BOC Research Institute

Global Economic and Financial Outlook

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Highlights

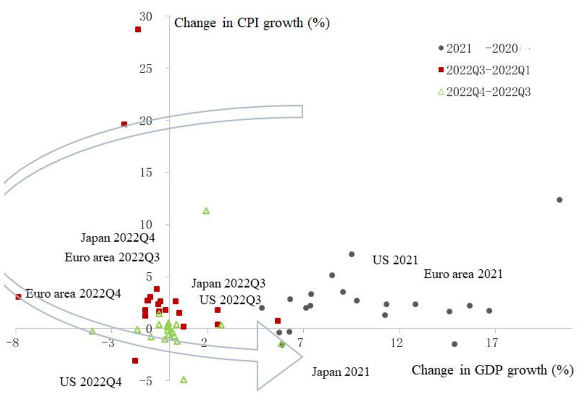
● In the first three quarters of 2022, the global economic growth moderated from quarter to quarter amid mounting downward pressure from the perspective of geographical distribution, cyclical evolution and supply-demand structure.

● As the US Dollar Index (DXY) surpassed the 110 mark, many countries showed an inversion of yields on long-term and short-term government bonds and some emerging economies suffered a rising sovereign debt risk.

● Looking ahead, with the tightening of monetary policy and the contraction in demand, the global economy will gradually approach the tipping point for a recession under growing downside pressure. International financial markets will remain volatile as global interest rates are generally trending upward, along with the tightening offshore liquidity of the US dollar and euro.

● At present, hot issues such as the worldwide green transition amid the energy crisis and the possible comeback of currency crises in emerging markets are worth noting.

Cyclical Evolution of G20 Economies Since 2020



Sources: OECD, Bloomberg, BOC Research Institute

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Recession Expectations and Financial Shocks

-- Global Economic and Financial Outlook (2022Q4)

In the first three quarters of 2022, the global economic growth moderated from quarter to quarter amid mounting downward pressure from the perspective of geographical distribution, cyclical evolution and supply-demand structure. As the US Dollar Index (DXY) exceeded the 110 mark, many countries showed an inversion of yields on long-term and short-term government bonds and some emerging economies suffered a rising sovereign debt risk. Looking ahead, with the tightening of monetary policy and contraction in demand, the global economy will gradually approach the tipping point to a recession under growing downside pressure. The inflationary pressure is still far above the pre-pandemic level in spite of a respite. International financial markets will remain volatile as global interest rates are generally trending upward, along with the tightening offshore liquidity of the US dollar and euro. This report provides a special analysis on the global trend of green transition amid the energy crisis and whether emerging markets will undergo another wave of currency crises.

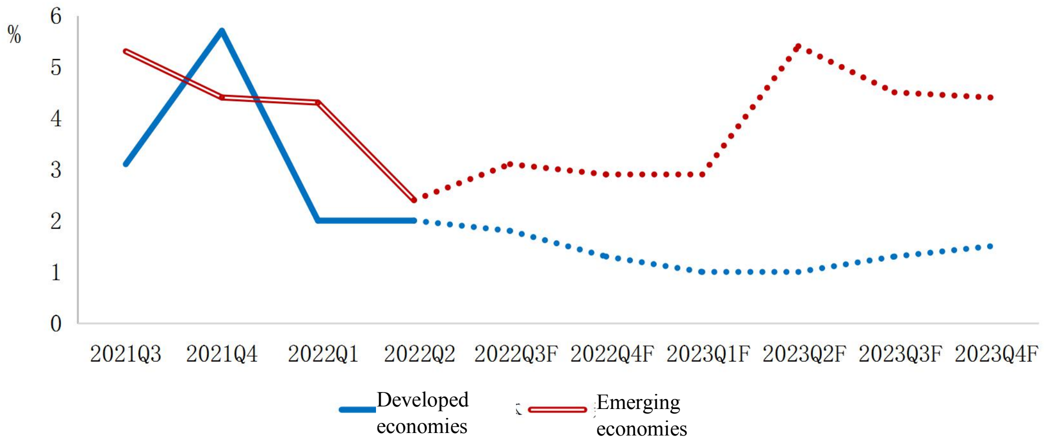
I. Global Economic Review and Outlook

I.1 Global economy close to the tipping point to a recession

At present, the global economy is losing steam amid the confluence of COVID-19 bouts, geopolitical conflicts, energy shortage, hot inflation, monetary tightening and pent-up demand. The JPMorgan global manufacturing and services PMI was 50.3% and 49.2% respectively for August 2022, down 3.4 and 4.8 percentage points from the 2022 peak to date, respectively, suggesting a significant deterioration in growth outlook. This trend is revealed by **in-depth observation from the perspectives of space, time, structure and prices.**

First, from the perspectives of space, both developed and emerging economies are facing downside risks, with Europe and the United States at a higher risk of recession. The US Federal Reserve (the Fed) has imposed a series of rate hikes, weighing heavily on consumer spending and corporate investment in the United States. The US economy fell into a “technical recession” in 2022H1, and may sink into a full-blown recession going forward. The euro area, under heavier pressure regarding recession than the United States, may become the first to usher in a recession in Q4. The ongoing energy shortage makes inflation even more stubborn in the euro area. Although the European Central Bank (ECB) has aggressively imposed a 75 bps rate hike, the regional inflation index has shown no signs of abating. The year-on-year GDP growth of developed economies is estimated to be 1.2% for Q4, down 0.5 percentage point from Q3, with their full-year GDP growth projected to be around 2.3%, down 3 percentage points from 2021. Emerging economies are also losing momentum in 2022, yet performing better than developed economies in general. Emerging economies are expected to gradually regain momentum after 2023Q2, with their year-on-year growth close to the 2021H2 level amid a stronger recovery than in developed economies.

