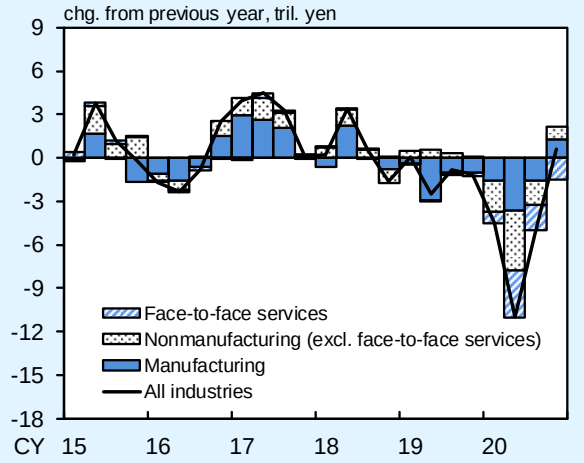
(Box 2) Virtuous Cycle from Improvement in Corporate Profits to Business Fixed Investment

This box examines in detail the fact that a virtuous cycle from income to spending has started to operate in the corporate sector. Specifically, it first describes why corporate profits have shown improvement that is firmer than a pick-up in economic activity and then explains that business fixed investment is highly likely to remain in a recovery phase, supported by firm improvement in profits.

Chart B2-1: Current Profits by Industry



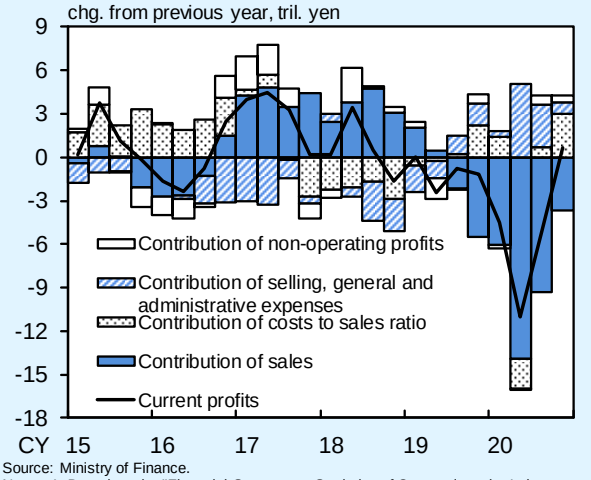
Source: Ministry of Finance.
Notes: 1. Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly." Excluding "finance and insurance" and "pure holding companies."
2. "Face-to-face services" consists of "transport and postal activities," "accommodations, eating and drinking services," and "advertising."

According to the *Financial Statements Statistics of Corporations by Industry, Quarterly* (FSSC), current profits for all industries and enterprises for the October-December quarter of 2020 improved for two consecutive quarters, somewhat exceeding those for the same quarter of 2019, which was prior to the pandemic (Chart B2-1). By industry, while such profits have shown notable improvement in the manufacturing industry, they also have recovered in the nonmanufacturing industry, other than face-to-face services. One of the reasons for the improvement in profits is a recovery in sales that reflects a pick-up in economic activity at home and abroad. It should be noted, however, that profits have been improving even at a faster pace than the sales recovery. This is largely attributable to the following two factors.

The first factor is a substantial reduction in selling, general and administrative (SG&A) expenses -- such as social expenses, business travel

expenses, and advertising expenses -- due to firms actively making efforts to improve business efficiency as a result of the pandemic, particularly through canceling or cutting back on face-to-face sales activities and meetings (Chart B2-2). The reduction in SG&A expenses has contributed to improvement in corporate profits across a wide range of sectors, regardless of industry or firm size, and has pushed up profits for all industries and enterprises for April through December 2020 by about 9 trillion yen from those for the same period of 2019 on a cumulative basis for the three quarters. This amount of increase is equivalent to over 10 percent of current profits for 2019 on an annual cumulative basis.

