

## Chapter 1 Global Economy Slowing Further

This chapter will first show that the global economy has slowed down further because of heightened uncertainty due to Russia's aggression against Ukraine, rising inflation, and accelerating monetary tightening and also that the rapid monetary tightening, mainly in Europe and the United States, has increased debt risks, mainly for the Global South, through declines in the value of currencies and interest rate rises.

Next, the chapter will show that, while the global economy is now facing the risk of fragmentation as a result of the rise of authoritarian states, Global South countries are securing their interests while maintaining a neutral position.

Finally, the chapter will show that, as the WTO's Appellate Body has become dysfunctional amid an increase in the number of cases of economic coercion, which means the weaponization of economic interdependence in recent years, European countries and the United States have been stepping up discussions about how to deal with the situation.

### Section 1 Outlook and current state of the global economy

#### 1. Global economy slowing further

##### (1) Overview of the global economy in 2022

In 2022, the global economy experienced a slowdown of its growth. Although the growth rate of the global economy rose steeply in 2021 due to recovery from the pandemic, the growth became stable in 2022. Among the main factors of the slowdown of growth are Russia's aggression against Ukraine, accelerating inflation, and a slowdown of the growth of the Chinese economy. Russia's aggression against Ukraine caused upsurges in prices of resources, such as natural gas and crude oil, supply chain disruptions, and associated ripple effects, thereby making negative contributions to the growth of the global economy. The inflation rate started to rise in the second half of 2021 due to post-pandemic recovery in demand, and the resource price upsurges and the reduction of supply caused by Russia's aggression against Ukraine accelerated the rise of the inflation rate. The rise of the inflation rate and rapid policy interest rate hikes implemented by central banks to counter the inflation lowered households' purchasing power, caused economic activity to become stagnant, and affected debt sustainability, thereby becoming a factor of the slowdown of the growth of the global economy. The growth of the Chinese economy slowed down due to the resurgence of the pandemic and lockdowns of cities, and that also contributed to the slowdown of the growth of the global economy.

Figure I-1-1-1 shows the top 30 words<sup>1</sup> in terms of frequency of appearance in chapters regarding the global economy in economic projection reports<sup>2</sup> published by the IMF, the OECD, and the World Bank between January 2022 and April 2023 according to text mining, with words indicated in larger letters representing those that appeared more frequently. According to this figure, in economic projection reports published by

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<sup>1</sup> Only nouns were selected. Some words that are considered to be unnecessary in light of the context were excluded. In text mining, words excluded from analysis are generally called "stop words." As for the words actually excluded, see the Notes.

<sup>2</sup> IMF *WEO*, OECD *Economic Outlook*, World Bank *Global Economic Prospects*.

international organizations, words that are likely to be related to Russia’s aggression against Ukraine (e.g., “war,” “Russia,” “Ukraine,” “energy,” “gas,” “oil,” and “food”), words that are likely to be related to inflation (e.g., “inflation,” “bank,” “tightening,” “debt,” and “commodity”), and words that are likely to be related to the Chinese economy (e.g., “China” and “slowdown”) appeared at a high rate of frequency, indicating that strong attention is focusing on those incidents. In addition, the word “uncertainty” also appeared frequently, indicating that there is a high level of uncertainty over the global economy.

**Figure I-1-1-1. Frequently used words seen in economic projection reports**



Note: Words indicated in larger letters represent those that appeared more frequently in economic projection reports.

Stop words are as follows.