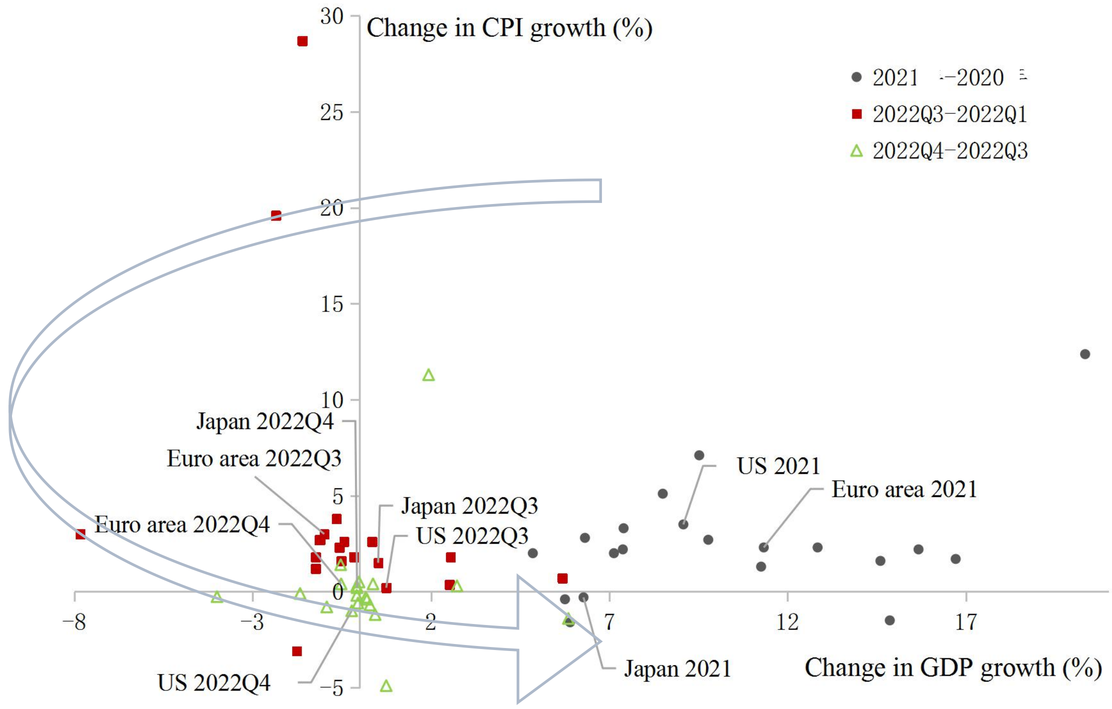
Figure 1: YoY Growth of Quarterly GDP in Developed versus Emerging Economies



Sources: Bloomberg, BOC Research Institute.

Second, from the perspective of time, major economies have experienced a cyclical process of "recession - recovery - depression or double-dip recession" since the onset of COVID-19. We constructed a four-quadrant coordinate graph to depict changes in GDP and CPI growth for G20 economies. In 2021, most economies were in the first quadrant (represented by dots in Figure 2), i.e. the post-pandemic recovery stage featuring "faster growth and faster inflation". In the first three quarters of 2022, most of the G20 economies fell into the second quadrant (represented by squares in Figure 2), showing the signs of "stagflation". In 2022Q4, the G20 economies will shift to the third quadrant (represented by triangles in Figure 2) amid accelerating monetary tightening and pent-up demand in major economies, characterized by "slowing growth and abating inflation". Most economies are expected to remain in the third quadrant till 2023Q1. Starting from 2023Q2, emerging economies will take the lead in moving into the fourth quadrant, featuring "faster growth and softening inflation".

Figure 2: Cyclical Evolution of G20 Economies Since 2020



Sources: OECD, Bloomberg, BOC Research Institute

Third, from the perspective of structure, the global economy is dented on both supply and demand sides, yet with weaker supply-side impact versus stronger demand-side shocks.

