Latest Industry Performance

Sectoral performances continue to grow and all have recovered to the pre-pandemic level. In 3Q22, 16 of 17 sectors in Indonesia’s economy recorded growth, with sectors that previously have been negatively impacted by the mobility restrictions and the Covid-19 pandemic becoming the prominent driver of economic growth. Two sectors experiencing high growth were Transportation and Storage by 25.8%yoy and Accommodation and Restaurant by 17.8%yoy. Covid-19 cases that relatively under control and no strict mobility restriction re-implemented in 2022 become the driving force of the high performance of these sectors. Meanwhile, one sector that contracted in 3Q22 was Human Health and Social Work Activities by -1.7%yoy. Relatively high performance of this sector in 3Q21 when the Covid-19 Delta wave struck creating a high-base effect on this sector. In addition to the excellent sectoral growth performance in 3Q22, all sectors also have indexes above 100, indicating that all sectors’ production have returned to the pre-pandemic level.

Sectors	Share (%) 2021	Quarterly Growth (%yoy)												Annual Growth (%)			GDP Index 2019=100		
		1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	2020	2021	9M22	2020	2021	9M22	
A. Agriculture, Forestry, and Fishery	12.6	0.0	2.2	2.2	2.6	3.4	0.5	1.4	2.3	1.2	1.4	1.6	1.8	1.8	1.6	101.8	103.6	104.8	
B. Mining and Quarrying	7.4	0.4	-2.7	-4.3	-1.2	-2.0	5.2	7.8	5.2	3.8	4.0	3.2	-2.0	4.0	4.0	98.0	102.0	104.8	
C. Manufacturing	20.5	2.1	-6.2	-4.3	-3.1	-1.4	6.6	3.7	4.9	5.1	4.0	4.8	-2.9	3.4	4.7	97.1	100.4	103.8	
D. Electricity and Gas Supply	1.0	3.9	-5.5	-2.4	-5.0	1.7	-9.1	3.9	7.8	7.0	9.3	8.1	-2.3	5.5	8.1	97.7	103.1	109.3	
E. Water Supply, Sewerage, Waste Management And Remediation Activities	0.1	4.4	4.4	5.9	5.0	5.5	5.8	4.8	4.1	1.3	4.5	4.3	4.9	5.0	3.5	104.9	110.2	112.9	
F. Construction	9.9	2.9	-5.4	-4.5	-5.7	-0.8	4.4	3.8	3.9	4.8	1.0	0.6	-3.3	2.8	2.6	96.7	99.5	101.1	
G. Wholesale And Retail Trades, Repair Of Motor Vehicles And Motorcycles	13.0	1.5	-7.7	-5.1	-3.7	-1.3	9.5	5.2	5.6	5.7	4.4	5.3	-3.8	4.7	5.3	96.2	100.7	104.6	
H. Transport And Storage	3.7	1.3	-30.8	-16.7	-13.4	-13.1	25.1	-0.7	7.9	15.8	21.3	25.8	-15.1	3.2	17.6	84.9	87.7	101.0	
I. Accommodation And Food Service Activities	2.8	1.9	-22.0	-11.9	-8.9	-7.3	21.6	-0.1	4.9	6.6	9.8	17.8	-10.3	3.9	9.7	89.7	93.2	101.0	
J. Information And Communication	6.3	9.8	10.8	10.7	11.0	8.7	6.9	5.5	6.2	7.2	8.1	6.9	10.6	6.8	7.1	110.6	118.1	124.6	
K. Financial And Insurance Services	4.2	10.6	1.1	-0.9	2.4	-3.0	8.3	4.3	-2.6	1.6	1.5	0.9	3.2	1.6	0.3	103.2	104.9	105.9	
L. Real Estate Activities	3.0	3.8	2.3	2.0	1.2	0.9	2.8	3.4	3.9	3.8	2.2	0.6	2.3	2.8	2.6	102.3	105.2	106.9	
M,N Business Services	1.8	5.4	-12.1	-7.8	-7.0	-6.1	9.9	-0.6	0.9	6.0	7.9	10.8	-5.4	0.7	6.4	94.6	95.2	101.1	
O. Public Administration And Defence; Compulsory Social Security	3.3	3.2	-3.2	1.8	-1.5	-2.3	10.0	-9.9	1.0	-1.5	-1.6	12.4	0.0	-0.3	2.3	100.0	99.6	101.8	
P. Education	3.2	5.9	1.2	2.4	1.3	-1.5	5.9	-4.4	0.7	-1.7	-1.1	4.5	2.6	0.1	0.6	102.6	102.7	103.1	
Q. Human Health And Social Work Activities	1.4	10.3	3.7	15.2	16.5	3.4	11.7	14.1	12.2	4.4	6.5	-1.7	11.5	10.5	5.2	111.5	123.2	125.7	
R,S,T,U Other Services Activities	1.8	7.1	-12.6	-5.5	-4.8	-5.2	12.0	-0.3	3.4	8.2	9.3	9.1	-4.1	2.1	7.5	95.9	97.9	104.4	
A. Gross Value Added At Basic Price	96.0	2.9	-4.7	-2.6	-1.8	-0.9	7.0	3.0	4.2	4.6	4.2	5.2	-1.6	3.3	4.5	98.4	101.6	105.2	
B. Taxes Less Subsidies On Products	4.0	3.7	-19.3	-23.0	-9.1	6.8	8.2	17.5	24.0	17.0	39.4	18.9	-19.1	14.9	24.7	86.9	99.8	116.8	
C. Gross Domestic Product	100.0	3.0	-5.3	-3.5	-2.2	-0.7	7.1	3.5	5.0	5.0	5.4	5.7	-2.1	3.7	5.3	97.9	101.6	105.6	
Top 3 Contributors																			
Negative Growth																			
Positive Growth																			
Above pre-pandemic level																			

Table 23. Sectoral GDP Performance. Source: Statistics Indonesia, PermataBank Economic Research

The Primary sector, Agriculture and Mining, both recorded expansion in 3Q22 by 1.6%yoy and 3.2%yoy, albeit the increase was lower than the national economy. In more detail, the Agriculture sector is relatively resilient, consistently recording growth during the pandemic. The resilient expansion of the Agriculture sector in 2020, 2021, and 2022

was primarily driven by the positive performance of the Plantation sub-sector, which is the biggest contributor to the Agriculture sector. CPO price jump and the product of the Plantation sector that is highly related to food products are becoming the main driver of the resiliency of the Plantation sector during the Covid-19 pandemic.

From the mining sector, base metal mining also reportedly has persistent growth during the Covid-19 pandemic due to the smelters increasing need for raw materials. The rapid increase of smelter capacity after the nickel ore export ban accelerates the Metal ore mining activities that support the sector's growth. Furthermore, coal mining, the most significant contributor to Indonesia's mining sector, have enjoyed surging global commodity prices that induced domestic coal miner to increase their production capacity. The coal mining sector has recorded growth since 2Q21 and is already above its pre-pandemic production level in 2019 by 5.3%. Only Crude Petroleum, Natural Gas, and Geothermal mining sector recorded persistent contraction, even before the Covid-19 pandemic began. Oil and gas production has consistently dropped for several years due to the lack of exploration activities to find new oil and gas reserves.