Chart B2-2: Decomposition of Developments in Current Profits



Source: Ministry of Finance.
Notes: 1. Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly." Excluding "finance and insurance" and "pure holding companies."
2. Contribution of sales = (1 - costs to sales ratio) × Δsales
3. Contribution of costs to sales ratio = Δ(costs to sales ratio) × sales

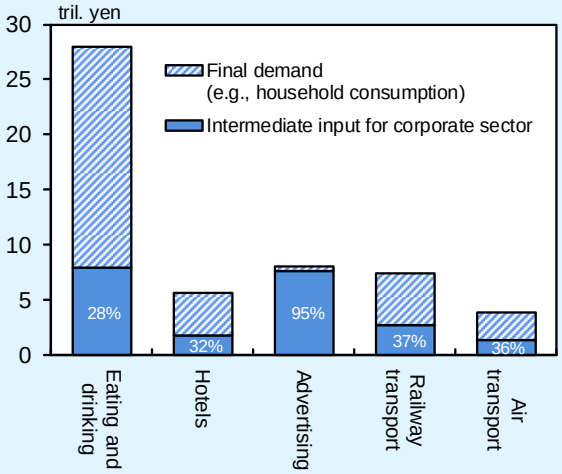
As long as vigilance against COVID-19 continues, SG&A expenses are likely to remain restrained for the time being, mainly for social expenses and business travel expenses, and thereby underpin corporate profits. Thereafter, as COVID-19 subsides, SG&A expenses are expected to increase again, reflecting a recovery in firms' sales activities that include face-to-face interaction. That said, it is also highly likely that firms will take this opportunity to continue to advance with the digitalization and streamlining of business processes, which are the management challenges they have faced even before the outbreak of COVID-19. Thus, it seems that some SG&A expenses will not completely return to the pre-pandemic level. For example, there are possibilities that some domestic and overseas business travel will be permanently replaced by remote interviews and other means, and that sales and other activities will increasingly be conducted online. If firms reallocate some portion of the budget for face-to-face activities to

proactive investment toward digitalization, this is expected to lead to a rise in productivity in the medium to long run, mainly through the effective use of cutting-edge technologies and in-house business resources.

It should be noted that such a decline in SG&A expenses is inextricably linked to a drop in demand for business in the face-to-face services industry. For example, this can be explained by breaking down the total demand for eating and drinking, hotels, railway transport, and air transport (Chart B2-3). The breakdown shows that final demand (e.g., households' demand) accounts for more than half, whereas intermediate demand from the corporate sector accounts for 30-40 percent. From a macroeconomic perspective, the reduction in SG&A expenses underpins corporate profits, leading to lower break-even points. At the same time, however, the reduction also brings about a substantial decrease in sales in industries such as accommodations, eating and drinking, and transportation. Since the outbreak of COVID-19, the gap in business conditions and profits has been widening between the face-to-face services industry and other industries. This is largely attributable not only to a decline in household consumption, mainly of services, but also to firms' reduction in SG&A expenses.

The second factor behind the improvement in corporate profits outpacing the sales recovery is an unprecedented scale of income transfers. These have been made from the government sector to the corporate sector, particularly small and medium-sized firms, through various

Chart B2-3: Demand for Face-to-Face Services

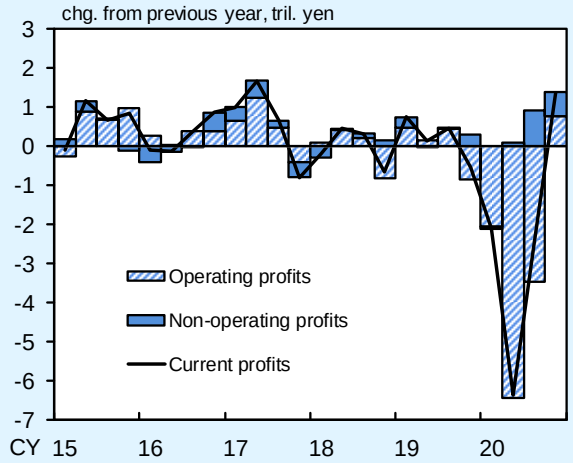


Source: Ministry of Internal Affairs and Communications.
Note: Based on the "Input-Output Tables for Japan" for 2015. "Intermediate input for corporate sector" consists of input for the intermediate sector and "consumption expenditure outside households." The percentage figures in the bars show the share of intermediate input in the total demand for a particular industry.

measures to support firms, which have been implemented to date as part of the government's economic measures. Since the accounting treatment of financial aid through these support measures -- such as subsidies for sustaining businesses, employment adjustment subsidies, rent assistance subsidies, and subsidies for firms that complied with the requests to shorten operating hours -- varies across firms, it is difficult to precisely gauge the amount of these subsidies from firms' financial data. That said, in the FSSC, the effects of these subsidies can be seen mainly in the form of an increase in non-operating profits, a decrease in personnel expenses, and a reduction in costs. In particular, non-operating profits of small and medium-sized firms have increased clearly, mainly in industries that have been hit substantially by COVID-19, such as services, and it is highly likely that this is attributable to the provision of the aforementioned various subsidies (Chart B2-4).