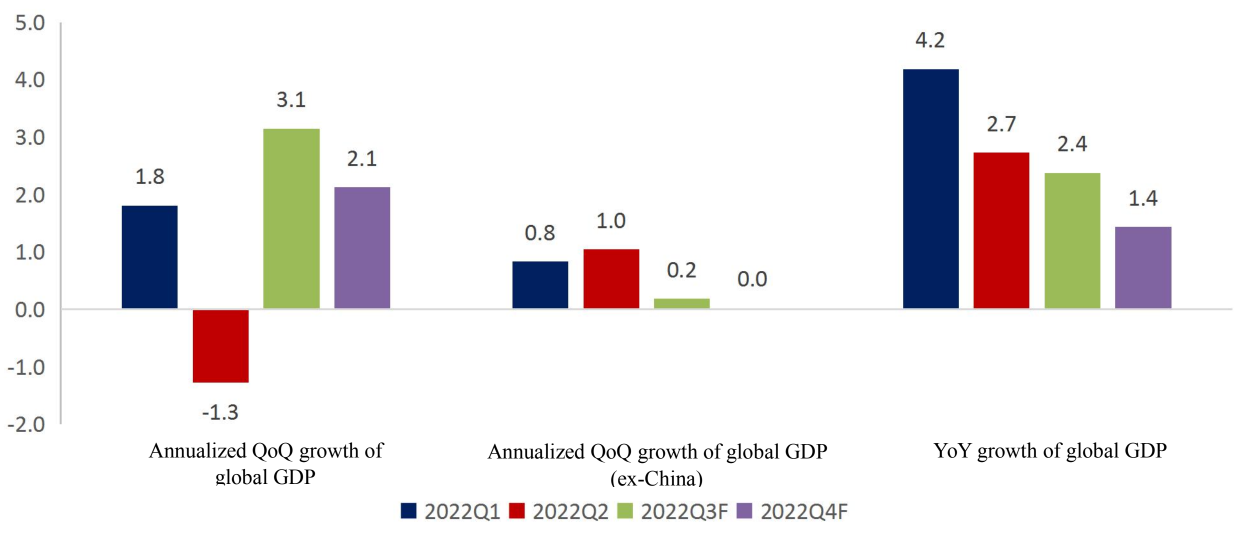
On the supply side, the global supply chains are less strained but still bottlenecked. In terms of energy, the energy distress in Europe has escalated while other regions see improved coordination of crude oil supply and demand. Given the rising downside risk to world economy, crude oil demand is expected to gradually soften. In terms of logistics, shipping rates have dropped and global shipping capacity has increased. In Q3, the daily average of “Baltic Dry Index”, a gauge of spot freight rates of major global routes, was significantly lower than in Q2. Container throughput at Shanghai Port shrank significantly in Q2 from a year earlier, but the shipping capacity recovered in Q3. In the labor market, the United States and major European countries are currently experiencing a “wage-inflation” spiral, with ongoing strikes seen in some countries and labor market in turmoil. In terms of industrial activity, the world as a whole gradually rebounded from the Q2 low, but some economies face increasing downward pressure on industrial production. According to estimates by the Netherlands Bureau for Economic Policy Analysis (CPB), the global industrial production index stood at 134.1 in June 2022, up 2.7 from the low recorded in April this year, but still below the level before the Russian-Ukrainian conflict. In terms of industrial prosperity, businesses in European regions and Asian economies such as Japan and South Korea are more pessimistic about the future. In August, the euro area and South Korea saw their respective manufacturing PMI down 49.6% and 47.6%, both below the boom-or-bust line for two months in a row.

On the demand side, both domestic and foreign demand have taken a harder hit. In terms of domestic demand, major central banks in Europe and the United States continue to tighten their monetary policies. Rising interest rates lead to higher costs of borrowing and financing. These factors, coupled with volatile financial markets, have hurt the private-sector balance sheets, making consumers less willing to spend and businesses less motivated to invest. OECD’s consumer confidence index was 96.5 in August 2022, down significantly from the beginning of the year. Given the persistent global inflation, major economies will see interest rates generally moving higher in Q4. The liquidity situation will continue to worsen and suppress domestic demand. In terms of foreign demand, the growth in international trade is expected to peak and retreat, and global investment will remain sluggish. UNCTAD has forecasted that the global trade growth will likely to peak soon in H2, pointing to major drags including the heavier downward pressure on global economy, major economies heading for stimulus exit and retreat in commodity prices and consumer demand.

Fourth, from the perspective of price, the global inflation pressure is expected to ease in Q4, yet with national or regional disparities. Inflation in some economies is nearing its peak as the prices of commodities such as crude oil and food are declining amid faster liquidity tightening. Compared with the end of Q2, the current monthly CPI growth drops year-on-year in the United States, Russia, Brazil, Canada and South Korea, while other G20 economies still see higher inflation. The euro area will remain under heavy inflationary pressure in Q4 which is mainly fed by energy prices. Given the European efforts to tame inflation, such as sharp rate hikes and energy price capping, European inflation is likely to be moderated gradually in Q4.