Sectors	Share (%) 2021	Quarterly Growth (%yoy)												Annual Growth (%)			GDP Index 2019=100		
		1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	2020	2021	9M22	2020	2021	9M22	
01-A. Agriculture, Forestry, and Fishery	12.62	0.0	2.2	2.2	2.6	3.4	0.5	1.4	2.3	1.2	1.4	1.6	1.8	1.8	1.6	101.8	103.6	104.8	
02-1. Agriculture, Livestock, Hunting and Agriculture Services	9.65	-1.2	2.8	3.1	3.7	5.3	-1.3	0.7	0.1	1.6	1.2	0.9	2.1	1.1	1.0	102.1	103.2	104.2	
03-a. Food crops	2.69	-10.3	9.2	7.2	10.7	12.2	-8.0	-5.7	-2.0	-0.1	1.1	-8.0	3.6	-1.6	-2.2	103.6	102.0	100.1	
04-b. Horticultural crops	1.44	2.6	0.9	5.7	7.8	3.0	1.8	-5.2	3.8	3.6	1.2	5.6	4.2	0.6	3.5	104.2	104.7	107.5	
05-c. Plantation crops	3.82	4.0	0.2	0.7	1.1	2.2	0.3	8.3	2.3	-0.2	0.3	2.7	1.3	3.5	1.4	101.3	104.9	106.8	
06-d. Livestock	1.51	2.7	-1.9	-0.2	-1.9	2.1	6.7	-2.5	-5.2	6.9	3.6	7.4	-0.3	0.3	3.3	99.7	100.0	104.6	
07-e. Agricultural Services and Hunting	0.19	-1.4	2.3	2.4	3.2	5.4	-0.7	1.0	-0.3	1.6	1.6	1.3	1.6	1.3	1.1	101.6	103.0	104.2	
08-2. Forestry and Logging	0.57	5.3	2.2	-1.6	-5.4	-6.6	-1.5	3.3	4.8	2.1	-1.1	-3.6	0.0	0.1	0.3	100.0	100.0	99.2	
09-3. Fishery	2.41	3.5	-0.6	-1.0	1.1	-1.3	9.7	4.6	9.0	-0.5	2.7	6.4	0.7	5.5	4.4	100.7	106.2	108.5	
10-B. Mining and Quarrying	7.39	0.4	-2.7	-4.3	-1.2	-2.0	5.2	7.8	5.2	3.8	4.0	3.2	-2.0	4.0	4.0	98.0	102.0	104.8	
11-1. Crude Petroleum, Natural Gas, and Geothermal	2.34	-3.0	-7.1	-7.1	-6.8	-6.9	-6.1	-2.2	-3.4	-6.3	-3.8	-5.2	-6.0	-4.4	-4.7	94.0	89.8	86.4	
12-2. Coal and Lignite Mining	2.35	0.1	-6.3	-7.7	-5.9	-7.0	13.3	15.0	6.6	3.6	4.3	9.4	-5.4	-6.6	-6.1	94.6	100.8	105.3	
13-3. Base Metal Ore mining	1.17	9.2	31.8	9.2	33.1	24.5	18.1	24.7	24.4	25.8	22.4	9.0	20.3	22.8	19.9	120.3	147.7	168.0	
14-4. Other Mining and Quarrying	1.53	2.6	-4.1	-2.0	-1.2	-0.6	1.8	2.5	4.1	4.8	1.0	1.8	-1.2	2.0	2.9	98.8	100.7	102.5	
Top 3 Contributors																			
Negative Growth																			
Positive Growth																			
Above pre-pandemic level																			

Table 24. Primary Sector GDP Performance. Source: Statistics Indonesia, PermataBank Economic Research

The manufacturing sub-sectors have mixed performance in 3Q22. Overall, the Manufacturing sector in 3Q22 grew by 4.8%yoy, higher than 2Q22 of only 4.0%yoy. However, in more detail by sub-sector, only 10 of 16 sub-sector reportedly grew in 3Q22. Manufacture of Base Metal, Manufacture of Machinery and Equipment, and Manufacture of

Leather and Footwear became the sub-sectors that recorded the highest growth in 3Q22 of 20.2%yoy, 17.7%yoy, and 13.4%yoy, respectively. Meanwhile, sub-sectors that experienced a contraction in 3Q22 were the Manufacture of Wood (-4.3%yoy), Manufacture of Furniture (-3.9%yoy), Manufacture of Basic Chemical and Pharmaceutical (-3.5%yoy), Manufacture of Tobacco (-2.9%yoy), Manufacture of Non-Metal Mineral Product (-2.0%yoy), and Manufacture of Rubber and Plastic (-0.3%yoy). The negative performance of several sub-sectors in 3Q22 occurred in sub-sector that mainly depend on the export market, such as Wood and Furniture. The deceleration of the global economy due to the surging inflation and high policy interest rate regime decreases the export demand for Wood and Furniture industry product. In addition, several manufacturing sub-sectors have yet to recover to the pre-pandemic level. Three sectors with the lowest recovery performance were the Manufacture of Non-metal Mineral Products, the Manufacture of Rubber and Plastic, and the Manufacture of Tobacco. The weak recovery performance of the two prior sectors was due to the drops in demand for Cement and Construction raw material goods as the selling price of both products are increasing. Meanwhile, the Manufacture of Tobacco is hampered by the aggressive increase in cigarette excise in the last two years.