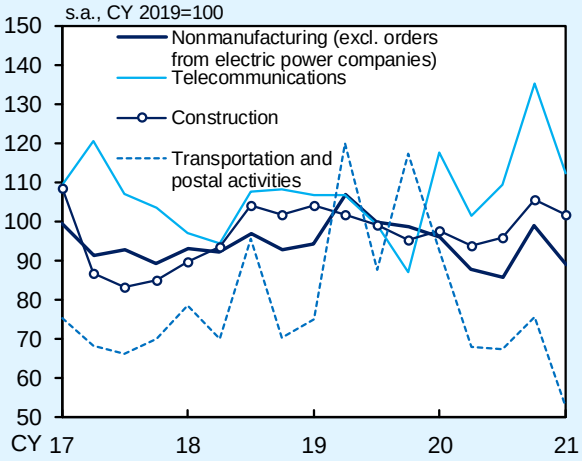
Such improvement in corporate profits -- particularly the portion derived from the sales recovery and the streamlined expenses -- has contributed to the recent pick-up in business fixed investment, coupled with improvement in export conditions and with accommodative domestic financial conditions, as seen in financial institutions' active lending stance. Regarding the provision of various subsidies for industries and firms facing deteriorated business conditions as a result of COVID-19, there seem to be few cases where this has directly led to proactive business fixed investment, but it is likely that the provision has been effective in underpinning their investment to some extent.

Chart B2-4: Current Profits of Small and Medium-Sized Firms



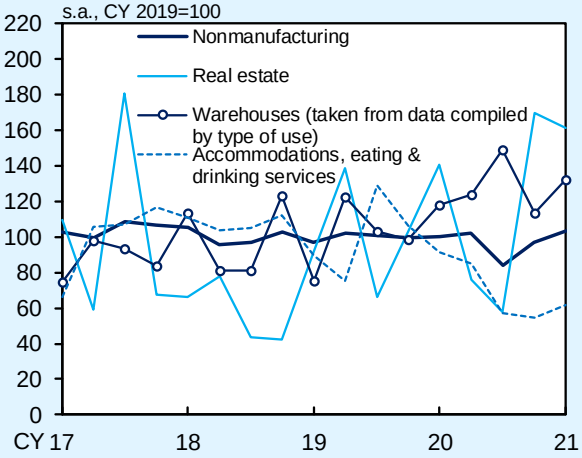
Source: Ministry of Finance.
Note: Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly." Small and medium-sized firms are firms with a capitalization of 10 million yen or more but less than 1 billion yen. Excluding "finance and insurance" and "pure holding companies."

Chart B2-5: Machinery Orders (Nonmanufacturing)



Source: Cabinet Office.
Note: Excluding orders for ships. Figures for 2021/Q1 are January-February averages.

Chart B2-6: Construction Starts (Nonmanufacturing)

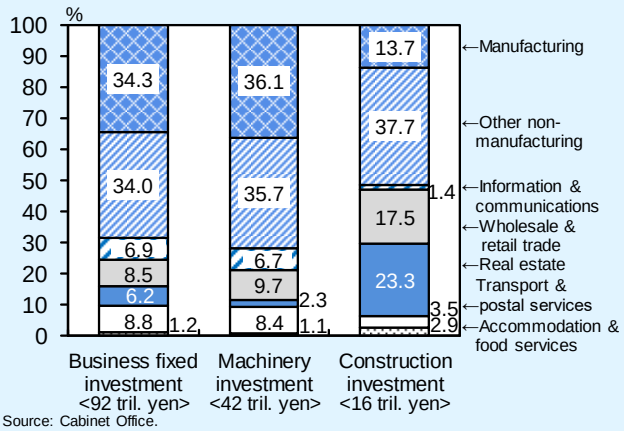


Source: Ministry of Land, Infrastructure, Transport and Tourism.
Note: Figures are estimated construction costs reported by private-sector builders. Figures for 2021/Q1 are January-February averages.