To sum up, the global economy is generally at a higher downside risk. With the demand softening and monetary policies further tightening, the global inflationary pressure will be eased, but still far above the pre-pandemic level. The annualized quarter-on-quarter (QoQ) growth rate of global GDP in 2022Q3 is estimated to be 3.1%, up 4.4 percentage points from Q2, mainly driven by a recovery in the Chinese economy. If China is excluded, the global economy's annualized QoQ growth rate will fall to 0.2%, 0.8 percentage point lower than in Q2 (Figure 3). As shown by year-on-year data, the QoQ decline in global economy is even more pronounced in 2022. The year-on-year growth of global GDP is projected to be 2.4% for 2022Q3, down 0.3 percentage point from Q2, and the Q4 growth will further decline by 1 percentage point from Q3. Global GDP growth is expected to be 2.5% for 2022, down 3.3 percentage points from 2021. The global economy will maintain modest growth in 2023, with a full-blown recession expected for Europe and the United States in 2023H1. Emerging economies will gradually regain momentum after 2023Q2 amid a stronger recovery than in developed economies.

Figure 3: Changes in Quarterly YoY Growth and Annualized QoQ Growth of Global GDP in 2022 (%)



Sources: Bloomberg, OECD, Wind, BOC Research Institute

I.2 Economic outlook for major countries/regions

The US economy faces the risk of a "hard landing". In the first three quarters of 2022, the US economy moderated by a number of indicators. The US GDP recorded a contraction for two consecutive quarters as the Fed fast-tracked its monetary tightening, down 1.6% in Q1 and 0.6% in Q2 quarter-on-quarter, falling into a "technical recession". The US GDP is estimated to have finished Q3 with a quarter-on-quarter expansion, but a year-on-year contraction, with an increasing downside risk to the economy. Consumer spending contributed less to economic growth but remained one of the major drivers of the US economy. Corporate investment tumbled 13.7% in Q2, dragging down economic growth by 2.7 percentage points. **Looking ahead, the Fed will continue to hike rates. Industrial activity will face heavier downward pressure, with the government, the private sector and credit liquidity facing a tightening future, which fuels the risk of a US recession.** In August, the total industrial output value of the United States increased by 0.08% over the prior month. The figure suggests a continued recovery of industrial activity but a pace of growth approaching its peak. With the depletion of excess savings and slowdown in income growth, the growth of US consumer spending will face more pressure in the future. Meanwhile, the US labor market remains tight, and the bottleneck of labor supply will undermine the effectiveness of Fed's monetary policy. This means the Fed needs to carry out more aggressive policies and pay higher economic costs to tame inflation. The federal funds rate is likely to exceed 4% by the end of 2022 and send the US economy into a recession in 2023Q1. **The US economy is expected to end 2022Q3 and Q4 with a quarter-on-quarter annualized growth rate of 1.4% and 0.5%, respectively. The US economic growth is projected to further soften and enter the negative territory in 2023Q1. The full-year GDP increase for 2022 is estimated to be around 1.6%, down 4.1 percentage points from 2021. The risk of a "hard landing" is high.**

Europe will likely slip into recession. Energy remains the main driver of higher inflation, with euro area energy prices rising 38.6% year-on-year in August, contributing 3.95 percentage points to inflation. The core inflation rate excluding energy and food was 4.3%. The retreat in energy price surge has not effectively eased high inflation in the euro area, where the upward pressure on prices has gradually passed from energy onto final goods and services. The energy crisis has become an overall drag on the European economy where industrial activity and supply systems have been further strained. The euro area's Economic Sentiment Indicator for August was 97.6, its lowest level since February 2021. The Industrial Sentiment Indicator was 1.2, the Service Sentiment Indicator was 8.7 and the Consumer Confidence Index was -24.9, all at low levels. **To ease the energy-induced stress on consumers and businesses, European countries have successively taken various fiscal measures.** Energy intervention policies may cool inflation for a while, but subsidies will increase demand for natural gas, which in turn pushes up gas prices. The fiscal stimulus will be followed by a rise in inflationary pressure though with a "lag". **The euro area's economic growth is projected to be about -1.3% and -3.4% for Q3 and Q4 of 2022 respectively, and around 2.5% for the year. The UK economic growth is estimated to be about 0.5% and -1.6% for Q3 and Q4 respectively, and approximately 2.7% for the year.**

Japan remains on track for a modest recovery. Japan's economic growth in Q2 was mainly attributable to domestic demand, with services such as dining out and hotel stays picking up. Consumer spending, accounting for more than half of Japan's economy, expanded by 1.2% from a quarter ago. However, foreign demand did not contribute much to Japan's growth in Q2. As the prices of commodities such as energy remained elevated, Japan's export growth was offset by the surge in imports. **A number of factors cast a shadow on Japan's economic prospects.** First, the COVID-19 resurgence has strained consumption and production. Although the Japanese government has lifted stringent COVID-19 restrictions, many consumers have chosen to spend less out amid pandemic woes. The economic activity trends to be low. Second, the expected slowdown in the global economy put Japan under more challenges. Japan has seen a faster decline in industrial output and new orders. Its manufacturing PMI for August was 51, down from 52.1 in July, the slowest pace of expansion since January 2021. Third, the depreciation of Japanese yen has exacerbated Japan's economic contraction. Japan's nominal GDP denominated in US dollar in 2022 is expected to be less than USD4 trillion for the first time in nearly 30 years. Japan will see domestic wages level back to 30 years ago, making its labor market much less attractive to foreign workers and international talents. **Japan's economic growth is estimated to be 2.3% for Q3 and 2% for Q4 in 2022, and about 1.5% for the year.**