Sectors	Share (%) 2021	Quarterly Growth (%yoy)												Annual Growth (%)			GDP Index 2019=100			GDP Index 3Q19=100		
		1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	2020	2021	9M22	2020	2021	9M22	3Q20	3Q21	3Q22	
C. Manufacturing	100.0	2.1	-6.2	-4.3	-3.1	-1.4	6.6	3.7	4.9	5.1	4.0	4.8	-2.9	3.4	4.7	97.1	100.4	103.8	96.7	99.2	104.0	
Non-Oil and Gas Manufacturing	91.1	2.0	-6.7	-4.0	-2.2	-0.7	6.9	4.1	4.6	5.5	4.3	4.9	-2.6	3.7	4.8	97.5	101.1	104.7	96.0	99.9	104.8	
1. Manufacture of Coal and Refined Petroleum Products	8.9	2.6	-10.2	-7.4	-12.0	-7.7	3.4	-0.8	8.8	1.1	0.8	4.3	-6.6	0.6	3.6	93.2	93.7	95.2	92.6	91.8	95.8	
2. Manufacture of Food Products and Beverages	33.9	3.9	0.2	0.7	1.7	2.4	2.9	3.5	1.2	3.7	3.7	3.6	1.8	2.5	3.1	101.6	104.2	107.0	100.7	104.2	107.9	
3. Manufacture of Textiles, and Wearing Apparel	5.6	-1.2	-14.2	-9.3	-10.5	-13.5	-4.5	-3.3	5.9	12.4	13.7	8.1	-8.9	-4.1	10.0	91.1	87.4	94.7	90.7	87.6	94.7	
4. Manufacture of Leather and Related Products, and Footwear	1.2	-0.4	-8.6	-10.8	-8.1	1.7	3.3	18.1	9.3	8.3	13.1	13.4	-8.8	7.8	11.0	91.2	88.3	108.7	80.2	94.8	107.5	
5. Manufacture of Wood and Cork, Articles of Straw and Basketry	2.5	3.2	-1.2	-5.9	-4.4	-8.5	-6.1	-1.2	1.1	8.3	5.4	-4.3	-2.2	-3.7	2.5	87.8	84.2	96.3	84.1	82.9	88.9	
6. Manufacture of Paper and Paper Products, Printing and Reproduction of Recorded Media	3.4	4.5	1.1	-1.4	-3.0	-2.7	-4.0	-5.4	0.6	2.9	3.9	6.6	0.2	-2.9	3.5	100.2	97.3	100.6	98.6	93.3	99.4	
7. Manufacture of Chemicals and Pharmaceuticals, and Botanical Products	10.2	8.6	8.6	15.0	8.5	11.5	9.1	9.7	8.3	6.5	2.1	-3.5	9.4	9.6	3.2	109.4	119.9	121.3	115.0	126.1	121.7	
8. Manufacture of Rubber, Rubber Products and Plastic Products	3.0	-0.8	-12.0	-9.6	-0.2	3.8	11.7	-2.8	-7.5	-12.1	-3.2	-0.3	-5.6	1.1	-6.0	94.4	95.4	91.4	90.4	87.9	87.6	
9. Manufacture of Other Non-Metallic Mineral Products	2.8	-5.3	-9.1	-9.1	-12.5	-7.3	8.1	3.0	0.5	1.4	-4.9	-2.0	-8.1	0.8	-1.3	90.9	91.7	90.4	90.9	83.6	91.7	
10. Manufacture of Basic Metals	4.7	4.0	2.8	5.2	11.5	7.7	18.0	9.5	11.3	7.9	15.8	20.2	5.9	11.5	13.9	105.9	118.0	130.8	105.2	115.2	138.4	
11. Manufacture of Electronic and Optical Products, Computer, Optical Products and Electronic Devices	8.3	-3.5	-9.3	-6.9	-2.1	-4.1	6.7	-8.1	-0.5	6.8	0.3	12.6	-5.5	-1.6	4.6	94.5	83.0	97.4	93.1	85.6	96.4	
12. Manufacture of Machinery and Equipment	1.4	-9.3	-13.4	-10.8	-7.4	3.2	16.4	15.3	11.0	9.9	11.2	17.7	-10.2	11.4	-12.5	89.8	100.1	109.7	85.2	103.7	122.1	
13. Manufacture of Transport Equipment	8.2	4.6	-34.3	-30.0	-19.0	-10.9	45.7	27.6	22.6	14.2	7.3	10.3	-19.9	17.8	13.4	80.1	94.4	101.7	70.0	89.5	98.7	
14. Manufacture of Furniture	1.3	-7.3	-2.6	-1.7	-1.7	8.0	7.2	7.0	10.4	4.4	-0.2	-3.9	-3.4	8.2	2.6	86.6	104.5	104.6	98.3	105.2	101.2	
15. Other Manufacturing, Repair and Installation of Machinery and Equipment	0.7	-4.7	-5.2	1.1	5.5	1.2	0.9	-6.5	-1.8	1.9	3.9	8.8	-0.9	-1.6	3.2	99.1	97.5	101.0	101.1	94.6	102.9	

Table 25. Manufacturing Sector GDP Performance. Source: Statistics Indonesia, PermataBank Economic Research

From the Tertiary sector, almost all sub-sectors posted growth in 3Q22. The highest increase occurred in the Transportation sector by 25.8%yoy and the Accommodation sector by 17.8%yoy. In more detail, three sub-sectors in Transportation that posted the highest growth in 3Q22 were Air Transport (144.3%yoy), Railways (126.7%yoy), and River, Lake, and Ferry Transport (92.1%yoy). Nevertheless, Railways and Air Transport have yet recovered to the pre-pandemic level. Meanwhile, the other sub-sectors reportedly have back to pre-pandemic performance, such as Land Transport, Warehousing, Sea Transport, River, Lake, and Ferry Transport, Accommodation and Food and Beverages Services. The transportation and Accommodation sectors' performance is highly dependent on the mobility restriction policy and the number of active COVID-19 cases. As the active Covid-19 cases are relatively under control in 2022, and the mobility restriction policy is somewhat eased, the Transportation and Accommodation sector experienced substantial growth this year.