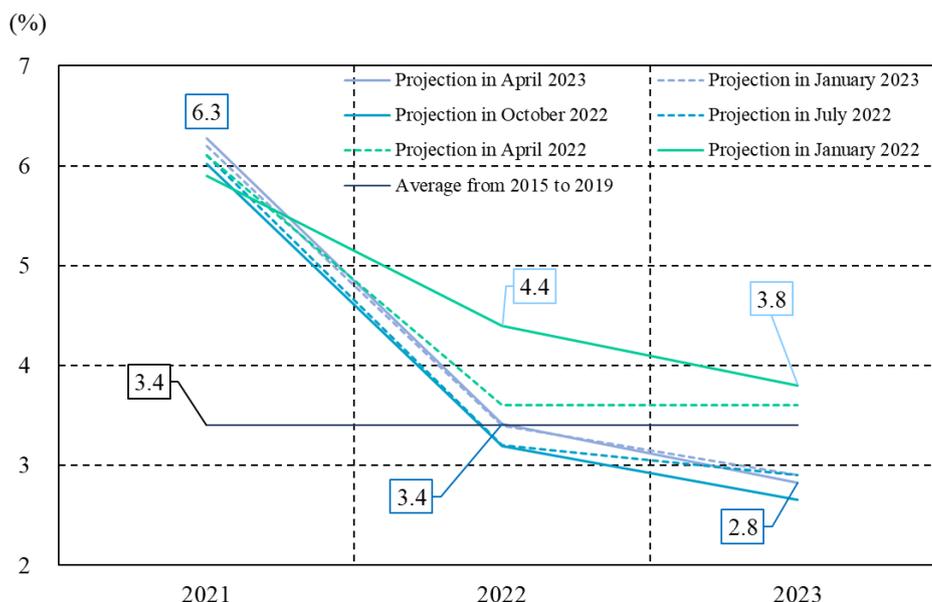
percent, projected, expected, including, rate, the, that, about, such as, global, growth, percentage, point, could, countries, price, economies, prices, market, policy, outlook, area, rates, level, Figure, effect, levels, policies, year, risk, time, sector, quarter, measure, term, effects, OECD, EMDE, half, increase, economy, support, impact, GDP, output, World, activity, production, pace, crisis, decline, demand, rise, shock, consumer, average, baseline, forecast, end, spending

Source: *WEO* (IMF), *Economic Outlook* (OECD), *Global Economic Prospects* (World Bank), which were published between January 2022 and April 2023.

Due to the effects of the abovementioned factors of the slowdown of growth, the GDP growth rate of the global economy in 2022 estimated by the IMF<sup>3</sup> was 3.4%, which was down 2.9 percentage points from the growth rate of 6.3% in 2021 and which was similar to the average rate of growth in the period between 2015 and 2019 (3.4%) (Figure I-1-1-2).

<sup>3</sup> IMF *WEO* (April 2023) and IMF *WEO* (January 2023).

**Figure I-1-1-2. Changes in projections of global GDP growth rate**



Source: WEO (IMF).

## (2) Revision of the projections of the growth rate of global GDP and changes in keywords

The IMF's forecast of the growth rate of global GDP in 2022 was repeatedly revised downward by the end of the year with consideration given to how various factors, including Russia's aggression against Ukraine and inflation, may play out in the future (Figure I-1-1-2). At first, in the economic projection report in January 2022, the growth rate of the global GDP in 2022 was forecast at 4.4%, which was lower than the growth rate in 2021 (5.9%), reflecting the spread of the Omicron variant of COVID-19 and accelerating inflation, but which was higher than the average in the period between 2015 and 2019 (3.4%). However, in the economic projection report in April 2022, the forecast of the growth rate was revised downward to 3.6%, reflecting the effects of Russia's aggression against Ukraine and the accelerated monetary tightening due to growing inflation. In the economic projection report in July 2022, the forecast of growth rate was revised down further, to 3.2%, in view of the effects of the continued inflation and monetary tightening and the resurgence of the pandemic in China. In the economic projection report in October 2022, the forecast of the growth rate of the global economy was not revised despite changes in the projections regarding individual countries. On the other hand, according to the economic projection report in January 2023, the global economy is estimated to have grown 3.4% in 2022, registering a higher growth rate than the forecast because the effects of the factors of the slowdown of growth were smaller than assumed.