Emerging economies generally see growth, but at a slower pace. Commodity prices remain high and is the driver of economic growth in resource-exporting countries such as Brazil and Saudi Arabia. But it will escalate the global energy crisis, plunging some emerging economies into "twin deficits", i.e. fiscal and trade deficits, and increasing the risk of a recession. Against the backdrop of global downturn, external demand is expected to further weaken as the engine of Asian economies. Some emerging economies in Asia will lose steam on the growth of industrial sector. To stabilize their currencies, Latin American countries such as Brazil, Mexico and Peru have followed developed economies in tightening the monetary policy. However, interest rate hikes will have adverse effects on consumption and investment, weakening the internal driving force of economic growth. Also, the ongoing tightening of global liquidity makes international investors more risk-averse, and high interest rates will reduce their market attractiveness to international investors. In addition, food security will continue to have a major influence on the growth of African economies such as Kenya.

Table 1: Forecasts for Key Indicators of Major Economies in 2022 (%)

Region	Year / Country	GDP growth			CPI growth			Unemployment rate		
		2020	2021	2022f	2020	2021	2022f	2020	2021	2022f
Americas	United States	-3.4	5.7	1.6	1.2	4.7	8	8.1	5.4	3.7
	Canada	-5.2	4.6	3.5	0.7	3.4	7	9.6	7.4	5.3
	Mexico	-8.2	4.8	2	3.4	5.7	7.8	4.4	4.1	3.7
	Brazil	-3.9	4.8	1.8	3.2	8.3	9.6	13.8	13.6	9.9
	Chile	-5.8	12	2.1	3.1	4.5	11.3	10.6	9.1	7.7
	Argentina	-9.9	10.2	3	42	48.5	68.2	11.6	8.8	8.1
Asia Pacific	Japan	-4.5	1.6	1.5	0	-0.3	2.1	2.8	2.8	2.6
	Australia	-2.2	4.4	3.9	0.9	2.9	6.1	6.5	5.1	3.7
	China	2.2	8.1	3.5	2.5	0.9	2.2	5.6	5.1	5.6
	India	-7.4	9.2	7.4	6.6	5.1	6.1	—	—	—
	South Korea	-0.9	4	2.6	0.5	2.5	5.2	3.2	3.6	3.1
	Indonesia	-2.1	3.3	5.2	2	1.6	4	7.1	—	5.8
Europe and Africa	Euro area	-6.6	5.3	2.5	0.3	2.6	8	8	7.7	6.8
	UK	-9.4	7.1	2.7	0.9	2.6	9.3	4.5	4.6	3.9
	Russia	-2.9	4.7	-6.4	3.4	6.7	14.4	5.8	4.8	4.8
	Turkey	1.8	11	4.1	12.3	19.4	72.2	13.1	12	11.2
	Nigeria	-1.8	2.7	3.4	13.2	17	18	—	—	—
	South Africa	-6.4	4.9	2	3.3	4.6	6.8	29.2	34.3	34
Global		-3.4	5.8	2.5	3.2	4.7	7.2	—	—	—

Sources: BOC Research Institute. Note: "f" stands for forecast.

II. Global Financial Review and Outlook

Since 2022Q3, the downside risk to global economy has further intensified. Some countries are even already in a material recession. Geopolitical tensions have escalated, coupled with surging waves of monetary tightening. Under this background, global financial markets are drastically rocky and highly risk-averse, struggling to figure out a turning point and balance among economic recession, rising inflation and interest rate hikes/balance sheet shrinking. Global liquidity has been ebbing faster on widening disparities in interest rates. The cross-border capital flowing back to developed economies has sent the US Dollar Index (DXY) to a 20-year high and taken a heavy toll on risky assets such as stocks. Some countries face severe debt risk, with commodity markets shaky in a correction.

II.1 Characteristics of international financial markets

Money market and cross-border capital: Global money market liquidity tightens, driving cross-border capital flows back to developed economies. First, the central bank put brakes on growth of assets in a continued adjustment to the balance sheet structure. At the end of August 2022, the Fed, ECB and the Bank of

Japan (BoJ) all saw a moderation in expansion of assets from the end of Q2. **Second,** major economies showed a changed pattern of short-term interest rate spread. The euro area has experienced a substantial rise in money market rates, followed by the US as runner-up and the UK in third place, while Japan's money market rates remain low. **Third,** as cross-border capital has flowed back to the US, the investment portfolios in emerging markets feel eased pressure of capital flight. From January to July in 2022, the cross-border net capital inflows to the US exceeded the highest level recorded in 2011 and 2020. From July to August, emerging markets recorded a higher net inflow of securities investment, including USD19.8 billion in equities.

Foreign exchange market and cross-border payments: The US dollar hit a 20-year high and emerging economy currencies took on new features in cross-border payments. First, DXY has exceeded the 110 mark, with ECB lagging behind the Fed in rate hikes. The euro fell 4.1% against the US dollar, below parity. **Second,** emerging market currencies are generally under pressure, but the currencies of resource-exporting countries bucked the trend to go strong. Buoyed by the bumpy upturn in commodity prices, resource exporters including Brazil and Indonesia became more attractive to foreign investment, with the Brazilian real and Indonesian rupee rising 2.6% and 0.2% against the US dollar, respectively. **Third,** geopolitical conflicts have disturbed the foreign exchange market, accelerating the process of "de-dollarization" across the world. The global foreign exchange market became more volatile, with the US dollar's share in foreign exchange reserves falling to 58.9%.