Sectors	Share (%)		Quarterly Growth (%yoy)										Annual Growth (%)			GDP Index 2019=100		
	2021	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	#0#	2021	9M22	2020	2021	9M22
33-D. Electricity and Gas Supply	1.03	3.9	-5.5	-2.4	-5.0	1.7	9.1	3.9	7.8	7.0	9.3	8.1	-2.3	5.5	8.1	97.7	103.1	109.3
34-1. Electricity	0.92	4.2	-3.6	-0.2	-4.0	1.6	8.3	3.6	9.1	8.1	9.7	8.9	-1.0	5.6	9.0	99.0	104.6	111.4
35-2. Gas Supply and Production of Ice	0.11	1.5	-18.8	-17.5	-12.1	1.9	15.9	6.2	-1.8	-0.8	6.0	1.1	-11.9	5.0	1.1	88.1	92.5	93.9
36-E. Water Supply, Sewerage, Waste Management And Remediation Activities	0.09	4.4	4.4	5.9	5.0	5.5	5.8	4.6	4.1	1.3	4.5	4.3	4.9	5.0	3.5	104.9	110.2	112.9
37-F. Construction	9.97	2.9	-5.4	-4.5	-5.7	-0.8	4.4	3.8	3.9	4.8	1.0	0.6	-3.3	2.8	2.6	96.7	99.5	101.1
38-G. Wholesale And Retail Trades, Repair Of Motor Vehicles And Motorcycles	13.04	1.5	-7.7	-5.1	-3.7	-1.3	9.5	5.2	5.6	5.7	4.4	5.3	-3.8	4.7	5.3	96.2	100.7	104.6
39-1. Wholesale and Retail Trade and Repair of Motor Vehicles and Motorcycles	2.36	1.1	-29.7	-18.1	-9.7	-5.5	37.9	14.9	9.2	7.4	3.3	6.0	-14.1	12.1	6.4	85.9	96.3	100.2
40-2. Wholesale and Retail Trades, except of Motor Vehicles and Motorcycles	10.68	1.6	-2.6	-2.1	-2.2	-0.3	4.9	3.3	4.8	5.4	4.7	5.2	-1.4	3.1	5.0	98.6	101.7	105.6
41-H. Transport And Storage	3.65	1.3	-9.1	-16.7	-13.4	-13.1	25.1	-0.7	7.9	15.8	21.3	25.8	-15.1	3.2	17.6	84.9	87.7	101.0
42-1. Railways Transport	0.02	-7.0	-63.7	-51.1	-45.6	-45.0	67.2	-8.0	20.7	43.1	56.9	126.7	-42.5	-3.4	59.3	57.7	55.7	84.1
43-2. Land Transport	2.33	5.2	-17.7	-5.0	-3.5	-4.4	18.2	3.3	3.6	6.9	9.8	8.7	-5.3	4.5	7.2	94.7	99.0	105.2
44-3. Sea Transport	0.33	5.8	-17.3	-5.3	-1.2	-4.1	16.4	0.7	0.9	-0.1	4.6	6.0	-4.6	2.9	2.9	95.4	98.2	100.7
45-4. River, Lake And Ferry Transport	0.10	1.2	-26.7	-13.5	-12.3	-18.4	6.6	-4.7	17.7	41.9	100.9	92.1	-13.0	-0.4	62.1	87.0	86.6	134.1
46-5. Air Transport	0.27	-13.4	-80.3	-63.8	-53.8	-52.3	137.7	-19.7	19.3	53.2	57.7	144.3	-53.1	-8.0	60.7	46.9	43.2	65.6
47-6. Warehousing And Support Services For Transportation, Postal And Courier	0.60	-0.6	-38.5	-17.6	-13.1	-15.9	33.6	-6.6	20.2	40.9	46.0	57.0	-17.6	5.0	40.3	82.4	86.5	115.0
48-I. Accommodation And Food Service Activities	2.79	1.9	-22.0	-11.9	-8.9	-7.3	21.6	-0.1	4.9	6.6	9.8	17.8	-10.3	3.9	9.7	89.7	93.2	101.0
49-1. Accommodation	0.46	-4.6	-44.2	-28.1	-21.4	-17.6	45.1	-8.3	19.2	21.8	28.2	62.7	-24.5	5.8	31.7	75.5	79.9	100.1
50-2. Food And Beverages Service Activities	2.34	3.5	-16.8	-8.0	-6.0	-5.0	17.9	1.4	2.1	3.6	6.2	10.3	-6.9	3.5	5.5	93.1	96.4	101.2
51-J. Information And Communication	6.26	9.8	10.8	10.7	11.0	8.7	6.9	5.5	6.2	7.2	8.1	6.9	10.6	6.8	7.1	110.6	118.1	124.6
52-K. Financial And Insurance Services	4.18	10.6	1.1	-0.9	2.4	-3.0	8.3	4.3	-2.6	1.6	1.5	0.9	3.2	1.6	0.3	103.2	104.9	105.9
53-1. Financial Intermediary Services	2.57	13.7	-1.0	-2.7	5.9	-3.6	14.6	6.5	-4.5	2.1	2.4	0.7	4.0	2.7	0.2	104.0	106.8	108.2
54-2. Insurance And Pension Fund	0.93	5.0	7.3	5.3	-1.1	2.2	-0.1	1.2	-0.4	-0.5	-1.7	0.0	4.0	0.7	-0.7	104.0	104.8	104.2
55-3. Other Financial Services	0.59	7.8	-0.2	-3.0	-6.3	-6.2	-2.2	0.2	1.0	3.2	2.7	3.0	-0.6	-2.4	2.5	99.4	97.0	99.2
56-4. Financial Supporting Services	0.09	1.2	1.3	1.5	3.4	5.9	5.2	5.1	4.6	1.0	1.5	1.1	1.9	5.2	2.0	101.9	107.1	108.1
57-L. Real Estate Activities	3.00	3.8	2.3	2.0	1.2	0.9	2.8	3.4	3.9	3.8	2.2	0.6	2.3	2.8	2.6	102.3	105.2	106.9
58-M,N Business Services	1.77	5.4	-12.1	-7.6	-7.0	-6.1	9.9	-0.6	0.9	6.0	7.9	10.8	-5.4	0.7	6.4	94.6	95.2	101.1
59-O. Public Administration And Defence; Compulsory Social Security	3.28	3.2	-3.2	1.8	-1.5	-2.3	10.0	-9.9	1.0	-1.4	-1.6	12.4	0.0	-0.3	2.3	100.0	99.6	101.6
60-P. Education	3.15	5.9	1.2	2.4	1.3	-1.5	5.9	-4.4	0.7	-1.7	-1.1	4.5	2.6	0.1	0.6	102.6	102.7	103.1
61-Q. Human Health And Social Work Activities	1.41	10.3	3.7	15.2	16.5	3.4	11.7	14.1	12.2	4.5	6.5	-1.7	11.5	10.5	5.2	111.5	123.2	125.7
62-R,S,T,U Other Services Activities	1.81	7.1	-12.6	-5.5	-4.8	-5.2	12.0	-0.3	3.4	8.2	9.3	9.1	-4.1	2.1	7.5	95.9	97.9	104.4
Top 3 Contributors																		
Negative Growth																		
Positive Growth																		
Above pre-pandemic level																		

Table 26. Tertiary Sector GDP Performance. Source: Statistics Indonesia, PermataBank Economic Research

Entering 4Q22, sectoral leading indicators performance tends to drop, either from consumer or industry indicators. From the consumer indicators, Consumer Confidence Index (CCI) and Retail Sales Index (RSI) posted a decline in September 2022 after the Government adjusted the Pertalite fuel price. The drop in CCI and RSI indicates that the fuel price increase has eroded the people purchasing power. Although the consumer indicators rebounded in October, CCI has yet to return to the level before the fuel price increase. The leading indicator of Industry in October and November, which was proxied by Indonesia's PMI Manufacturing, also showed a deceleration. The PMI slowdown indicates the impact of reduced demand from the domestic side due to rising fuel prices and decreased export demand due to the downturn in the global economy are starting to impact the performance of the Indonesian Manufacturing Industry.

Sector Index (Jan'20=100)	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Oct-22	Nov-22	mtm Sep	mtm Oct	mtm Nov	yoy Sep	yoy Oct	yoy Nov
Consumer Confidence Index	76.7	88.2	78.5	97.3	91.2	105.3	96.3	98.9	97.9	Decrease	Increase	Decrease	Increase	Increase	Increase
Retail Sales Index	86.4	91.2	87.1	99.4	94.4	95.0	91.1	93.2	93.9	Decrease	Increase	Increase	Increase	Increase	Increase
ACES Sales Index	79.4	77.7	72.8	101.7	80.8	72.7	71.7	80.4		Decrease	Increase		Decrease	Increase	
4W Sales	105.6	90.4	104.6	120.2	122.6	98.1	124.3	115.9	113.2	Increase	Decrease	Decrease	Increase	Increase	Increase
Motorcycle Sales	112.8	92.6	100.4	83.8	97.3	64.0	111.1	116.1	127.1	Decrease	Increase	Increase	Increase	Increase	Increase
PMI Indonesia* (+50)	103.2	103.5	102.2	103.5	101.3	100.2	103.7	101.8	100.3	Increase	Decrease	Decrease	NA	NA	NA
Commercial Vehicle Sales	107.0	95.8	117.1	118.4	122.2	91.7	119.3	111.5	121.5	Decrease	Decrease	Increase	Increase	Decrease	Decrease
Import: Capital Goods	107.9	114.1	105.3	145.0	140.4	137.8	148.5	137.8		Decrease	Decrease		Increase	Increase	
Cement Consumption: Domestic	102.4	106.6	123.6	111.1	105.0	104.4	115.1	105.0		Increase	Decrease		Decrease	Decrease	
Heavy Equipment Sales	167.5	175.5	196.1	175.5	313.5	228.8	263.7	182.7		Decrease	Decrease		Increase	Increase	
Coal Export Vol.	89.9	96.1	94.9	87.8	116.0	106.4	118.1	116.3		Increase	Decrease		Increase	Increase	
CPO Export Vol.	139.7	76.4	117.6	101.6	96.8	97.8	141.2	187.1		Decrease	Increase		Increase	Increase	

