

Conversation 1

Why Innovate?

Technological, Economic and Societal Change from a Japanese Perspective

ABSTRACT

In this conversation, Professor Hiroto Koda investigates the innovation needs of Japanese society. They include embracing digital transformation, addressing the contraction of the population, in particular outside of the Tokyo metropolitan area, and finding solutions for environmental challenges. Against this background, this chapter focuses on five issues: (i) the economic effects of the COVID-19 pandemic, accelerating regional degeneration and the delay in digital transformation, (ii) the development of new business models, (iii) the solution of social issues that arise, (iv) collaboration between industry, government, academia and financial institutions and (v) the strengthening of human resources.

<i>Speaker</i>	Hiroto Koda
<i>Moderator</i>	Mihoko Sumida
<i>Concluding Conversation</i>	Felix Steffek and Mihoko Sumida
<i>Questions for Further Thought</i>	Mihoko Sumida

INTRODUCTION

Sumida: Why does Japan need innovation now? Today, we have Professor Hiroto Koda who steers financial institutions in the midst of capital market reforms and also engages in FinTech and other innovation support. He is going to clarify Japan’s place by comparing its position with the rest of the world as well as by discussing the urgent social issues Japan faces. He will then specifically explain the approach to solving social issues. Following Professor Koda’s talk, I will speak about why ‘legal’ innovation is considered necessary and share some perspectives on the relevant issues.

WHY IS THERE A NEED FOR 'LEGAL INNOVATION' NOW?

Sumida: I would first like to talk about the purpose of 'legal innovation'. The term 'legal innovation' might not be familiar to you, but it was coined by Professor Felix Steffek at the University of Cambridge. In 2018, Professor Steffek asked what changes will be brought about by fast-evolving technologies permeating the legal world, and he suggested that those changes could be seen through the lens of 'innovation'.

Luckily, we had an opportunity to launch a collaborative research project titled 'Legal Systems and Artificial Intelligence' with the University of Cambridge and our colleagues at Hitotsubashi University in 2020. I would therefore like to use this chance to let you, who are the next generation and who will be tossed into the midst of the upcoming 'legal innovation', know what transformations are likely to be seen in the legal world. I would like to use this opportunity to help you develop a deeper understanding of the concept of 'legal innovation', especially while the concept is still developing. That is why Professor Steffek and I planned this conversation series.

Our first guest is Professor Hiroto Koda. After graduating from the Faculty of Economics at Hitotsubashi University in 1982, Professor Koda joined the Industrial Bank of Japan. He served as the Deputy President and in other positions at Mizuho Securities Co., and he has been the Representative Director of the Innovation Intelligence Research Institute since July 2018. Professor Koda now independently conducts research and consulting activities, and based on that, he also plays an active role in education and research activities while, at the same time, serving as an external director at the Japan Investment Corporation and elsewhere.

As you can see from his career, Professor Koda has been engaged in system research related to financial system reforms, the financial Big Bang and other capital market reforms as well as FinTech and other innovation support. I would now like to invite Professor Koda to speak to us about Japan's position from his perspective.

Koda: As an introduction to the theme of 'legal innovation', I would like to talk about the perspective from which we should understand the relationship between 'economic and social innovation' and 'legal innovation' in the 2020s as Japan is facing a mountain of social issues.

FIVE ISSUES IN JAPANESE SOCIETY

Koda: With the ongoing COVID-19 situation, it is undeniable that the environment surrounding Japan's economy has become more difficult than previously expected. Given this situation, the issues faced by Japan include an inability to respond to digitalisation; a delay in responding to digital transformation (DX), namely a change in business model in the light of digitalisation; and a contraction of Japan in general due to a decline in its population, especially outside the Tokyo Metropolitan Area. These issues are going to have a significant impact on Japan. In that sense, the question is how Japanese companies will set up and establish new business models. More than ever, companies must act with an awareness of Japan's social agenda and

in a manner that serves globally linked themes such as carbon neutrality. Companies will thus face a major challenge in terms of how they can incorporate innovation. Today, I would like to talk about that awareness of issues in layperson’s terms and use that topic to discuss the importance of the relevant legal aspects.

I would therefore like to discuss five issues in Japanese society of which we should be aware. The *first* issue is the increasingly harsh environment surrounding the Japanese economy, especially the prolonged effect of COVID-19, accelerating regional degeneration and a delay in DX. The *second* issue is whether Japanese companies can establish a new business model. The *third* issue is the direction of efforts by concerned parties to solve social issues. The *fourth* issue is how to link collaborations between industry, government, academia and financial institutions (regional financial institutions), which is one of our future directions, with digital solutions. Finally, the *fifth* issue is how to utilise Japanese human resources. I think these are the keys to innovation in future.