In the IMF's economic projection report in April 2023, the growth rate of the global GDP in 2023 is forecast at 2.8%, slowing down further from the growth rate of 3.4% in 2022. The main factor behind the slowdown is that, while resource prices are projected to decline and the monetary tightening is expected to peak in 2023, there is turmoil in the financial sector and support measures for households and companies are being gradually scaled back. The projection of the growth rate of the global economy in 2023 has also been repeatedly revised, as was the case with the projection of the growth rate in 2022. While the most recent revision was an upward one, the level of the forecast growth rate remained much

lower than the level before Russia's aggression against Ukraine (Figure I-1-1-2), so the global economy is expected to slow down.

Below, we will show the results of text mining of chapters describing the state of the global economy in the IMF's economic projection reports published between January 2022 and April 2023, which led to the selection of words that are characteristic of the economic projections. When selecting the words, we used the TF-IDF method, which evaluates and scores each word in each document (each IMF projection report in this case) in a set of documents (the whole of the IMF projection reports published during the abovementioned period) in terms of both frequency of appearance in each document and rarity in the set of documents) in order to score each of the words that appeared in the economic projection reports. Figure I-1-1-3 shows the top 30 words<sup>4</sup> in terms of the score level, with words with a higher score level indicated in larger letters. Regarding the scoring of the TF-IDF,<sup>5</sup> higher scores are assigned to words with a higher frequency of appearance in a document and words that appear in a smaller number of documents, and this means that words with higher scores are more characteristic of that document.<sup>6</sup> According to Figure I-1-1-3, words that are likely to be related to inflation (e.g., "inflation") are characteristic of the whole of the economic projection reports. While words that are likely to be related to the COVID-19 pandemic (e.g., "pandemic," "omicron," and "vaccination") are among those that are characteristic of the economic projection report in January 2022, many words that are likely to be related to Russia's aggression against Ukraine (e.g., "war," "Russia," "Ukraine," "energy," "gas," and "oil") are among those that are characteristic of the economic projection reports published in April and later. The figure also shows that words that are likely to be related to the Chinese economy (e.g., China) appeared frequently in the economic projection reports published in July and later. Furthermore, in the economic projection report published in April 2023, words that reflect the recent turmoil in the financial sector (e.g., "debt," "credit," "turmoil," and "lending") appeared frequently, meaning that new risks emerged. The above results indicate that although the key factors in the economic projections were the COVID-19 pandemic and inflation in early 2022, they were replaced by Russia's aggression against Ukraine and inflation in the economic projection in April, and the Chinese economy also started to attract more attention in July and later. In April 2023, a new risk factor, the turmoil in the financial sector, emerged.

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<sup>4</sup> Regarding stop words, see the "Notes" in the figure.

<sup>5</sup> A score assigned to each word under the TF-IDF method is calculated by multiplying the word's frequency of appearance in a document by the natural logarithm of the reciprocal number of the percentage of documents in which the word appears in the whole set of documents plus 1. Extracted from the website of scikit-learn ([https://scikit-learn.org/stable/modules/generated/sklearn.feature\\_extraction.text.TfidfVectorizer.html](https://scikit-learn.org/stable/modules/generated/sklearn.feature_extraction.text.TfidfVectorizer.html)).

<sup>6</sup> Shimizu, K., Y. Nakayasu, Y. Suzuki, and Y., Kawano (2020) "Applications of Knowledge Extraction using Advanced Text Analysis." Journal of IHI Technologies, Vol.60, No. 1 (2020).

**Figure I-1-3. Changes in important words seen in IMF World Economic Outlook**



Note: Words indicated in larger letters represent those gained higher score in the TF-IDF method.