In fact, taking a detailed look at leading indicators of business fixed investment by industry, a pick-up in such investment has been evident not only in the manufacturing industry but also in the nonmanufacturing industry, other than face-to-face services (Charts B2-5 and B2-6). With regard to machinery investment, firms in the telecommunications industry have been taking an active stance toward investment to expand base stations and promote the spread of 5G networks, given the increased data traffic that reflects digitalization and an expansion in online consumption. In addition, with labor shortage continuing against the background of, for example, a steady increase in public investment, firms in the construction industry have been focusing on labor-saving investment, such as purchases of construction machinery equipped with information and communication technology (ICT). Turning to construction investment, some firms have been continuing to newly build or upgrade logistics facilities (warehouses) for e-commerce, and firms in the real estate industry have been steadily proceeding with urban redevelopment projects in view of the post-COVID-19 era. On the other hand, machinery investment in railway vehicles and aircraft by the transportation industry and construction investment by the accommodations as well as eating and drinking industry are likely to remain sluggish for a prolonged period. That said, these industries are labor intensive on the whole, and their share in overall business fixed investment accounts for only around 10 percent (Chart B2-7).

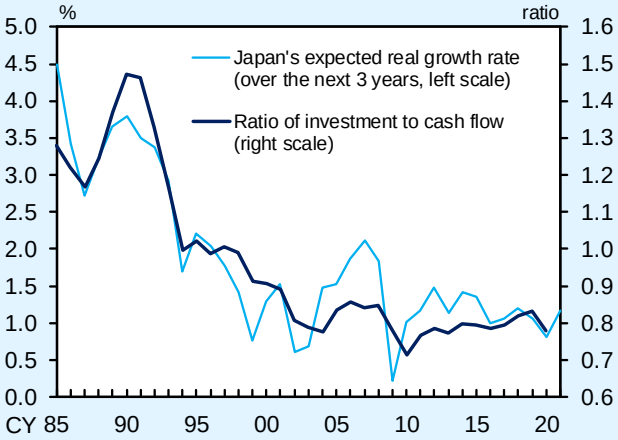
As for the outlook, a virtuous cycle from corporate profits to business fixed investment is expected to continue operating with a sharp decrease in firms'

Chart B2-7: Business Fixed Investment by Industry



Source: Cabinet Office.
Note: Based on "Gross Fixed Capital Formation of Assets Classified by Institutional Sectors and Economic Activities" for CY 2019 in current prices. Figures in or next to the bars show industries' shares in the total amount of investment by all industries excluding "public administration." These industries include some entities in the public sector.
Figures for construction investment are for investment in buildings other than dwellings (excluding civil engineering work).
Figures in angular brackets show the actual amount of investment by the private sector for CY 2019.

Chart B2-8: Business Fixed Investment and Expected Growth Rate



Source: Cabinet Office.
Notes: 1. Japan's expected real growth rate is based on the "Annual Survey of Corporate Behavior." Figures show the result for listed firms in a particular survey year for the next three years ahead.
2. The ratio of investment to cash flow is based on the SNA. Figures before 1994 are based on the 1993SNA (benchmark year: 2000). Cash flow = consumption of fixed capital + (operating surplus + net property income) / 2.
3. The figure for cash flow for 2020 is assumed to be the same as that for 2019.

medium- to long-term growth expectations being avoided and accommodative financial conditions being maintained (Chart B2-8). This can be confirmed by estimating simple functions using the ratio of investment to cash flow as the dependent variable and (1) Japan's expected growth rate of firms, (2) capital costs, and (3) adjustment pressure on capital stock as explanatory variables (Charts B2-9 and B2-10). The simulation results based on the estimated parameters suggest that the adjustment phase due to the impact of COVID-19 will come to an end sooner or later and business fixed investment will turn to an increase (Chart B2-11).

Toward the end of the projection period of the Outlook Report, business fixed investment is likely to slow its pace of increase, mainly because adjustment pressure on capital stock is projected to accumulate. However, as mentioned earlier, digitalization is expected to accelerate simultaneously with the reduction in SG&A expenses, and thus the shares of IT-related investment (including software investment) and R&D investment in overall business fixed investment are likely to increase further (Chart B2-12). Given that the depreciation rates of IT-related and R&D investments are high, the level of business fixed investment that is necessary to maintain the same level of capital stock will be higher than before (i.e., adjustment pressure on capital stock will be smaller with the same amount of business fixed investment). Therefore, taking also into account that business fixed investment that is necessary in the medium to long run, such as investment to address environmental issues, will increase, it is unlikely that adjustment pressure on capital stock will be

Chart B2-9: Investment Function

Stock adjustment pressure

$$ST_t = \Delta K_t/K_{t-1} - g_t = I_t/K_{t-1} - \delta_t - g_t$$

Investment function

$$\Delta_4\left(\frac{I_t}{CF_{t-1}}\right) = Const. + \sum_{i=0}^{4} \alpha_i \times \Delta_4(g^e_{t-i}) + \beta \times \Delta_4(c_t) + \sum_{j=1}^{12} \gamma_j \times ST_{t-j}$$

where I_t = Real business fixed investment
K_t = Real capital stock, g_t = Potential growth rate
δ_t = HP trend of depreciation rate, CF_t = Real cash flow
g^e_t = Expected growth rate, c_t = Capital costs

Δ_4 denotes the chg. from the previous year.
g^e and ST are assumed to follow an Almon lag structure.

