
Mizuho Economic Outlook & Analysis

March 31, 2021

Corporate bankruptcies declined even amid the Covid-19 pandemic

*“Exit strategies” for cashflow assistance measures will be the key
for the future*

Summary

- Economic activities in 2020 were seriously affected by the Covid-19 pandemic. However, the number of corporate bankruptcies was smaller than those that occurred in the previous year. Bankruptcies in the service industries, such as accommodation, food services, and entertainment increased, but bankruptcies in other industries rather decreased.
- It is estimated that cashflow assistance measures introduced by the government have prevented about 3,600 corporate bankruptcies last year. Without the cashflow assistance, the number of bankruptcies in the accommodation, food services industries could have increased by more than 1,000.
- To mitigate the damage caused by the COVID-19 pandemic, it is required to introduce the "exit strategy" of cashflow support programs, such as encouraging changes in business models of companies that are not expected to recover.

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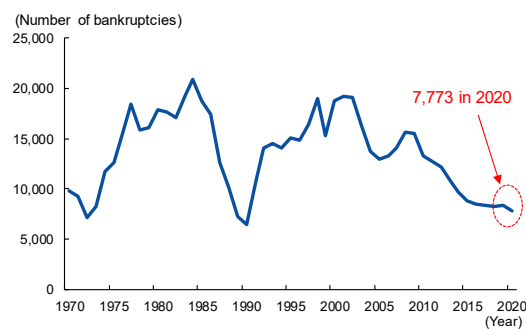
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1. Introduction: The number of bankruptcies dropped significantly in 2020

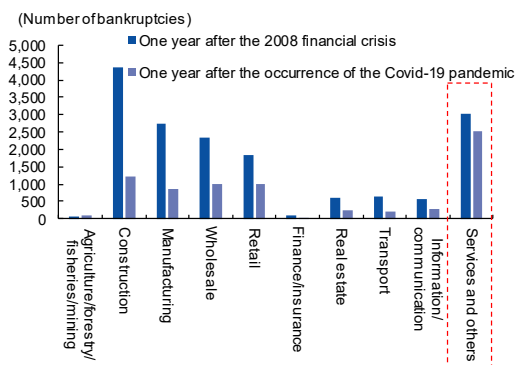
The Japanese economy suffered a major downturn last year, due to widespread infection of Covid-19 (hereinafter referred to as the “Covid-19 pandemic”). The real GDP growth rate for 2020 was -4.8% —the largest negative figure since 2009 (i.e., the -5.7% recorded just after the 2008 financial crisis). The main reason for the decline was a lower consumption of services involving human contact, such as food services, travel and entertainment services, as a result of restrictions on travelling and human contact. The impact on other industries such as manufacturing was also significant last spring, when a state of emergency was first announced. At that time, the number of bankruptcies, that of small and medium-sized enterprises (hereinafter referred to as “SMEs”), in particular, was expected to increase inevitably. However, according to the report of Tokyo Shoko Research, the number of bankruptcies in 2020 was 7,773, which is actually down 7.3% from the previous year (8,383 bankruptcies) (**Chart 1**). In terms of industry trends, although the number of bankruptcies in the service industry (such as accommodation, food services, living-related and personal services, and entertainment) increased to a level close to that experienced immediately after the 2008 financial crisis, the number of bankruptcies in other industries was significantly lower than that period (**Chart 2**).

Chart 1: Trend of corporate bankruptcies



Source: Made by MHRT based upon the “Monthly Bankruptcy Report” by Tokyo Shoko Research

Chart 2: Corporate bankruptcies by industry



Source: Made by MHRT based upon the “Monthly Bankruptcy Report” by Tokyo Shoko Research

The government’s cashflow assistance measures are considered to have contributed to the decline in the number of bankruptcies. In this paper, the effects of the cashflow assistance measures in preventing bankruptcies are analyzed, and the necessary future policies are suggested.