Table 27. Sectoral Index Performance. Source: PermataBank Economic Research

b. Industry Outlook 2023

b.1. Sectoral Sensitivity Analysis to the Overall Economic Growth

As we advance, Indonesia's economy will face more external and domestic challenges. From the external side, high global inflation, increased central bank policy rates in various countries, and the uncertainty due to the Russia-Ukraine war will potentially depress global economic growth. The global economy's deceleration could be transmitted to the domestic economy from trade and financial market channels. Indonesia's export performance to countries experiencing an economic slowdown may drop. From the financial market channel, the increase in policy rates, especially in the United States, will induce a capital flight from emerging markets, including Indonesia. To anticipate the pressure on

Rupiah, Bank Indonesia need to increase the policy rate to reduce the capital flight pressure. However, the policy rate increase will also negatively impact domestic investment and consumption activities, exacerbate the eroded people purchasing power due to the fuel price increase, and ultimately slow down Indonesia's economy.

Going forward, the deceleration of the domestic economy potentially impacts various economic sectors with different degrees of impact. To analyze which sector is most affected by the slowdown of the overall economy, we try to scrutinize the correlation and sensitivity of each sector's growth to the overall economic growth. A higher correlation between the sector's growth and overall economic growth indicates that the sector is highly related to the economic cycle. Conversely, a lower correlation suggests that the sector tends to deviate from the overall economic cycle.

Using 4Q11 to 3Q22 sectors' growth data, the result indicates that sectors included in the Top 20 that have high correlation with overall economic growth is sector that related to mobility and leisure activities, building investment activities, and industries that trade or produce durable goods. For example, Food and Beverages Service Activities (Restaurants), Accommodation, and Transportation sectors (Land, Sea, Air, Train) are related to mobility and leisure activities. Building investment activities also tend to be closely associated with the economic cycle, as indicated by the high correlation between the Construction sector and the Manufacturing Sector of non-metallic minerals (Cement, Glass, Ceramics) with national economic growth. Finally, the durable goods industry is also closely related to the performance of the economic cycle, as seen from the high correlation between the Motor Vehicle Trading, Motor Vehicle Manufacturing sectors and national economic growth. Thus, these sectors have the potential to slow down in the future in line with national economic deceleration.

Meanwhile, several sectors that have a low correlation with national economic growth are related to basic needs or have recently experienced a relatively high increase in investment. For example, the Base Metal Manufacturing sector has consistently grown high in recent times in line with the government's downstream program, so the growth of this sector is separate from the performance of national economic growth. Similarly, the Information and Communications sector has grown recently, in line with the digitalization

trend in various sectors. This sector continues to grow regardless of the economic cycle. Sectors related to basic needs, such as Food Crops and Horticulture, also tend to be detached from the economic cycle. Thus, these sectors have the potential to perform better when there is a slowdown in the domestic economy. However, we should scrutinize sectors with a low correlation to overall economic growth in more detail, as some sectors may have a high correlation with other driving forces than the domestic economy. For example, the Manufacture of Furniture, Manufacture of Wood Products, and Manufacture of Pulp and Paper may have a low correlation with the domestic economy, as most of its products are exported. Yet, as the global economy is expected to decelerate, these sectors may also worsen in 2023. To complement the cyclical analysis of the sectors to the overall economy, we map the opportunities and challenges for several sectors in 2023.

Ranks	Sector	Correlation w/ Overall Econ Growth (R2)	Sensitivity 4Q11-3Q22 (Coefficient)
1	50-2. Food And Beverages Service Activities	0.9382	1.5939
2	43-2. Land Transport	0.9106	1.6502
3	37-F. Construction	0.8818	1.3170
4	58-M,N Business Services	0.8419	1.8923
5	49-1. Accomodation	0.7787	4.3837
6	62-R,S,T,U Other Services Activities	0.7654	1.6089
7	09-3. Fishery	0.7233	0.8128
8	46-5. Air Transport	0.7150	8.9621
9	39-1. Wholesale and Retail Trade and Repair of Motor Vehicles and Motorcycles	0.6693	2.2757
10	26-9. Manufacture of Other Non-Metallic Mineral Products	0.6611	1.7063
11	40-2. Wholesale and Retail Trades, except of Motor Vehicles and Motorcycles	0.6474	0.9344
12	14-4. Other Mining and Quarrying	0.6015	0.7963
13	47-6. Warehousing And Support Services For Transportation, Postal And Courier	0.5762	3.4735
14	30-13.Manufacture of Transport Equipment	0.5616	3.2710
15	42-1. Railways Transport	0.5499	6.8918
16	44-3. Sea Transport	0.5289	1.4306
17	55-3. Other Financial Services	0.5177	1.4592
18	34-1. Electricity	0.4962	1.0212
19	06-d. Livestock	0.4943	0.6386
20	18-1. Manufacture of Food Products and Beverages	0.4801	0.9480
21	28-11.Manufacture of Fabricated Metal Products, Computer, Optical Products and Electronic Devices	0.4716	1.6951
22	20-3. Manufacture of Textiles; and Wearing Apparel	0.4387	2.1294
23	19-2. Manufacture of Tobacco Products	0.4377	1.5557
24	35-2. Gas Supply and Production of Ice	0.3916	1.2943
25	16-1. Manufacture of Coal and Refined Petroleum Products	0.3728	0.8274
26	57-L. Real Estate Activities	0.3707	0.4945
27	21-4. Manufacture of Leather and Related Products; and Footware	0.3268	1.4780
28	05-c. Plantation crops	0.3222	0.4914
29	11-1. Crude Petroleum, Natural Gas, and Geothermal	0.2788	0.6054
30	61-Q. Human Health And Social Work Activities	0.2731	-0.4279
31	45-4. River, Lake And Ferry Transport	0.2552	2.9120
32	13-3. Base Metal Ore mining	0.2409	-3.0327
33	60-P. Education	0.2274	0.5813
34	12-2. Coal and Lignite Mining	0.2066	1.9263
35	59-O. Public Administration And Defence; Compulsory Social Security	0.2007	0.5346
36	56-4. Financial Supporting Services	0.1965	0.5475
37	29-12.Manufacture of Machinery and Equipment	0.1741	1.4083
38	08-2. Forestry and Logging	0.1738	0.3048
39	07-e. Agricultural Services and Hunting	0.1632	0.3197
40	54-2. Insurance And Pension Fund	0.1512	0.5414
41	22-5. Manufacture of Wood and Products of Wood and Cork, Articles of Straw and Plaiting Materials	0.1499	0.6670
42	25-8. Manufacture of Rubber, Rubber Products and Plastic Products	0.1325	0.8431
43	03-a. Food crops	0.1041	-0.4670
44	31-14.Manufacture of Furniture	0.1007	0.4559
45	53-1. Financial Intermediary Services	0.0800	0.5638
46	24-7. Manufacture of Chemicals and Pharmaceuticals; and Botanical Products	0.0632	-0.4850
47	36-E. Water Supply, Sewerage, Waste Management And Remediation Activities	0.0350	-0.1211
48	23-6. Manufacture of Paper and Paper products; Printing and Reproduction of Recorded Media	0.0174	0.2228
49	32-15.Other Manufacturing, Repair and Installation of Machinery and Equipment	0.0036	0.1055
50	04-b. Horticultural crops	0.0024	0.0896
51	27-10.Manufacture of Basic Metals	0.0010	0.0592
52	51-J. Information And Communication	0.0002	-0.0100