Stop words are as follows.

percent, expected, including, rate, global, growth, could, figure, economies, area, staff, point, world, level, forecast, country, output, year, data, source, time, outlook, market, percentage, prices, price, april, july, january, october, scenario, policy, weo, baseline, effect, rate, error, panel, capita, quarter, average, risk, june, sector, extraction, chapter, decrease, dollar, core, house, demand, production, gdp, trade, share, path, winter, downside, decline, impact, quality, imf, channel, activity, curve, basis, cost, pace, worldwide, chain, basis, headline, grip, goal, correlation, end, economy, boost, ppe, glasgow, rise, increase, term, pressure

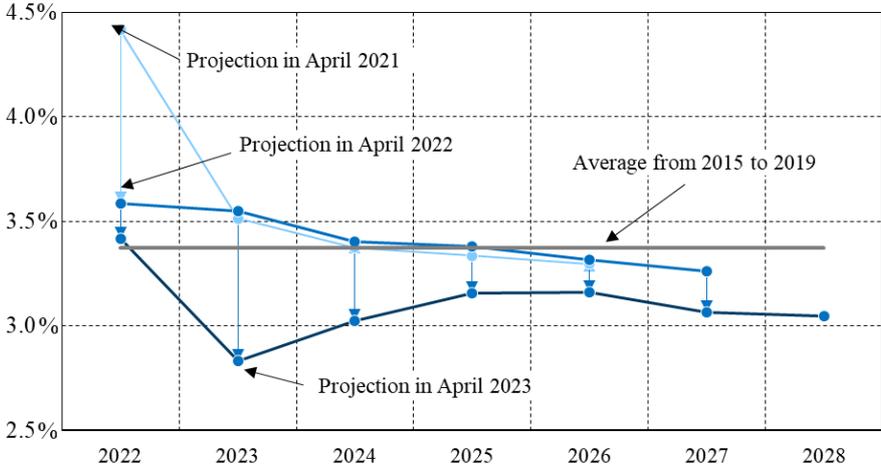
Source: *WEO* (IMF) published between January 2022 and April 2023.

### (3) Changes in the medium-term projection of the growth of the global economy

As a result of the recent downward revision of the growth rate of the global GDP, the medium-term projection of the growth rate over the next five years has changed as well. In April 2021, the IMF forecast that the growth rate of the global economy would return to around 3.4%, which is the pre-pandemic trend growth (2015-2019), after rapidly recovering in 2022 and that the growth rate will stay around 3.4% between 2024 and 2026. However, as new factors that may cause economic slowdown, such as Russia's aggression against Ukraine and inflation, have emerged, the medium term projection of the economic growth rate has been revised downward. In the World Economic Outlook report in April 2023,

the growth rate of the global economy is forecast to consistently remain lower than the pre-pandemic trend until 2028 (Figure I-1-1-4), indicating that the slowdown of growth in the global economy will continue in the medium term.

**Figure I-1-1-4. Trends in global economic growth**



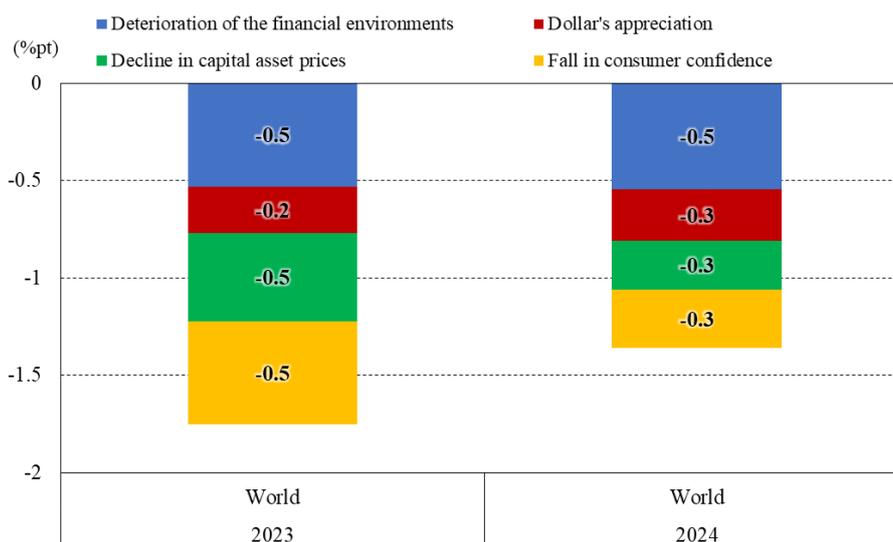
Source: *WEO* (IMF).