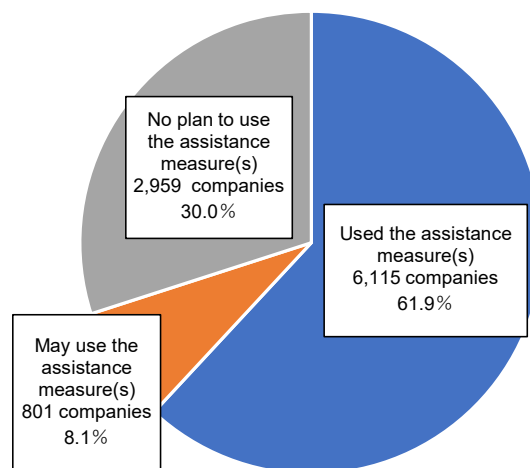
2. Status of the use of cashflow assistance measures: Over 60% of SMEs benefited from policy support measures

The government introduced various cashflow assistance measures in response to the

rapid economic downturn caused by the Covid-19 pandemic. In addition to subsidies, such as the subsidy program for sustaining businesses, the subsidy program for supporting business rent, and subsidies for employment adjustment, the government introduced other financial measures, including special loans by government-affiliated financial institutions and virtually interest-free and unsecured loans by private financial institutions. According to a survey by Tokyo Shoko Research (conducted between February 1 and 8, 2021), more than 60% of the SMEs used such cashflow assistance measures (**Chart 3**). The virtually interest-free and unsecured loans from private financial institutions, the subsidies for sustaining businesses, and the subsidies for employment adjustment were highly used compared to other forms of assistance (**Chart 4**).

In benefitting from such assistance measures, many companies seem to have secured enough liquidity on hand. According to a comparison of ratios of liquidity on hand to fixed cost for SMEs (with capital of 10 million yen or more and less than 100 million yen) in 2020 and 2019, industries excluding those in entertainment did not suffer much decline in liquidity on hand even though their business performance deteriorated (**Chart 5**). The “other non-operating revenue” in which government subsidies are recorded, increased significantly in food services, accommodation, and transport and postal industries, indicating that many companies in these industries used the subsidy programs¹ (**Chart 6**).

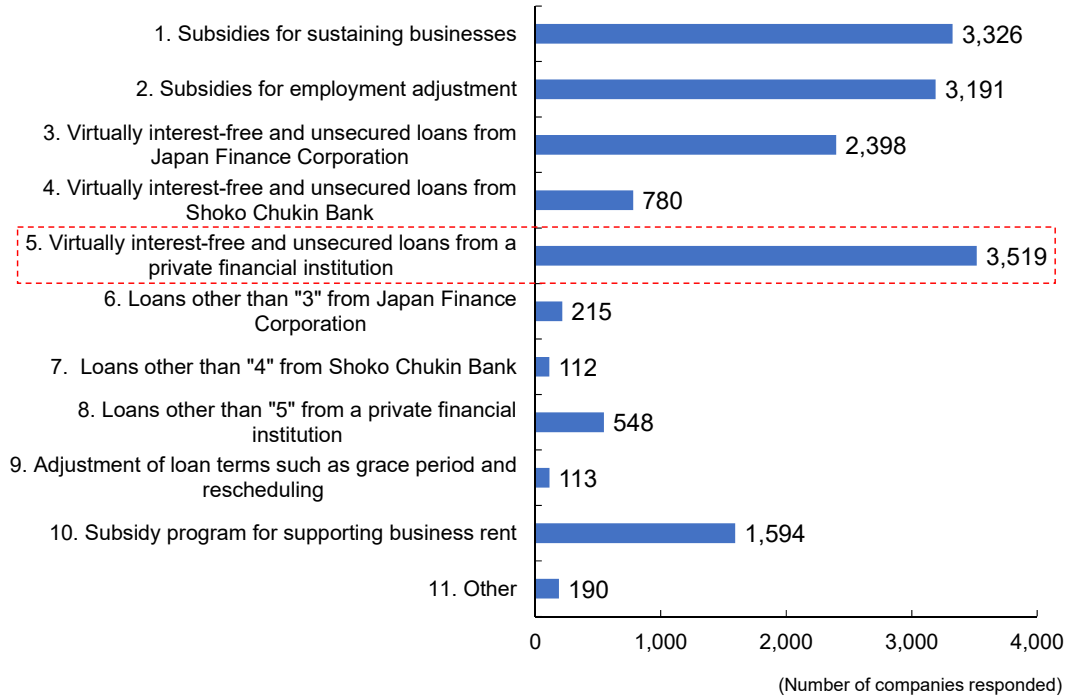
Chart 3: Number and percentage of companies (with capital of less than 100 million yen) that have used cashflow assistance measures



Source: Made by MHRT based upon the “13th Survey: Questionnaire about Covid-19” by Tokyo Shoko Research

¹ Subsidies from the government are usually recorded as non-operating revenue (“Other non-operating revenue” excluding interest expenses, as per “Financial Statements Statistics of Corporations by Industry, Quarterly”). However, some companies seem to record this as “extraordinary profits” (extraordinary profits are not included in the survey items of “Financial Statements Statistics of Corporations by Industry, Quarterly”).