THE FUNDAMENTAL PURPOSE OF THE CAPITAL MARKET IS TO INCREASE CORPORATE VALUE

Koda: First, I would like to illustrate how the development of the digital society is interrelated with the capital market. In capital markets, a company is listed and that company’s share value is formed through trading by investors. If a company is listed, various investors will participate in transactions that have the legal character of so-called securities in a framework known as an exchange. Notably, it is a matter of course that companies need to increase their value. Figure 1.1 illustrates how to capture the concept of increasing corporate value in terms of the development of the digital society.

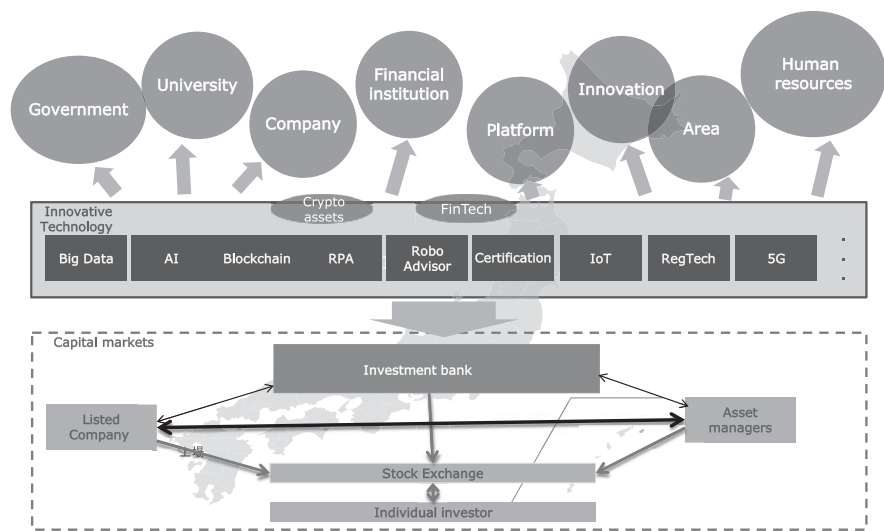


FIGURE 1.1 Digital society and capital markets

Figure 1.1 shows that the elements of innovative technologies in the middle of the figure such as artificial intelligence (AI), Big Data and the Internet of Things (IoT), which are hailed as the fourth industrial revolution, are interrelated through technological changes with companies and financial institutions that are the parties in the capital market as well as regions, workers and universities that are types of stakeholders in those companies. On this point, I would like you to be aware that it is extremely important to understand how to use new technologies in order to increase corporate value.

Elements that materially affect corporate value include changes in industrial structure, changes in management models and technological evolution. Addressing Japan's social issues or global social issues, which is the theme of today's conversation, is directly linked to increasing corporate value. Admittedly, how changes in industrial structure and technological evolution will increase corporate value has always been a debated issue. On this point, I would like to reiterate that linking social issues and corporate value has become a significant element in increasing corporate value.

In the light of this, I will split my lecture into four sections: (i) the post-COVID-19 era and Japan's social issues, (ii) circumstances surrounding Japan's capital markets, (iii) innovation and the venture ecosystem and (iv) digital strategies and innovation. The *first* theme is how to understand Japan's social issues in anticipation of the post-COVID-19 era. The *second* theme is what we should learn from Japan's capital markets in terms of increasing corporate value. The *third* theme is the relationship between innovation and the venture ecosystem from the perspective of innovation. Finally, the *fourth* theme is the need to consider the relationship between digitalisation and innovation, which has become extremely important during the COVID-19 pandemic. I will discuss these themes by starting with general concepts, and then, I will focus on specific issues.

JAPAN'S ECONOMY IS LAGGING BEHIND

Koda: Figure 1.2 summarises the current major themes in Japan in the 2020s. As the global situation rapidly changes and a new industrial revolution and innovations take place, Japan has fallen behind considerably over the past thirty years. Japan, on the whole, is now faced with the question of how to catch up with the rapid advancements in the rest of the world.

As Japan suffers a rapid decline in its population, it is dealing with social and economic structural problems, including a labour market that has not yet been mobilised and an excess concentration of its population and industry in the Tokyo Metropolitan Area. There are also many structural issues on the company side such as a concentration of managerial resources in large companies, a failure to make full use of those resources in order to increase corporate value and continued excessive competition resulting in low profitability.