Global stock markets: the confluence of various factors rendered global stock markets mixed. First, the expectation of a recession shook investor sentiment, making global stock markets rockier. Corporate earnings, monetary policy changes and macroeconomic factors were intertwined to move the stock market. **Second,** regional disparities were prominent, with European and US markets rebounding against the trend. Stock markets in developed countries rebounded remarkably under the significant influence of the tightening policy. Emerging markets generally remained in a downward trend, except for a few economies with eye-popping performance. The Asia-Pacific stock markets were gradually divided. **Third,** global stock markets saw a lower level of issuance, mergers and acquisitions (M&As). IPOs became less concentrated in sectoral terms. The stocks issued worldwide in 2022Q3 (up to September 15) totaled USD12.26 billion, showing a marked drop in the number of IPOs from a year ago. In 2022Q3, the number and amount of global M&As decreased by 19.4% and 45.9% year-on-year, respectively.

Global bond markets: Government bond yields in major economies diverged and the risk of sovereign debt default came into focus. First, the world saw a divergence of government bond yields. The US, the euro area and the UK underwent a marked rise in government bond yields, while the Japanese government bond yields showed a modest increase and the Chinese government bond yields moved lower. **Second,** many countries showed an inversion of yields on long-term and short-term government bonds. As of September 14, the yield difference between the 10-year and 2-year US and UK government bonds was -0.37% and 0.13%, respectively. Although the UK maintained a positive spread, inversions occurred on some trading days in September. In addition to the US and the UK, yield curve inversions were also seen in Canada, New Zealand and Sweden in Q3. **Third,** some countries suffered a sharp rise in sovereign debt risk, with the quotes rising sharply for sovereign credit default swaps (CDSs).

Commodities market: commodity prices retreated in rocky trading amid the rising risk of a global recession. The potential demand shrank in global markets in 2022Q3. The RJ/CRB index, a gauge of overall price changes in commodity futures, bounced back to 301.75 after hitting 273.26, and then fell back again. As of September 15, 2022, the RJ/CRB index closed at 281, down 3.4% from the end of Q2. Crude oil prices dropped substantially amid mounting downward pressure on demand in overseas markets that took a hit from the Russia-Ukraine conflict. Copper prices, significantly related to economic growth expectations, fell in choppy trading in a continued downturn from Q2. The persistently strong DXY was negative for the gold price, which faced higher downside pressure as the role of gold faded as a safety hedge.

Global monetary policies: developed economies saw a resurging wave of interest rate hikes, while Japan maintained a loose policy stance. First, energy and food prices continued to soar amid geopolitical conflicts, with inflation in the US and Europe both hitting a 40-year high. The Fed and ECB were forced into a radical rate hike pattern, but ECB lagged behind the Fed in monetary tightening. BoJ decided to maintain an ultra-loose monetary policy until achieving sustainable wage growth and inflation targets to support economic recovery. **Second,** emerging markets stepped up monetary tightening to prevent continued capital flight. Central banks in Latin American emerging markets hiked rates faster, while Indonesia, India, South Korea, Thailand and the Philippines were relatively slow in tightening monetary policy.

II.2 Outlook for international financial markets

Global financial markets are expected to show the following characteristics and areas of concern in 2022Q4: First, major economies will likely continue to tighten monetary policy. The USD and EUR offshore liquidity conditions will further tighten. **Second,** the global interest rates will trend upward, and the global foreign exchange markets will remain volatile. DXY will stay high, yet with limited upside. The EUR/USD exchange rate is still under downward pressure. Emerging market currencies will continue to be strained. **Third,** global stock markets will be volatile, with the US and European stock markets still under great downward pressure. **Fourth**, the government bond yields of major economies will remain on the rise in the short term. Some emerging market countries will see their sovereign debt risk going significantly higher and emerge as one of the major risks in the future financial markets. **Fifth,** commodities have limited downside. Crude oil prices have found a floor, copper prices likely to rebound in the near term. Gold is expected to remain weak in rocky trading over the short run due to the lack of momentum for a sharp rebound. **Sixth, major economies will continue to raise interest rates in the near term.** The Fed will slow down its pace of rate hikes, ECB may kick start aggressive rate hikes and emerging markets will follow suit, which will further tighten liquidity conditions.

III. Special Research

III.1: Global trend of green transition amid energy crisis

Since the end of 2021, global energy prices have soared in more volatile trading. The current round of global energy crisis originated from the shortage of global energy supply. The Russia-Ukraine conflict and the Western sanctions against Russia have greatly aggravated the global energy crisis. The International Energy Agency pointed out that the ongoing energy crisis will be broader, longer and more significant than those in the 1970s and 1980s. Against this backdrop, the global green transition that has just begun may face severe challenges.