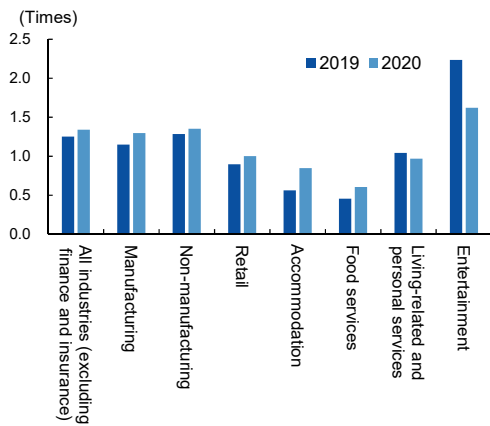
**Chart 4: Status of use of cashflow assistance measures
(multiple answers allowed)**



Note: Answered by 6,585 companies

Source: Made by MHRT based upon the "13th Survey: Questionnaire about Covid-19" by Tokyo Shoko Research

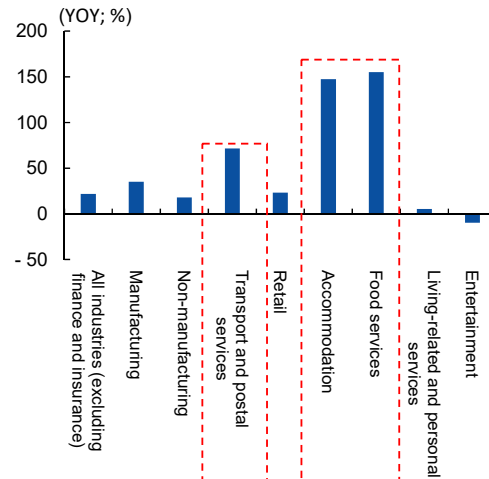
Chart 5: Ratio of liquidity on hand to fixed cost



Note: 1. SMEs with capital of 10 million yen or more and less than 100 million yen
2. Liquidity on hand = cash & deposits and marketable securities
Fixed cost = personnel expenses, interest expenses, etc.

Source: Made by MHRT based upon "Financial Statements Statistics of Corporations by Industry, Quarterly" by the Ministry of Finance

Chart 6: Other non-operating revenue in 2020 (YOY)



Note: SMEs with capital of 10 million yen or more and less than 100 million yen

Source: Made by MHRT based upon "Financial Statements Statistics of Corporations by Industry, Quarterly" by the Ministry of Finance

3. Estimating the effects of cashflow assistance measures: About 3,600 bankruptcies prevented

(1) Method for estimating the effect of political measures

In order to estimate the level of bankruptcies that might have occurred without the series of cashflow assistance measures, we classified the cashflow assistance measures into three categories: subsidies for sustaining businesses, subsidies for employment adjustment, and other cashflow assistance measures (such as virtually interest-free and unsecured loans), and we estimated the number of SME bankruptcies prevented by each measure for each type of industry.²

As a procedure for the estimation, we performed regression analysis using the fixed-effects model based on industry-level panel data. The details of the result are as follows.

Calculation formula:

$$\ln B_{i,t} = C + \alpha O_{i,t} + \beta L_{i,t} + u_{i,t}$$

B : Number of bankruptcies, C : Constant term, O : Ordinary profit to sales ratio, L : Ratio of liquidity on hand to fixed cost, z : Error term, i : Industry, t : Term

Data:

For the number of bankruptcies, the quarterly total of monthly bankruptcies in the “Monthly Bankruptcy Report” by Tokyo Shoko Research (with seasonal adjustment by Mizuho Research & Technologies) was used. The ratio of ordinary profit to sales and the ratio of liquidity on hand to fixed cost are based on the data disclosed in “Financial Statements Statistics of Corporations by Industry, Quarterly” by the Ministry of Finance for companies with capital of 10 million yen or more and less than 100 million yen (with seasonal adjustment by Mizuho Research & Technologies).