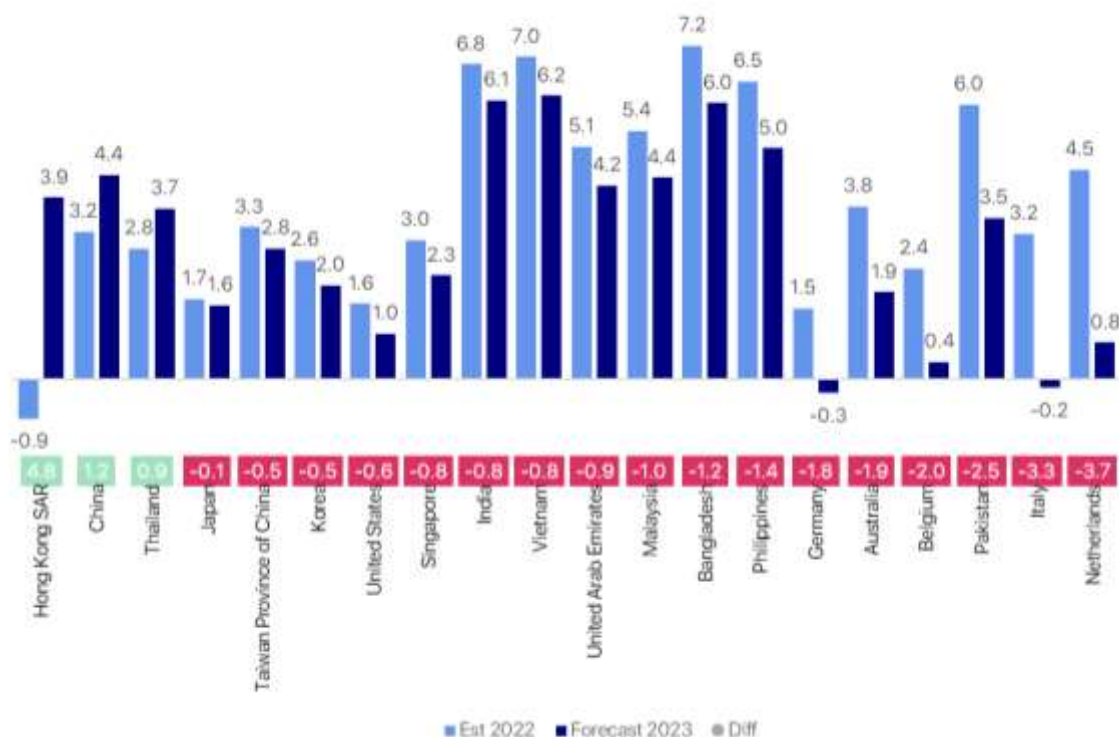
Table 28. Sectoral Correlation and Sensitivity Analysis to Overall Economic Growth. Source: PermataBank Economic Research

Sector	Opportunity	Challenge
Construction	"Nusantara" (new capital city) project that is expected to continue	High interest rates regimes will discourage investment in building and property and exacerbate the financial condition of construction companies
	Downstreaming industry center, especially related to nickel, requires a lot of new infrastructure	The trend of Building investment tends to slow down in the last few quarters
	Higher budget for infrastructure spending than in 2022	The increase of building materials price and wages
		Exchange rate weakening that push up raw materials price
Telecommunication	The increase of quality and quantity of 4G and 5G infrastructure will drive up data consumption	An increase in interest rates has the potential to put pressure on the company's bottomline with a capital structure dominated by debt
	People consumption is expected to remain strong, including for telecommunications needs	
Real Estate and Property	Persistent housing backlog	High interest rates will hamper the mortgage growth
	The recovery of people mobility will boost the utilization of offices, retail spaces and hotels	The increase of building materials price and wages
Cement	"Nusantara" (new capital city) project that is expected to continue	Property investment is expected to slow down due to high interest rates
	Downstreaming industry center, especially related to nickel, requires a lot of new infrastructure	Coal prices are expected to remain quite high in 2023
	Higher budget for infrastructure spending than in 2022	
Palm Oil	CPO price forecast are still quite good in 2023 (around USD 1000, World Bank)	Extreme weather conditions are expected to occur in 2023
	It is a basic need, which tends not to be affected by slowing economic activity	Fertilizer prices which are still relatively high have the potential to increase costs and disrupt long-term production
	Disruption to global food production due to the Russia-Ukraine war is expected to continue, pushing prices up	Slower demand from the export market due to the global economic slowdown
Transportation and Logistics	Mobility continues to increase and it is predicted that strict restrictions will no longer be enforced	Fluctuations in fuel prices that depend on subsidy policies
	E-commerce activities that continue to increase will also increase courier and logistics activities	
Food and Beverages	It is a basic need, which tends not to be affected by slowing economic activity	Exchange rate weakening that push up raw materials price
		Disruption to global food production due to the Russia-Ukraine war is expected to continue, pushing raw materials prices up
Multifinance	Sales of 2W and 4W are expected to continue to grow in 2023	Interest rates increase will hamper demand for consumption financing
Coal Mining	A significant increase in production capacity in 2022 has the potential to boost volume in 2023	The price is expected to decrease considerably compared to 2022 prices (2023 USD 250/ton, World Bank)
		Slower demand from the export market due to the global economic slowdown
Automotive	The purchasing power of the upper middle income class is still relatively strong	Interest rate increase will drive down demand of Vehicle Loans
	The Electric Vehicle trend has the potential to increase sales to the upper middle class	Exchange rate weakening that push up raw materials price
Petrochemicals	Demand is expected to continue to grow in line with the positive economic growth	Fluctuations in raw material prices and product selling prices are expected to occur in 2023 in line with the volatility of global commodity prices
		Exchange rate weakening that push up raw materials price
Poultry	It is a basic need, which tends not to be affected by slowing economic activity	Exchange rate weakening that push up raw materials price
		Disruption to global food production due to the Russia-Ukraine war is expected to continue, pushing raw materials prices up

Table 29. Opportunities and Challenges for Several Sectors in 2023. Source: PermataBank Economic Research.