1. Global green transition faces dilemma in the energy crisis

On the one hand, the energy crisis has magnified the urgency of global green transition, which, however, cannot be accomplished overnight. From a technical perspective, fossil fuel plays a pivotal role in the global supply of energy and industrial raw materials. This pattern cannot be reversed in a short period of time. From a cost perspective, some rare earth elements are crucial to the manufacturing of power generation and motor equipment. The making of energy storage devices for renewable energy also relies on mineral resources such as lithium, nickel, cobalt and manganese. At present, the proved mineral resources in the world are insufficient to support the global energy transition under the *Paris Agreement*. Global green transition may face increasingly severe cost constraints in the future.

On the other hand, blindly pursuing green energy transition may aggravate the energy crisis in the short term and trigger a global recession. The transition to green energy entails a safe and stable energy supply environment. In the past few years, many countries have cut their investment in oil, natural gas and coal in pursuit of energy transition, overlooked the importance of traditional energy in maintaining the security of energy transition. The lack of awareness and investment in energy security is an important reason for the current energy crisis. The excessive pursuit of green transition may aggravate the persistence and spread of the energy crisis and lead to a worldwide recession.

2. Energy shortage difficult to ease in the near term

In recent years, the global energy structure has been rebalanced with a growing share of renewables. The annual contribution of oil and natural gas to total energy output is approximately 53.7%, while that of coal fell to 26.8% in 2019 from 28.5% in 2010. The share of renewables such as wind and solar energy increased by 1.4 percentage points to 2.2%, but is still relatively low. Compared with other regions, Europe is at the forefront of green transition, with renewables accounting for 40.8% of the EU's primary energy output, up 39.2% from 2010.

Since the onset of COVID-19, the global energy supply and demand gradually became unbalanced, resulting in energy shortages in many countries. On the supply side, global supply chain disruptions have significantly reduced the energy use in the transportation industry, forcing some energy exporting countries to cut their oil and gas production capacity ahead of schedule and the national energy inventories scaled back. On the demand side, extreme weather has increased household demand for gas use since 2021, and the recovery in global industrial manufacturing has also boosted energy demand. Global energy prices surged on a boost from both supply and demand sides but the trade volume shrank significantly. Countries relying on exported energy are on the brink of a serious energy crisis. The renewable energy system is not stable and reliable enough to make up for the current energy shortage.

3. Where will green transition go in the future?

Energy transformation requires not only sufficient traditional energy and nuclear power to secure energy supply during the transition phase, but also the gradual establishment of a stable renewable energy supply capacity. Both tasks require large resources inputs causing the global demand for traditional energy to increase. Up to now, western countries still adhere to the concept of green development, and there has been no significant changes in the carbon neutralization plans of various countries. However, affected by the energy crisis, many countries have formulated transition plans for energy transformation, restarted coal and nuclear power, and postponed the original climate targets.

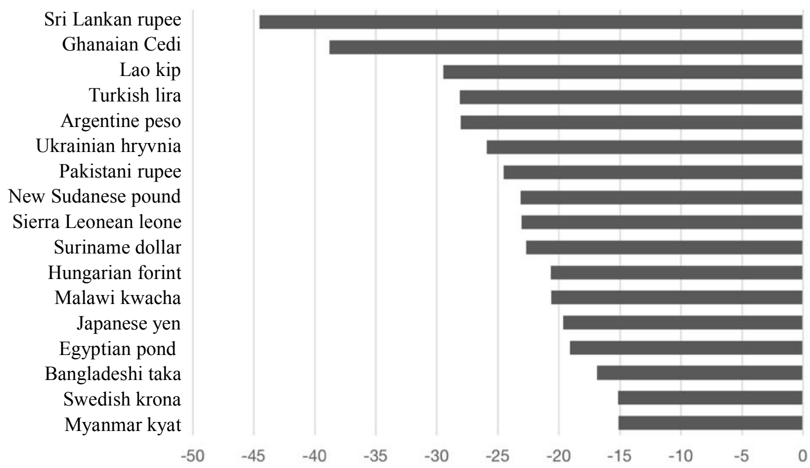
III.2: Will emerging markets undergo another wave of currency crises: a thinking at the 25th anniversary of the Asian financial crisis

1. Some emerging markets are already in a currency crisis

The currency crisis is a form of financial crisis, mainly characterized by sustained and significant drop in the exchange rate. The nature and definition of a currency crisis are changing. According to the definition of the International Monetary Fund (IMF), a currency crisis is a speculative attack on the foreign exchange value of a currency, resulting in a sharp depreciation or forcing the monetary authorities to sell much of the foreign exchange reserves, raise interest rates or impose capital control. According to the latest IMF statistics, currently about 20% of the world's countries and regions implement a fixed or hard-peg exchange rate regime, about 33% implement a floating exchange rate regime, and 47% implement a soft-peg or managed floating exchange rate regime. In a broader sense, a currency crisis is defined as a drastic change in the exchange rate of a currency that goes beyond the tolerable range and causes serious economic harm[1].