Analysis period:

From the Apr.–Jun. quarter of 2017 to the Oct.–Dec. quarter of 2019 (11 quarters)

Industries analyzed:

Agriculture, forestry, fishing and mining; construction; manufacture of food; manufacture of textile products; manufacture of lumber and wood products; manufacture of pulp, paper and paper products; manufacture of chemical and petroleum products; manufacture of

² The data of actual amounts paid as subsidies for sustaining businesses and subsidies for employment adjustment disclosed by the Ministry of Economy, Trade and Industry and the Ministry of Health, Labour and Welfare were used for the estimation.
<https://www.meti.go.jp/covid-19/jizokuka-info.html>
https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/koyou_roudou/koyou/kyufukin/pageL07.html

ceramic, stone and clay products; manufacture of iron and steel; manufacture of non-ferrous metals and products; manufacture of metal products; manufacture of general-purpose, production-, and business-oriented machinery and equipment; manufacture of electrical machinery, equipment, and supplies; manufacture of transportation equipment; miscellaneous manufacturing industries; wholesale trade; retail trade; real estate; transport and postal services; information and communications; electricity, gas, heat and water supply; goods rental and leasing; accommodation, food services; living-related and personal services, entertainment (24 industries)

Result of the regression analysis:

Variable	Coefficient
Ratio of ordinary profit to sales	-0.05* (-1.89)
Ratio of liquidity on hand to fixed cost	-0.06 (-0.50)
Constant term	3.35*** (13.34)
R2	0.91

Note: ***means significant at the 1% level; ** means significant at the 5% level; and * means significant at the 10% level. The values in the parentheses are *t-value*.

Next, the amount of ordinary profit less two subsidies was calculated by subtracting the increased profit due to the subsidies for sustaining businesses and the subsidies for employment adjustment from the actual quarterly ordinary profit in 2020 (for the companies with capital of 10 million yen or more and less than 100 million yen). Specifically, the total amount paid for the said two subsidy programs respectively (announced by the Ministry of Economy, Trade and Industry and the Ministry of Health, Labour and Welfare) was multiplied by the ratio of the increase in “other non-operating revenue” of each industry to the increase in that of all industries, in order to estimate the amounts of subsidies for sustainability and subsidies for employment adjustment received by each industry (**Chart 7**).

Chart 7: Amounts of the subsidies for sustaining businesses and the subsidies for employment adjustment paid to the companies (by main industry)

(Yen, trillions)

	Total amount paid	Manufacturing	Wholesale/retail	Construction	Transport/postal services	Accommodation/food services	Living-related and personal services/entertainment
Subsidies for sustaining businesses	5.3	0.2	0.7	0.3	0.5	0.9	0.5
Subsidies for employment adjustment	2.5	0.1	0.3	0.2	0.3	0.4	0.2

Note: The amount paid to each industry is a value estimated by MHRT.

Source: Made by MHRT based upon "Financial Statements Statistics of Corporations by Industry, Quarterly" by the Ministry of Finance and the data disclosed by the Ministry of Economy, Trade and Industry and the Ministry of Health, Labour and Welfare

Then, the amount of subsidy received by each industry (estimated above) was subtracted from the actual amount of ordinary profit, based on which the amount of ordinary profit and the ratio of ordinary profit to sales without subsidies for sustaining businesses and without subsidies for employment adjustment were estimated (**Chart 8**). The amounts were extrapolated into the results of the regression analysis mentioned in the previous page, in order to calculate the theoretical number of bankruptcies that could have occurred in the case without cashflow assistance measures.

The difference between the actual and theoretical figures is considered to be the number of bankruptcies prevented by the cashflow assistance measures. The number of bankruptcies prevented by the increased profit ratio due to the subsidies for sustaining businesses and the subsidies for employment adjustment were subtracted from the said difference, and the residuals was considered to be the number of bankruptcies prevented via other financial support measures (such as virtually interest-free and unsecured loans).