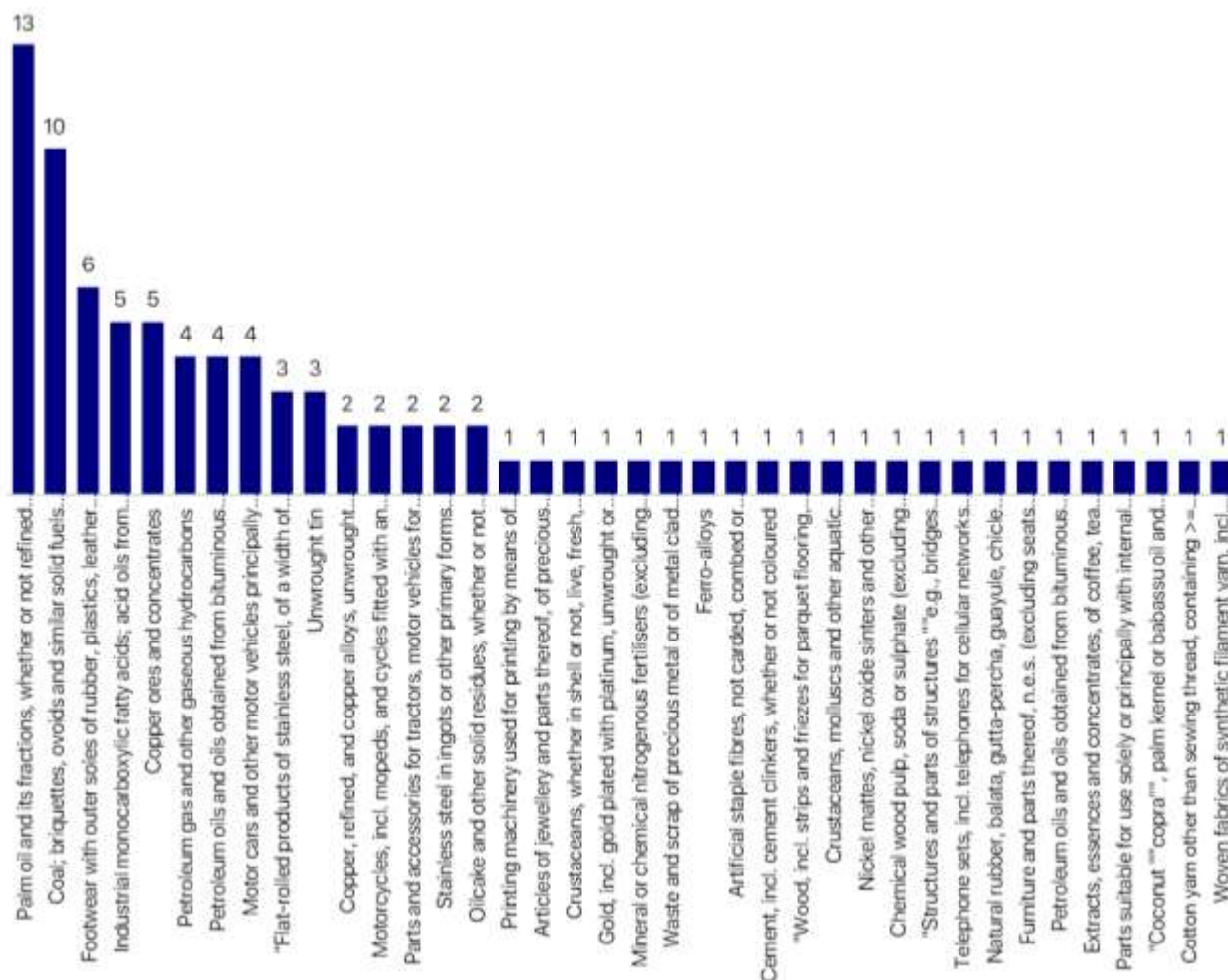
b.2. Anticipating the deceleration of export.

The global economic slowdown also has the potential to slow down Indonesia's export performance, in line with the growth deceleration of the leading export destination. Of the 20 biggest export destination for Indonesia's in 2021, 17 are expected to experience lower growth in 2023. These countries hold 61% of the total value of Indonesia's exports in 2021. Meanwhile, three countries are predicted to still grow higher in 2023 than this year. The three countries include Hong Kong, China and Thailand.



Graph 31. Economic Growth of Top 20 Indonesia's Trading Partner. Source: IMF, PermataBank Economic Research

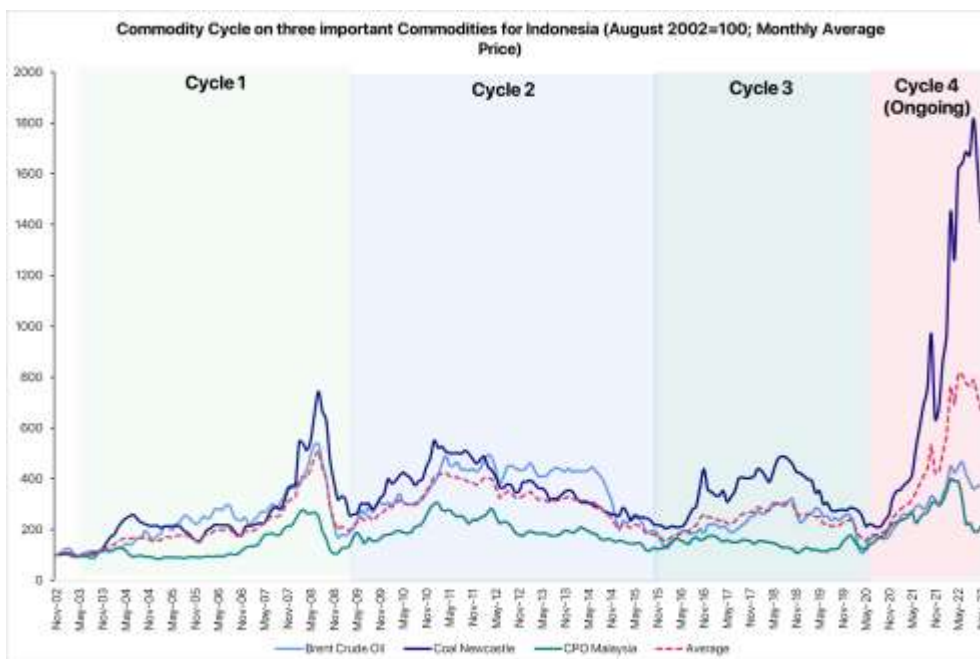
Furthermore, scrutinizing the export product, raw commodities dominate these countries' imports from Indonesia. Coal and Palm Oil were the most frequent products in the Top 5 export by value in 2021. In more detail, 13 of 17 countries recorded Palm Oil as the Top 5 commodities imported from Indonesia, followed by Coal (10 of 17). Only Footwear, one of the manufacturing sector products, has become the third most frequent product in the Top 5 in 6 of 17 countries. Thus, the demand for these products from the export market has the potential to decrease going forward as the export destination may experience an economic growth deceleration.