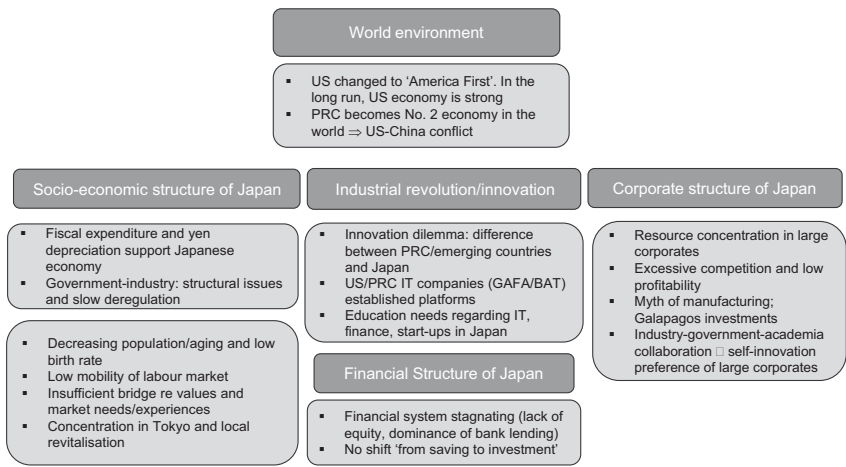


FIGURE 1.2 Major issues in Japan

At the same time, there are structural financial issues. These include a failure to shift from savings to investments based on the indirect finance system, and insufficient investment of equity funds as risk money. Without addressing this range of structural issues, Japan will be left behind by the rest of the world. The question now is whether Japan can take the pandemic as the final opportunity and what measures it can come up with. With this background, I would now like to look at the structural issues in each area while referring to related data.

A FALLING BIRTH RATE AND AN AGEING POPULATION IS NOT AN ISSUE THAT IS UNIQUE TO JAPAN

Koda: As you are all aware, Japan is facing a problem with the ageing of its average population. The number of people aged 65 or older in 2020 was 36.17 million, which accounts for 28.7 per cent of the total population, and this number continues to reach all-time highs.¹ This number is expected to exceed 35 per cent in around 2050. As shown in Figure 1.3, this issue is not unique to Japan and it appears other major countries in the world will also have a very high ratio of elderly people. In such a scenario, the rest of the world will look up to Japan to see how it deals with an increasingly elderly population. In other words, Japan will be a trailblazer and the eyes of the rest of the world will be on it and its attempts to solve this social issue, as Japan’s solution might be the solution for the rest of the world.

As a typical example, the population pyramid in Figure 1.4 shows that people aged 65 years or older will account for 38 per cent of the population in 2060. Accordingly,

¹ Ministry of Internal Affairs and Communications (23 September 2020); for details, see Figures 1.3 and 1.4.

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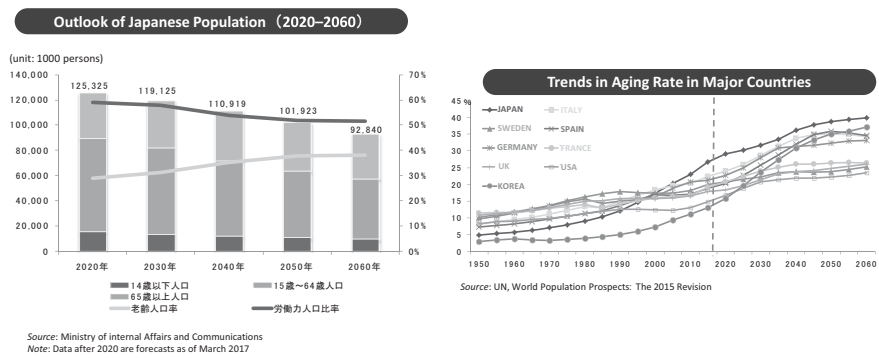