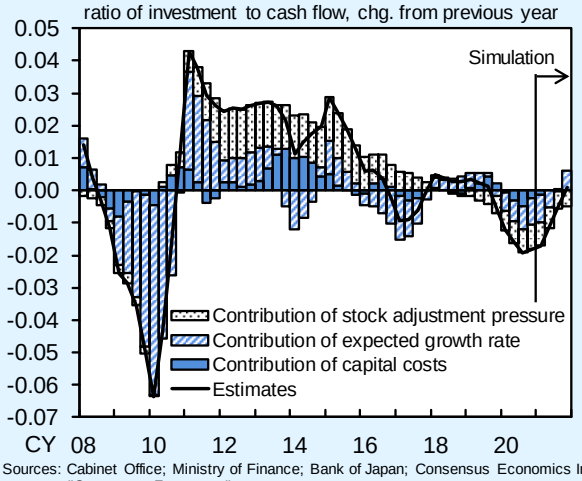
Note: Nominal cash flow = consumption of fixed capital + (operating surplus + net property income) / 2. Real cash flow = nominal cash flow / GDP deflator. The ratio of investment to cash flow is calculated using the trend-cycle component of real business fixed investment and real cash flow. Capital costs = long-term interest rate - medium- to long-term inflation expectations + depreciation rate. The expected growth rate is the forecast of Japan's real economic growth rate over the next three years in the "Annual Survey of Corporate Behavior."

Chart B2-10: Estimation Results

Dependent variable: Ratio of investment to cash flow	
Constant	-0.008 **
	(0.004)
Expected growth rate	4.00 ***
	(0.91)
Capital costs	-1.99 **
	(0.85)
Stock adjustment pressure	-1.39 **
	(0.68)
Adj. R^2	0.31
Estimation period	1998/Q1-2020/Q2

Sources: Cabinet Office; Ministry of Finance; Bank of Japan; Consensus Economics Inc., "Consensus Forecasts."
Note: Figures in parentheses are standard errors. *** and ** denote statistical significance at the 1 percent and 5 percent levels, respectively. The coefficient estimates for the expected growth rate and the stock adjustment pressure shown in the table are the sums of parameters estimated for the individual lags.

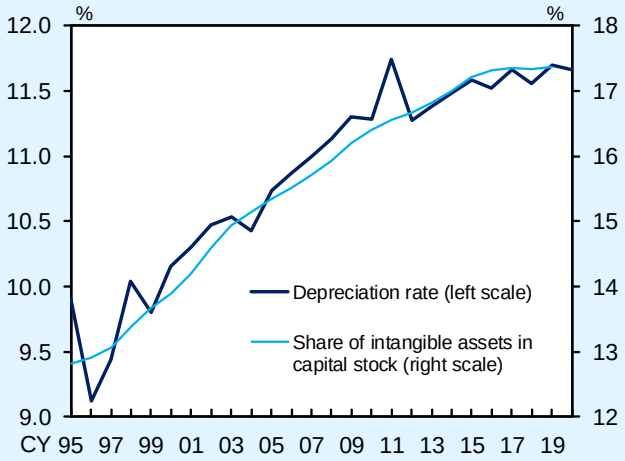
Chart B2-11: Estimates from the Investment Function



Sources: Cabinet Office; Ministry of Finance; Bank of Japan; Consensus Economics Inc., "Consensus Forecasts."
Notes: 1. Excluding the contribution of the constant term.
2. Figures from 2021/Q1 onward are calculated based on the assumption that (1) capital costs, the potential growth rate, and the depreciation rate are constant from 2020/Q4 onward and (2) the real cash flow is constant from 2020/Q1 onward.

so significant as to cause a decline in business fixed investment, even at the end of the projection period.

Chart B2-12: Depreciation Rate and Share of Intangible Assets in Capital Stock



Source: Cabinet Office.
Note: The share of intangible assets in the capital stock is the share of intellectual property products (consisting of computer software, research and development, and entertainment originals) in the net capital stock of fixed assets other than "dwellings" for the private sector in the "Net Capital Stocks of Fixed Assets Classified by Institutional Sectors and Economic Activities" in real terms.