**2. Prospects for future risks and uncertainty**

**(1) Risk scenarios for the global economy**

With respect to the outlook on the global economy, there are multiple future risks, and the GDP growth rate may turn out to be lower than the forecast as a result of materialization of the risks. As risks that may have negative effects on the growth rate of the global economy in 2023 and 2024, the IMF has cited the deterioration of the financial environment, a decline in capital asset prices, the dollar’s appreciation, and a fall in consumer confidence. Figure I-1-1-5 shows the results of estimation of the extent of the possible effects of those four risks on the economic growth rate. In 2023, the deterioration of the financial environment, a decline in capital asset prices, and a fall in consumer confidence are projected to make a negative contribution of 0.5 percentage points each, while the dollar’s appreciation is projected to make a negative contribution of 0.2 percentage points. If those risks have materialized, the economic growth rate may be up to around 1.8 percentage points below the baseline growth rate of 2.8%, according to the estimation.

**Figure I-1-1-5. Risks that may have negative effects on global GDP growth rate**



Note: For each risk factor, the following specific conditions are assumed.

Deterioration of financial environments: A case where U.S. bank lending declines by 4% in 2023 and corporate bond spreads widen by 250 basis points, causing ripple effects that countries suffer.

Decline in capital asset prices: A case where global capital asset prices have fallen 10% due to the deterioration of financial environments, resulting in a decline by 6% in average in 2023.

Dollar's appreciation: A case where a significant rise in government bond premiums in developing countries, excluding Asia, and switching to safe assets occur, causing the U.S. dollar to appreciate by about 10%.

Fall in consumer confidence: A case where consumption declines in the respective countries due to precautionary savings, and investment declines due to deteriorating business confidence. (It is assumed that in the U.S., consumption falls by 0.3%, while investment falls by 1.0%.)

Source: *WEO* (IMF).

## (2) Prospects for the Uncertainty Index

The abovementioned prospects for risks are also confirmed by various indicators of uncertainty. The World Uncertainty Index,<sup>7</sup> which is a measure of uncertainty at the global level, the Global Economic Policy Uncertainty Index,<sup>8</sup> which is a measure of uncertainty over economic policy, and the VIX Index,<sup>9</sup> which is a measure of stock market uncertainty, gradually declined after rapidly rising in the first half

<sup>7</sup> This index represents the percentage of the word “uncertain” and relevant words in the country reports of the Economic Intelligence Unit, which is the research division of the publisher of the Economist, a U.K. periodical. The higher the value of the index, the higher the level of uncertainty. Extracted from the WUI’s website (<https://worlduncertaintyindex.com/>; viewed on April 3, 2023).