Chart 8: Actual ratio of ordinary profit to sales and the estimated ratio without the cashflow assistance measures (by main industry)

(%)

	All industries	Manufacturing	Wholesale/retail	Construction	Transport/postal services	Accommodation / food services	Living-related and personal services/entertainment
2019 actual	4.3	4.7	2.7	5.6	4.5	2.1	3.8
2020 actual	3.4	3.7	2.6	5.8	2.3	- 5.6	- 1.7
2020 estimate	1.8	3.4	2.1	5.1	- 0.0	- 12.7	- 4.6

Note: With capital of 10 million yen or more and less than 100 million yen

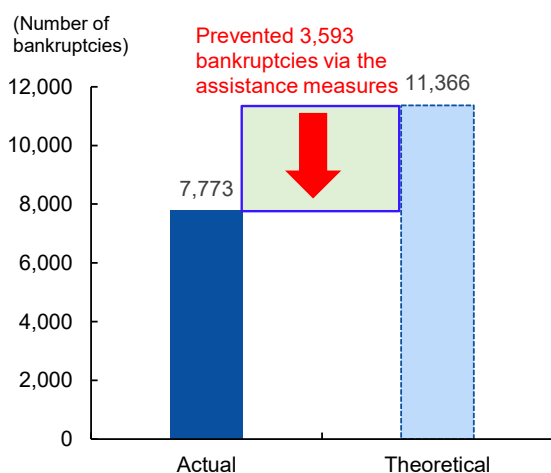
Source: Made by MHRT based upon "Financial Statements Statistics of Corporations by Industry, Quarterly" by the Ministry of Finance and the data disclosed by the Ministry of Economy and Trade and Industry and the Ministry of Health, Labour and Welfare

(2) Results of estimation of the policy effects

Chart 9 and **Chart 10** show the result of estimation. The actual number of bankruptcies that occurred in 2020 was 7,773, while the theoretical figure (the number of bankruptcies that could have occurred in the case without cashflow assistance measures) was estimated to be 11,366. This means that 3,593 bankruptcies were prevented via the policy measures. Among them, 893 and 394 bankruptcies were estimated to have been prevented by the subsidies for sustaining businesses and the subsidies for employment adjustment, respectively, while 2,306 were prevented via other financial support measures (virtually interest-free and unsecured loans, etc.).

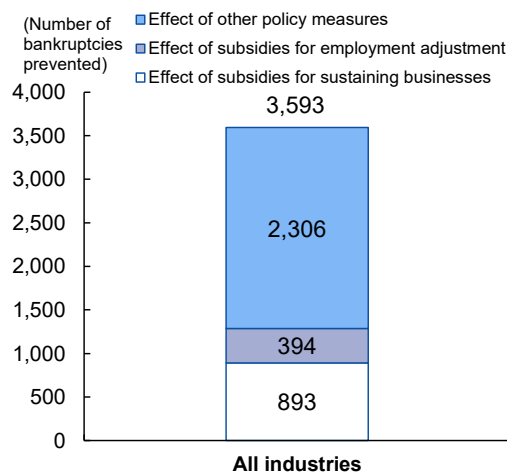
Chart 11 shows the result of estimation by industry. In the accommodation, food services, which were severely affected by the Covid-19 pandemic, the number of bankruptcies could have increased by more than 1,000 without the assistance measures. In the living-related and personal services and entertainment industries, the assistance measures could have prevented just under 400 bankruptcies. The result of analysis also suggests the possibility that the assistance measures reasonably benefited the construction and wholesale industries, which suffered a temporal decline in business due to the first announcement of a state of emergency.