FIGURE 1.3 Declining birth rate and ageing population in Japan

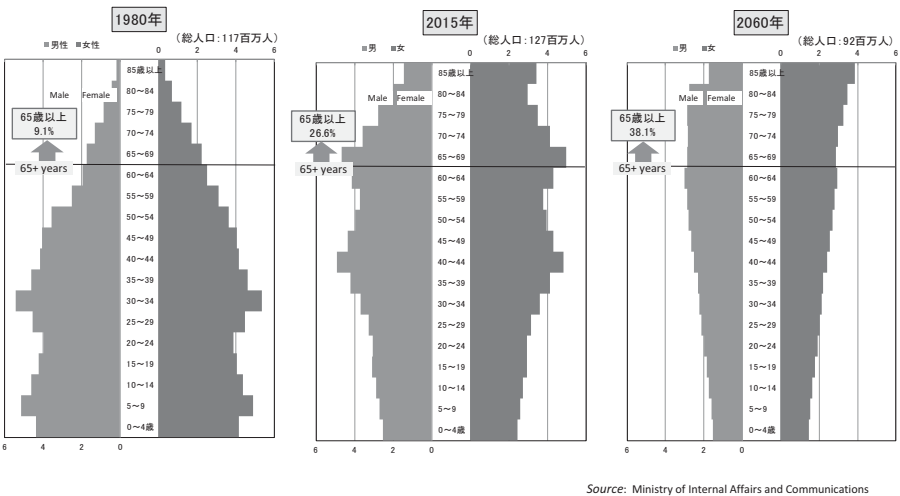


FIGURE 1.4 Population pyramid: rapid ageing in Japan

the initiatives that are taken in awareness of the long-term population pyramid will be closely linked to increasing corporate value. For companies, ageing is associated not only with a decline in domestic demand but also with the issue of the workforce. Specifically, companies must change their marketing approach and methods of reaching individual customers in response to the ageing of the population. It is expected that there will be a significant change in Japan from a growth-based model (a model without population decline) from 1980 to 2015 to a new model until 2060 (a model with population decline), which is a change engendering a need to innovate.

SOCIAL ISSUES TO BE CLASSIFIED BY REGIONAL CHARACTERISTICS

Koda: Gaps between the Tokyo Metropolitan Area, which is overconcentrated, and other regional areas have caused various social issues. Both urban areas and

depopulated areas have challenges of their own. Japan as a whole has issues such as labour shortage and various educational issues. We need to organise and classify them into issues that are to be addressed by the entire nation and those that are to be addressed by each region – taking a sensitive approach to solving them.

Looking at the shift in the productive-age population ratio for each prefecture from 2010 to 2020, Akita Prefecture has the largest rate of decline in its productive age (15–64 years) of over 20 per cent, followed by Hokkaido, Aomori, Yamagata, Fukushima, Yamaguchi, Tokushima, Kochi, Nagasaki, Miyazaki and Kagoshima, which each had a decline of 15–20 per cent. The rate of decline is extremely high in the Tohoku, Kyushu and Shikoku regions, highlighting the seriousness of the situation that has occurred in recent years. It is anticipated that this will continue to worsen, and it is increasingly important to address this issue.

Let us look at what will happen in the Tohoku, Kyushu and Shikoku regions, where the population is shrinking dramatically. It has been noted in discussions at study groups at the Ministry of Internal Affairs and Communications that it would be difficult to take advantage of scale and to maintain the status quo in areas such as education, healthcare, infrastructure and disaster prevention, including in terms of the labour force. This means that the essentials for people living in those areas, including education, disaster prevention and healthcare, will inevitably shrink. It is important to understand the gravity of this social issue. Our current way of life will be jeopardised in other regions too.

REGIONAL SOCIETY ISSUES WILL BECOME WORSE AFTER THE COVID-19 PANDEMIC

Koda: As we look towards the post-COVID-19 era, it is said that there will be changes in lifestyles, corporate models and the paradigms of society, including an orientation towards a dispersed society. It thus begs the question as to what will actually change? These changes are already taking place and are related to various areas across society, including work style and logistics trends such as remote working and rearrangement of supply chains, and structural changes such as those pertaining to healthcare and employment issues. Although some of these changes will have a positive effect, they might, at the same time, intensify the social issues mentioned earlier that Japan is currently facing in the 2020s such as its ageing population and regional disparities. It might be possible to deal with those issues from a political perspective, but I expect there is a good chance that those issues as a whole will exacerbate in times to come.

In that sense, it is necessary to consider the social issues faced by Japan mainly in terms of (i) demography and economy, (ii) economy and industry, (iii) environment and energy, (iv) social systems and inclusion and (v) consumption style. With respect to these five typical social issues, depopulation is particularly serious. Additionally, global warming is an issue in the category of environment and energy that is expected to become more serious and needs to be dealt with. As for

consumption style, a traditional mass-production and mass-consumption model has been replaced by a bidirectional model based on platforms. It will be necessary to use that system based on digitalisation while at the same time solving social issues. This will certainly require a legal response. It is thus necessary to quickly come up with responses and measures to address those issues. The social system based on the idea that ‘no one should be left behind’ is deeply related to the issues of economic and social disparities, which are also linked to issues such as changes in working styles and employment mobility.