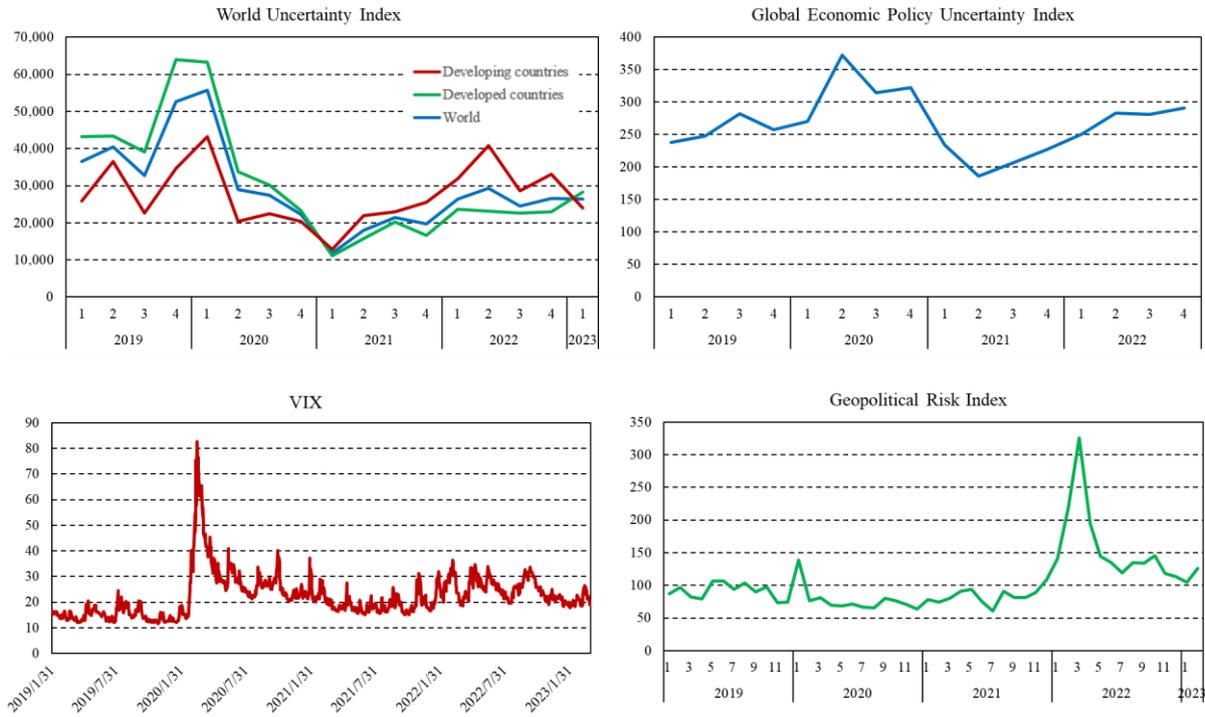
<sup>8</sup> This index represents the percentage of articles discussing economic policy uncertainty in newspapers published in individual countries. The higher the value of the index, the higher the level of policy uncertainty. Extracted from the EPU’s website. Extracted from the EPU’s website (<https://worlduncertaintyindex.com/>; viewed on April 3, 2023).

<sup>9</sup> This index is calculated and published by the Chicago Board Options Exchange of the United States based on the volatility in options trading related to the S&P500 stock price index. The index is considered to reflect investor sentiment about future market conditions. Generally speaking, the higher the value of the VIX index is, the higher the level of uncertainty over the future is among investors. Extracted from the website of Nomura Securities Co., Ltd. (<https://www.nomura.co.jp/terms/japan/ki/vix.html>; viewed on April 4, 2023).

of 2020 but started to trend upward after hitting bottom in the first half of 2021. Furthermore, due to the effects of Russia’s aggression against Ukraine, the uptrend strengthened from February 2022 onwards. Although those indexes declined somewhat in the second half of 2022, they have still remained at a high level. In addition, the Geopolitical Risk Index,<sup>10</sup> which is a measure of geopolitical uncertainty, rose steeply in March 2022, and since then, it has remained at a higher level than before Russia’s aggression against Ukraine. The trends in those uncertainty indexes indicate that, although the level of uncertainty over the global economy has declined compared with the level during the pandemic or immediately after Russia’s aggression against Ukraine, it has still remained high (Figure I-1-1-6).

Above, we provided an overview of the state of the global economy in 2022 and future risks. The next section will look at the situation surrounding Russia’s aggression against Ukraine, which significantly contributed to the heightening of uncertainty in 2022.

**Figure I-1-1-6. Changes in uncertainty indices**



Note: The World Uncertainty Index shows the GDP weighted average.  
 Source: *World Uncertainty Index* for the World Uncertainty Index; *Economic Uncertainty Index* for the Global Economic Policy Uncertainty Index and the Geopolitical Risk Index; and the Refinitiv database for the VIX Index.

<sup>10</sup> This index represents the percentage of articles related to geopolitical events in newspapers. Searched words are organized in the following eight categories: war threats, peace threats, military buildups, nuclear threats, terror threats, beginning of war, escalation of war, and terror acts). The higher the value is, the higher the level of geopolitical risk is. Extracted from the website of the Geopolitical Risk (GPR) Index (<https://www.matteoiacoviello.com/gpr.htm>; viewed on April 4, 2023).