Graph 32. Product that included in Top 5 Product being Imported from Indonesia in Each Country (Number of Countries). Source: Trademap, PermataBank Economic Research

b.3. The impact of declining commodity price to Indonesia

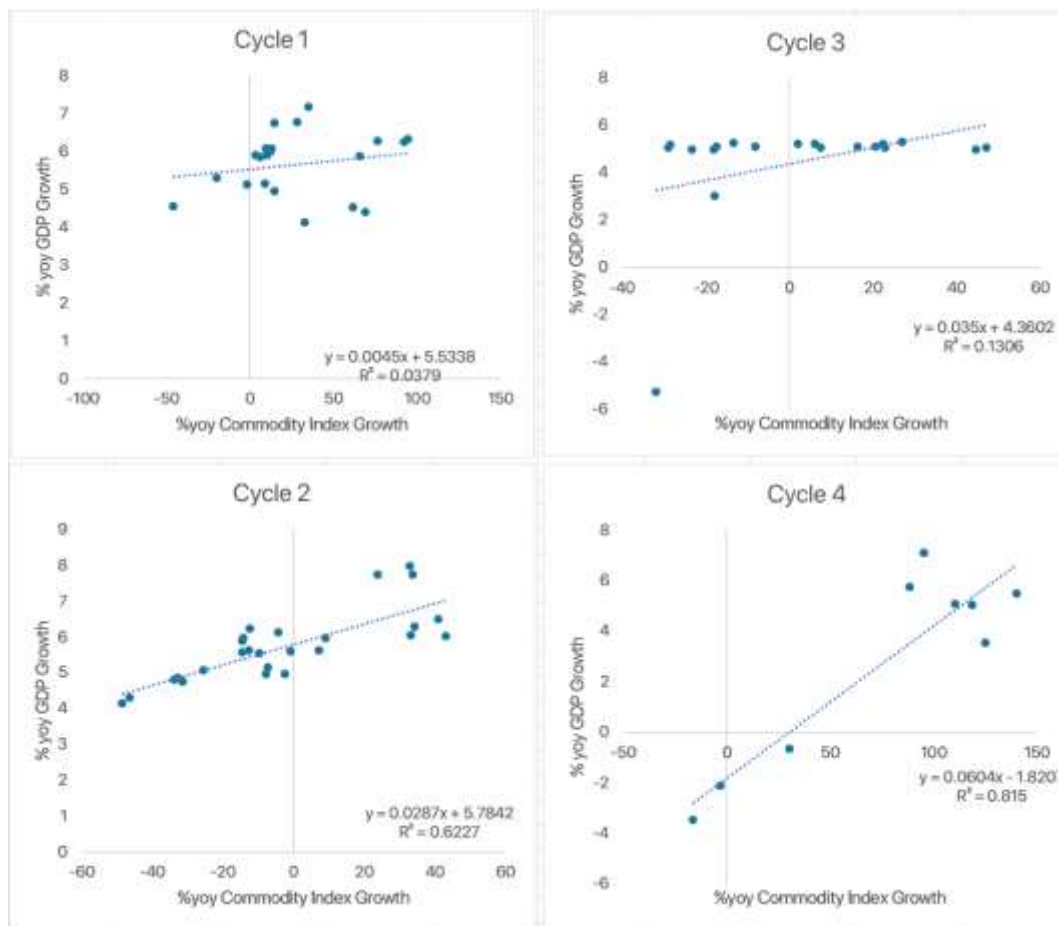
As we advance, declining global commodity prices could push down Indonesia's economic growth. Raw commodities' role in supporting Indonesia's economic performance in the recent period is relatively strong, as shown by Indonesia's source of economic growth driven by Net Exports. Furthermore, based on our analysis, the relationship between Indonesia's economic growth and the movement of global commodity prices has increased in the last periods. The increasing relationship is shown by the increasing correlation between Indonesia's economic growth with commodity price index growth in the last cycle that occurring currently. Thus, the expectation of a global commodity price decline may potentially risk Indonesia's economic growth.



Graph 33. Commodity Cycle for Indonesia's Important Commodities. Source: PermataBank Economic Research

Oil	Start	End	No. of Months	Peak Price	Start Price	End Price	Average Price	Std. Deviation	% Deviation
Cycle 1	Apr-03	Dec-08	69	134.9	24.9	42.6	61.1	26.5	43.4
Cycle 2	Jan-09	Jan-16	85	124.6	45.9	32.6	89.0	24.9	27.9
Cycle 3	Feb-16	Apr-20	51	80.6	33.6	27.4	58.4	11.9	20.5
Cycle 4	May-20	On Going	29	117.4	32.3	93.7	74.1	24.6	33.1
Coal	Start	End	No. of Months	Peak Price	Start Price	End Price	Average Price	Std. Deviation	% Deviation
Cycle 1	May-03	Sep-09	77	179.5	23.1	67.8	64.7	33.1	51.1
Cycle 2	Oct-09	Apr-16	79	132.8	71.6	50.5	86.5	22.4	25.9
Cycle 3	May-16	May-20	49	117.7	51.0	51.6	85.3	18.3	21.5
Cycle 4	Jun-20	On Going	28	438.5	53.7	340.6	196.8	134.3	68.2
CPO	Start	End	No. of Months	Peak Price	Start Price	End Price	Average Price	Std. Deviation	% Deviation
Cycle 1	Sep-03	Nov-08	63	1144.2	375.2	432.5	555.1	234.4	42.2
Cycle 2	Dec-08	Dec-18	122	1253.6	441.2	463.1	741.4	183.2	24.7
Cycle 3	Jan-19	May-20	16	730.8	518.2	498.4	544.0	77.6	14.3
Cycle 4	Jun-20	On Going	28	1639.3	573.8	870.4	1039.1	290.4	27.9
Average Index	Start	End	No. of Months	Peak Index	Start Index	End Index	Average Index	Std. Deviation	% Deviation
Cycle 1	Apr-03	Mar-09	72	510.3	95.5	194.2	212.0	94.4	44.5
Cycle 2	Apr-09	Oct-15	79	424.1	211.9	182.0	310.1	65.0	20.9
Cycle 3	Nov-15	May-20	55	305.8	174.2	154.5	235.9	42.0	17.8
Cycle 4	Jun-20	On Going	28	818.4	174.9	665.3	456.2	226.7	49.7

Table 30. Commodity Cycle for Indonesia's Important Commodities. Source: PermataBank Economic Research



Graph 34. Scatterplot of Indonesia's GDP Growth and Commodity Price. Source: PermataBank Economic Research

R2 Value	Cycle 1	Cycle 2	Cycle 3	Cycle 4
Indonesia's GDP	0.0379	0.6227	0.1306	0.815
Investment GDP	0.2972	0.3355	0.191	0.6945
Commercial Vehicle	0.3093	0.5772	0.3087	0.655
4W Sales	0.3827	0.6795	0.3026	0.6168

Table 31. R-square value of Several Economic Indicators with Commodity Prices. Source: PermataBank Economic Research

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