As the workforce in Japan shrinks, there are a myriad of issues that require attention, including how working styles will change and how to structurally improve without delay employment mobility in an era where people live to be 100 years old. In other words, it is necessary to consider how to become aware of, how to respond to and how to solve social issues including all the issues discussed earlier.

TO WHAT EXTENT CAN WE CHANGE THE OLD-FASHIONED STRUCTURE?

Koda: Figure 1.5 shows that Japan remains one of the countries in the world in which wages are proportional to the size of the company and the length of employment. This is because long-term employment at a large company was a considerably positive incentive when Japan had a growing economy. However, this might become a negative factor in future. While Japan’s major corporations claim that their seniority-based pay system is being replaced with a performance-based system, in reality, many of them still have a seniority-based system. There is thus a need to make more drastic changes to that structure.

However, if there is a transition from a seniority-based pay system to a system based on professional merit, the social mechanism will be significantly altered, and solving the issues of disparity and building a safety net must take place

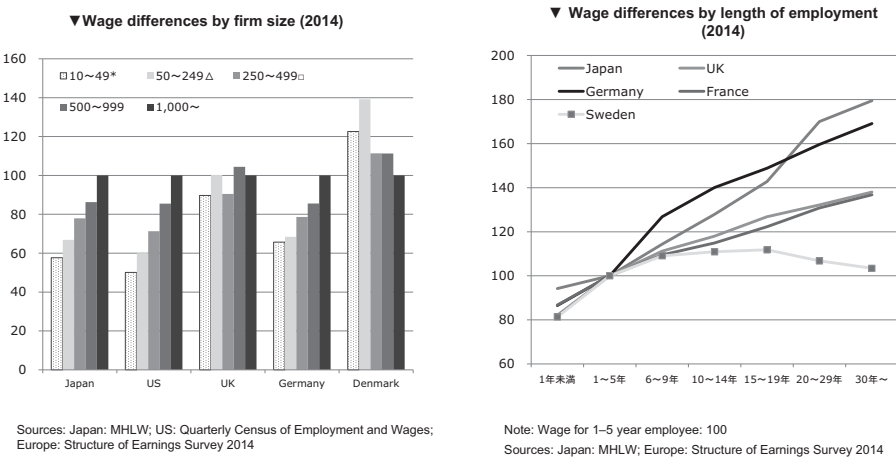


FIGURE 1.5 Wage difference

simultaneously. Additionally, some believe that the declining workforce in Japan might be solved by improved productivity. In general, manufacturing is more productive, while retail and distribution as well as small and medium-sized companies are less productive. It is necessary to start making efforts such as saving labour using platforms or digitalisation as I mentioned earlier and at the same time confronting the accompanying social issues. Small and medium-sized companies are increasingly at risk of closure and discontinuance of business as their management grows older. Succession of business is also becoming an issue. I realise, as somebody in the financial industry, that during the COVID-19 pandemic, a much larger number of people are taking specific measures for business succession. We need to position this as a social issue and take measures accordingly.

CAPITAL MARKETS AND CORPORATE VALUE

Koda: Till now, we have discussed the overall picture of Japan’s social issues as well as specific examples pertaining to the same. Now, we will use data to examine the issues in increasing corporate value surrounding capital markets in Japan.

Figure 1.6 shows data comparing the market capitalisation of the top ten companies in the United States and those in Japan in 2007 (before the collapse of Lehman Brothers) and 2017, ten years later. The total market cap of the top ten companies in Japan in 2007 was at a level of 90 trillion yen and showed only a marginal increase in the subsequent ten years. On the other hand, the market cap of the top companies in the United States increased from 192 to 512 trillion yen within a span of ten years between 2007 and 2017. The reason behind this significant increase in the United States is the high growth potential of the tech giants known as GAFAM (Google – now Alphabet, Apple, Facebook, Amazon and Microsoft). As against the position in the United States, Japan’s top ten companies are still