Chart 9: Number of bankruptcies prevented by the assistance measures



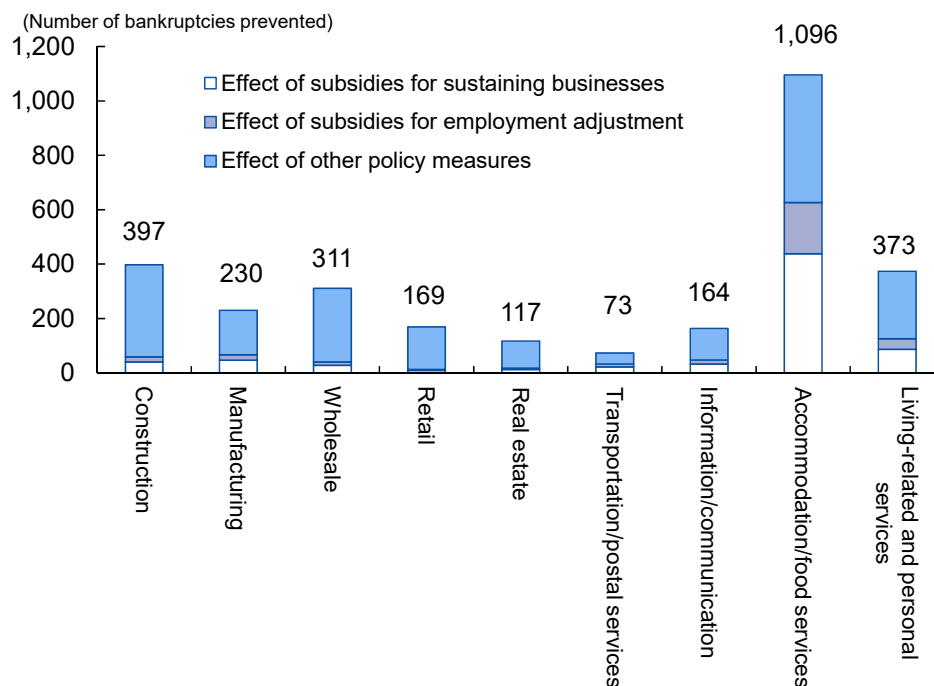
Source: Made by MHRT based upon “Monthly Bankruptcy Report” by Tokyo Shoko Research, “Financial Statements Statistics of Corporations by Industry, Quarterly” by the Ministry of Finance, and the data disclosed by the Ministry of Health, Labour and Welfare and the Ministry of Economy, Trade and Industry

Chart 10: Number of bankruptcies prevented by the assistance measures (all industries)



Source: Made by MHRT based upon “Monthly Bankruptcy Report” by Tokyo Shoko Research, “Financial Statements Statistics of Corporations by Industry, Quarterly” by the Ministry of Finance, and the data disclosed by the Ministry of Health, Labour and Welfare and the Ministry of Economy, Trade and Industry

Chart 11: Number of bankruptcies prevented by policy measures (by main industry)



Source: Made by MHRT based upon “Monthly Bankruptcy Report” by Tokyo Shoko Research, “Financial Statements Statistics of Corporations by Industry, Quarterly” by the Ministry of Finance, and the data disclosed by the Ministry of Health, Labour and Welfare and the Ministry of Economy, Trade and Industry

4. Conclusion: “Exit strategies” for cashflow assistance measures

All things considered, it is estimated that the cashflow assistance measures prevented about 3,600 corporate bankruptcies in 2020. These measures seem to have had a major impact in preventing decline in cash reserves caused by the abrupt economic downturn and avoiding an increase in bankruptcies. Shimanaka (2020) pointed out that the breakeven-point ratios of the accommodation, food services, and entertainment industries were higher than those of other industries. In the said industries, many companies tend to go bankrupt in a short period of time after their sales decline and their cash reserves are lost. Therefore, the prompt implementation of cashflow assistance measures is considered to have been effective in preventing bankruptcies, especially in the accommodation, food services, living-related and personal services, and entertainment industries, which were severely affected by the Covid-19 pandemic.

However, as the emergency programs for corporate support such as those implemented last year are targeted and applied to almost all companies, they also save the companies that should actually exit the market. Morikawa (2020) pointed out that the productivity levels of the companies that benefited from the cashflow assistance programs were already lower (even before the Covid-19 pandemic) than that of companies that did not apply for such programs. Although it is now likely that, through widespread vaccination, restrictions

on economic activities will be removed in 2022 or later, the challenges will be how to finish these support measures after the end of the Covid-19 pandemic.