Twenty-five years have passed since the Asian financial crisis. After the waves of financial liberalization and exchange rate reform led by the West, the currency crisis has not been fundamentally contained. On the contrary, it has become more frequently and intertwined with other crises. Since the 21st century, the world has experienced major turbulence such as the dotcom bubble burst, the September 11 terrorist attacks, the 2008 international financial crisis, the European sovereign debt crisis and the COVID-19 pandemic. Advanced economies once experienced violent changes in currency value and incurred waves of monetary easing. However, more currency crises have hit emerging markets. In the current wave of monetary tightening, DXY rose by more than 14% year to date, surpassing the 110 mark. The confluence of multiple factors has brought Sri Lankan rupee down 45% (Figure 4) and the currencies of more than 10 emerging markets (e.g. Lao kip and Turkish lira) down more than 15%. They have already fallen into a currency crisis or even a financial crisis.

Figure 4: Value Changes of Selected Currencies against USD in 2022 YTD



Note: Data as of September 15, 2022.

Sources: Bloomberg, BOC Research Institute.

2.Emerging markets are marginalized in the international financial system, faced with cyclical and systemic risks of currency crises

First, the "original sin of money" exists in emerging markets. The worsening systematic flaws of the US dollar have become an important trigger of frequent currency crises in emerging markets. In recent years, currency mismatches in emerging markets have increased significantly in the context of persistently low interest rates. Emerging markets are inclined toward foreign currency financing, with the government sovereign debts expanding and the corporate and banking sectors seeking exposure to currency mismatch through arbitrage. As the global economic pattern evolves, it is more difficult to control the US and the global economy imbalance. Due to excessive currency mismatches, emerging markets are "kidnapped" by the dollar cycle and bound to suffer periodic exchange rate volatility, or even currency crises. They become victims of risk transfer and

[1] According to the single-factor criteria of economists Reinhart and Rogoff, a currency crisis is a continuous depreciation (devaluation) of 15 percent or higher.

economic rebalancing by the US and other developed economies.

Second, as short-term investment dominates international capital flows, emerging markets' currency crises show a significant link to external factors. Since the 21st century, international capital has moved from the real economy to the virtual economy, and short-term capital flows have become the mainstay. Usually, the massive short-term capital influx, sudden stalling and capital flight generally occur in succession before and after a currency crisis hits emerging markets. The dominance of short-term capital flows makes the currency crisis in emerging markets even more contagious. Also, the herd effect turns the currency crisis into a crisis of confidence. Derivatives, which provide strong leverage for international hot money, reduce the cost of speculative transactions and further accelerate and aggravate the currency crisis, adding to systemic risks.

Third, the unbalanced development model of "twin deficits" has fueled the risks of excessive financial expansion and currency crisis in emerging markets. The currency crisis, not a simple monetary phenomenon, has its root in the real economy. The fundamental fragility of some emerging markets is highlighted by the "twin deficits", i.e. fiscal deficits internally and current account deficits externally. Under the "twin deficits" mode, economic growth in emerging markets is highly dependent on financial expansion. However, financial over-expansion cannot be sustained. When the financial fundamentals of emerging market economies are fragile, investors will change their expectations, exchange their local currencies for foreign currencies, sell off their local-currency assets and rush for foreign-currency assets, which will end up with a currency crisis.

3. Policy implications and suggestions

First, the economic footing should be reinforced to foster momentum for long-term growth. Emerging markets should focus on fostering internal drivers of economic growth. Recommended steps are as follows: rationalizing the economic structure and growth model and improving the modern industry system; narrowing the savings-investment gap and adjusting the consumption-led growth model; focusing on attracting long-term capital inflows, such as foreign direct investment, which serves as the "ballast" to stabilize the exchange rate of local currency.

Second, foreign debts should be more sustainable with an improved mix of maturities and currencies. The cost of debt financing should be dynamically assessed, with a focus on adjusting the short-term debt level to a safe range. The foreign debt should be diversified into currencies, with interest rate and exchange rate derivatives used to hedge foreign debt risks. The domestic banking and capital markets should be developed in such a way that can lower the over-reliance on external markets, especially developed countries, to some extent.

Third, the fragility of emerging markets should be fully recognized, and steps should be taken to safeguard the credibility of monetary policy and confidence in currency value. In addition to counter-cyclical regulation, cross-cycle regulation should be equally emphasized to coordinate short-term targets with medium and long-term goals. According to the stage of domestic economic development, the exchange rate regime and exchange rate formation mechanism should be adjusted dynamically to maintain an appropriate stock of foreign exchange reserves ready for flexible utilization, thus providing a stronger buffer for currency crisis management.

Fourth, the management of short-term capital flows should be strengthened, and the contingency plan for currency crisis should be improved. Macro and micro prudential management should be improved to ensure comprehensive measurement, monitoring and management of short-term capital flows, enrich capital restriction instruments and directly impose capital controls when necessary. The crisis response mechanism should be refined to stabilize market expectations. A plan should be in place to curb trading in foreign exchange spots and derivatives under extreme circumstances. International monetary cooperation should be enhanced to create a safety net of multi-level currency swaps and broaden the channels of foreign exchange liquidity support.

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