

Section 4 Changes in the World Situation, Natural Environment, and Society, and the Outlook for the Future Digital Society

In recent years, the world situation has been undergoing major changes, including rising geopolitical tensions and economic instability, and it is said that the outlook is becoming increasingly uncertain and opaque.

For example, according to an index assessed by the United Nations based on factors such as the number of newspaper articles relating to geopolitical risks and uncertainty in global economic policies, geopolitical risks have risen significantly in recent years, triggered by the war in Ukraine and the worsening situation in Gaza. In addition, the index of uncertainty regarding global economic policies has also risen significantly due to the global spread of COVID-19 and the war in Ukraine, and both indices remain at high levels (**Figure 1-1-4-1**). These geopolitical risks and uncertainty in the global economy are likely to remain high. In fact, the number of armed conflicts occurring around the world is increasing, and there are concerns that tensions may continue to rise (**Figure 1-1-4-2**).

In addition, the natural environment is continuing to change, with an increase in the occurrence of abnormal weather and the severity of disasters due to global warming, and there are concerns that torrential rain disasters will become more severe, with the number of heavy rain events occurring each year on the rise. Furthermore, with regard to earthquakes in Japan, there is concern that there is an approximately 80% chance of an M8 to M9 earthquake occurring within the next 30 years, particularly along the Nankai Trough (as of March 15, 2025)¹. In addition, if an earthquake were to occur directly beneath the capital, the risk of earthquake damage becoming more severe as urbanization progresses is increasing.

Moreover, Japan is facing a labor shortage caused by a declining birthrate and aging population, which is becoming more serious every year, with the impact being particularly pronounced in rural areas. Furthermore, compared with the global economic growth, the Japanese economy continues to stagnate. For example, with regard to population changes, the declining birthrate

and aging population are progressing in Japan, and the aging rate, which is the proportion of the population aged 65 and above to the total population, is increasing. At the same time, the proportion of people aged 65 and above to the working-age population is also increasing. This impact is expected to be particularly pronounced in rural areas, and the growing concentration of population in urban areas is expected to worsen further in the future. On the economic front, the Japanese economy has been in a long-term slump since the collapse of the bubble economy in the early 1990s, with a low economic growth rate and sluggish labor productivity. According to OECD data, Japan's hourly labor productivity has been at a low level among OECD member countries for a long period of time.

In the future, as digital technologies advance and digital services become more sophisticated and widespread, the digital field, which plays the role as social infrastructure, is expected to expand further. Furthermore, as digital technologies such as AI and robots advance and become more widely used in society, it is expected that they will help solve and alleviate social issues in Japan, which is facing a declining birthrate, aging population, and population decline.

On the other hand, as digital technology becomes increasingly prevalent in socio-economic activities and its presence as a part of social infrastructure grows, there is a growing risk that its negative impacts will become even greater. In addition, as AI becomes more advanced and some predict it may eventually reach a level known as Artificial General Intelligence (AGI)^{2,3}, there is a concern that the risks associated with digital technologies, including AI, may increase even further.

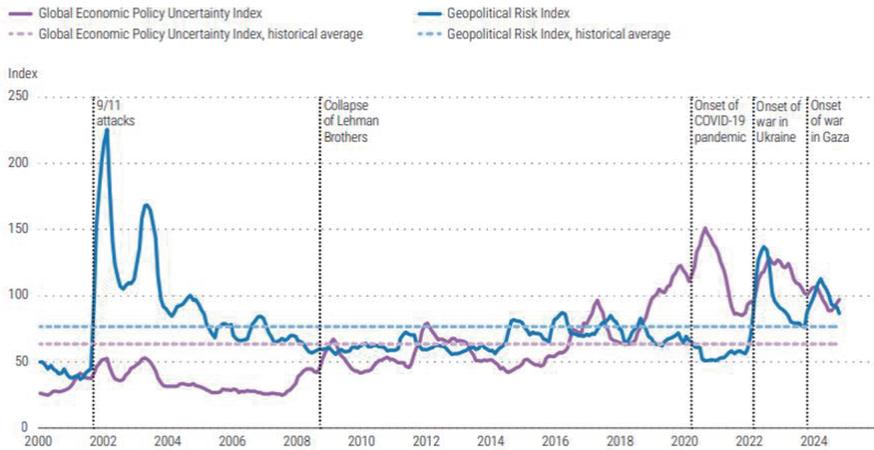
While promoting further technological development and its utilization to ensure that the benefits of advancing digital technologies can be fully enjoyed in social life and corporate activities, it is also important to continue taking measures to address threats that may expand as digital technology and its use progress.

¹ Headquarters for Earthquake Research Promotion “Earthquakes occurring along the Nankai Trough” <https://www.jishin.go.jp/regional_seismicity/rs_kaiko/k_nankai/> (Reference March 15, 2025)

² For example, in July 2024, OpenAI was reported to have released a five-stage roadmap showing progress toward realizing Artificial General Intelligence (AGI). OpenAI CEO Sam Altman reportedly estimates that AI will reach Level 5 within the next decade or so.

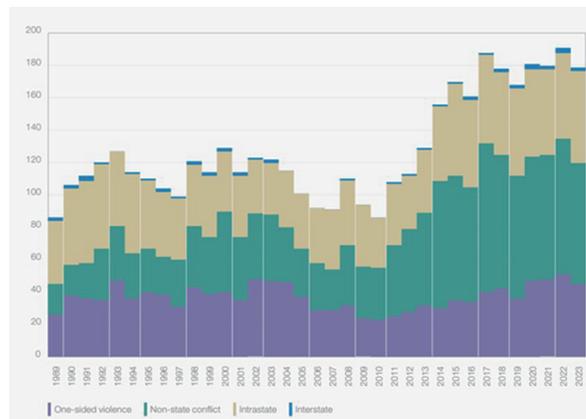
³ Bloomberg (2024/7/11) “OpenAI Develops System to Track Progress Toward Human-Level AI”

Figure 1-1-4-1 Changes in global economic policy uncertainty and geopolitical risks



(Source) United Nations “World Economic Situation and Prospects 2025”⁴

Figure 1-1-4-2 Secular changes in the number of armed conflicts in the post-Cold War world



(Source) WORLD ECONOMIC FORUM “Global Risks Report 2025”



Figure (related data) Working-age population and elderly population by prefecture in 2050

Source: Cabinet Secretariat “Council for Creating New Regional Economies and Living Environments (2nd Meeting)” Document 1
 URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/dashu.html#f00066>
 (Data collection)



Figure (related data) Changes in the ranking of labor productivity on a per-hour basis in major countries (OECD member countries)

Source: Prepared from “OECD Data Explorer”
 URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/dashu.html#f00067>
 (Data collection)



Figure (related data) OpenAI’s roadmap for AGI evolution

Source: Bloomberg (2024/7/11) Prepared from “OpenAI Develops System to Track Progress Toward Human-Level AI”
 URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/dashu.html#f00068>
 (Data collection)

⁴ United Nations “World Economic Situation and Prospects 2025” < <https://www.un.org/development/desa/dpad/publication/world-economic-situation-and-prospects-2025/> >