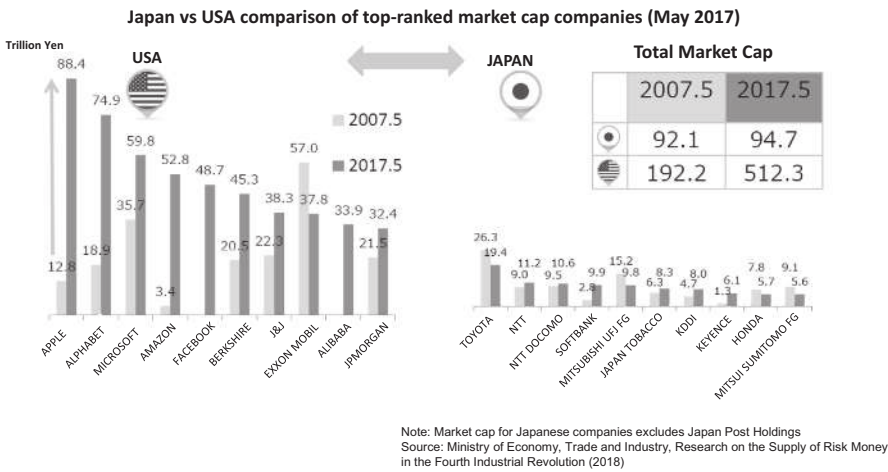


FIGURE 1.6 Japanese corporations today: market cap comparison

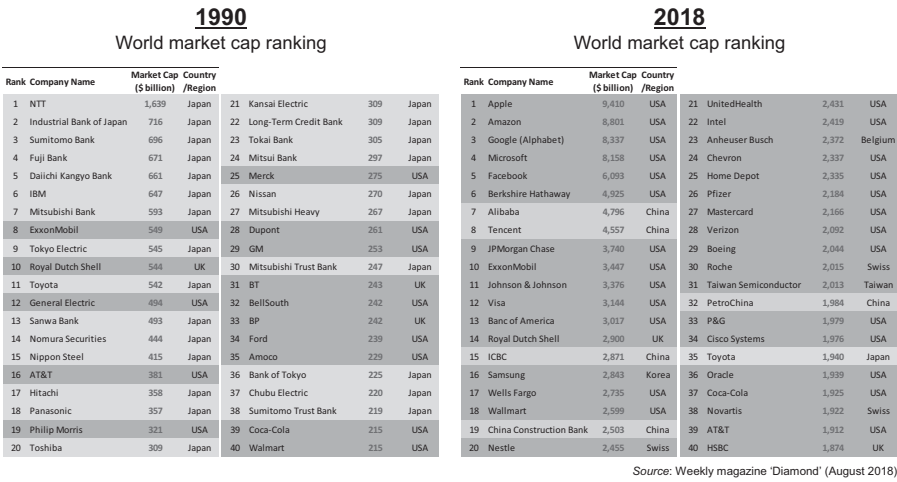


FIGURE 1.7 Big change in industry structure after collapse of ‘bubble economy’

made up of traditional large companies, and although some new faces such as Keyence and SoftBank have recently emerged, their market cap is still significantly lower than that of the US companies.

Figure 1.7 shows changes in the global top rankings in terms of market cap over thirty years from 1990 to 2018. Most of the top-ranking companies in 1990 were Japanese companies. But this situation altered drastically in 2018, when only one Japanese company, Toyota, appeared in the list, placed at the 35th position. Companies from the United States and China dominate this list with IT companies holding most of the top-ranked positions, and this trend is continuing.

The *Financial Times* published an article titled ‘Prospering in the Pandemic: The Top 100 Companies’, which listed companies in order of the absolute amount of increase in market cap from the start of 2020, when COVID-19 began to have a global impact, to mid-June.² The top five companies listed in this article were Amazon, Microsoft, Apple, Tesla and Tencent. The only three Japanese companies ranked in the top 100 were Chugai Pharmaceutical, Keyence and Daiichi Sankyo. It is therefore clear that Japanese companies are being left behind in terms of growth.

This trend can also be seen in the price-to-book-value ratio (PBR), a number obtained by dividing the stock price by the net asset value per share. The PBR is normally used as an indicator to determine whether a stock price is low or high. If the PBR is 1, the stock price has a value that is appropriate considering the net asset value. Figure 1.8 shows the PBR values for Japanese companies. As can be seen, over 50 per cent of Japanese companies have a PBR below 1. This means that Japanese companies are assessed by the market as having low growth potential. This

² ‘Prospering in the Pandemic: The Top 100 Companies’ (*Financial Times*, 19 June 2020) <www.ft.com/content/844ed28c-8074-4856-bde0-20f3bf4cd8fo> accessed 1 November 2023.