After the 2008 financial crisis, the government introduced emergency guarantee programs and enacted the *Act concerning Temporary Measures to Facilitate Financing for SMEs, etc.* (i.e., the SME Financing Facilitation Act) at the end of 2009, which required financial institutions to accept loan term changes (i.e., the rescheduling of loans). It took until March 2013 for all of them to be completed (**Chart 12**). While many SMEs were granted the easing and rescheduling of loan terms, some of such treatments may only have resulted in prolonging the lives of companies that should have exited the market earlier. An increase in the number of so-called “zombie companies” causes resources (such as human resources and capital) to remain in sectors with low productivity and thereby would harm the recovery potential of the economy as a whole. In this regard, it will be important to end the policy measures at the right time.

The negative financial impact of the Covid-19 pandemic is also characterized by large disparity among industries. The debt ratios (debt/net worth) of SMEs in the accommodation and food services are worse than those of 2009 (the year after the 2008 financial crisis), while those of other industries such as manufacturing are lower than that period (**Chart 13**). It will be necessary to continue support to the service industries that involve human contact for the time being, but some of the industries that have recovered quickly or that are experiencing special demand from Covid-19 are already facing labor shortages. In this regard, as has already been seen in some areas, the efforts to temporarily transfer workers to industries with labor shortages will be an effective solution.

Further, it will be important to encourage the companies for which business performance is unlikely to improve to change business models. According to the survey by Tokyo Shoko Research, about 20% of companies are considering shifting to another industry or business model.³ The “subsidy program for business remodeling,” which provides up to 100 million yen to support companies that change business models, was adopted in the third supplementary budget. Such support should be actively used to encourage required changes to companies’ business models.

Now that vaccination has started and people are becoming more aware of how life will look after the Covid-19 pandemic, the government will need to adopt policy measures that minimize the damage from the pandemic via appropriate “exit strategies” for the cashflow assistance measures.

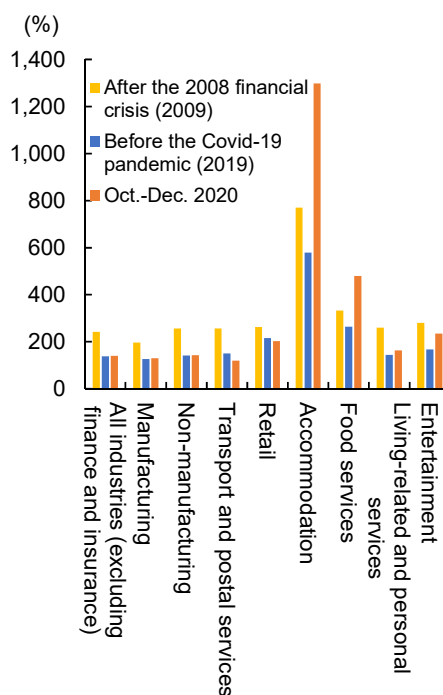
³ “9th Survey: Questionnaire about Covid-19” by Tokyo Shoko Research (survey period: October 5–12, 2020)

Chart 12: Cashflow assistance measures after the 2008 financial crisis

Date	Event
Sep. 2008	Occurrence of the 2008 financial crisis
Oct. 2008	Establishment of the "Emergency Guarantee Program for Raw Materials Price Increase, etc."
Apr. 2009	Expansion to the emergency guarantee program
Nov. 2009	Enactment of the <i>Act concerning Temporary Measures to Facilitate Financing for SMEs, etc. (SME Financing Facilitation Act)</i> (with the initial expiry of March 2011)
Feb. 2010	Expansion to the "Counter-cyclical Emergency Guarantee Program" (for all industries)
Mar. 2011	Ending of the "Counter-cyclical Emergency Guarantee Program"
	Establishment of the "Great East Japan Earthquake Recovery Emergency Guarantee Program" Extension of the SME Financing Facilitation Act (until March 2012)
Apr. 2011	Transfer to the "Safety Net Guarantee (No.5)" with application to all industries remained
Mar. 2012	Re-extension of the SME Financing Facilitation Act (until March 2013)
Nov. 2012	Reduction of target industries for "Safety Net Guarantee (No. 5)"
Mar. 2013	Expiration of the SME Financing Facilitation Act

Source: Made by MHRT based upon the data disclosed by the House of Councilors

Chart 13: Debt ratios of main industries



Note: SMEs with capital of 10 million yen or more and less than 100 million yen; with seasonal adjustment by MHRT

Source: Made by MHRT based upon the "Financial Statements Statistics of Corporations by Industry, Quarterly" by the Ministry of Finance

Reference

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