Survey on Planned Capital Spending for Fiscal Years 2017, 2018 and 2019

(Conducted in June 2018)

Substantial Growth in Both Manufacturing and Non-manufacturing

Driven by Investment for Expansion of Production Capacity and Urban Functions

August 1, 2018

DBJ Development Bank of Japan

Economic & Industrial Research Department

Outline of the Survey

1. Survey subjects

(1) Planned capital spending

Carried out since 1956, the survey provides an overview of capital spending in Japan by analyzing capital spending activity by Japanese firms (domestic non-consolidated; domestic and overseas consolidated). Investment trends, motivating factors, and other items are examined by industry.

(2) Opinion poll

This survey is mainly designed to identify the attitudes and perspectives of firms on key current issues.

This year's survey focuses on corporate "investment in a broader sense," including tangible fixed asset investment, R&D and M&A, as well as environmental, social and governance–related activities.

2. Companies surveyed

The survey covers private corporations capitalized at JPY 1 billion or more, excluding those in the finance and insurance industries.

(For the regional breakdowns, corporations with capital of JPY 100 million up to JPY 1 billion were added.)

3. Survey period

June 25, 2018. Most of the responses to the questionnaire were obtained in June.

4. Response (questionnaires sent to 3,240 firms)

Number of firms giving responses on domestic capital spending: 2,059 (response rate, 63.5%)

Number of firms giving responses on overseas capital spending: 867 (response rate, 26.8%)

Number of firms giving responses for the opinion poll: 1,220 (response rate, 37.7%)

5. Detailed results

Please visit: https://www.dbj.jp/investigate/equip/index.html (Japanese only)

Contents

Executive Summary

1. Planned domestic capital spending in FY2018 by major firms (capitalized at JPY 1 billion or over) shows an increase for the seventh consecutive year overall, up 21.6%, with investment rising substantially in both the manufacturing (up 27.2%) and non-manufacturing (up 18.5%) sectors.

2. Characteristics of domestic capital spending in FY2018 identified from the survey results

   (1) In the manufacturing sector (up 27.2%), spending is expected to increase in a wide range of industries, led by investment in new electric vehicle models in automobiles, and in capacity enhancement and labor-saving including for auto components.

   (2) In the non-manufacturing sector (up 18.5%), spending will continue for developing urban functions in transportation and real estate, and for attracting inbound tourists, mainly in services, while investment is expected to increase in retail stores and logistics to cope with the labor shortage.

3. Continuing from the previous year, our opinion poll this year focuses on "investment in a broader sense," including overseas tangible fixed asset investment, R&D, information technology investment, human investment and M&A, as well as domestic tangible fixed asset investment.

   As regards R&D, almost 40% of the manufacturers responded that they are increasingly utilizing open innovation, etc. Even among such manufacturers, however, most of the projects are implemented in collaboration with Japanese universities or research institutes, whereas cases of collaboration with SMEs, ventures or overseas institutions still represent a minority. As for information technology investment, about 30% of the respondents reported that they are utilizing, or considering utilizing, big data and AI, among others. In order to address human investment challenges, firms have improved the treatment of their employees, but still struggle to ensure diversity in working styles. Likewise, many respondents indicated difficulties in human resource development due to busy working schedules and the shortage of mentors. Japanese firms also became more aggressive in M&A over the previous year, as the percentage of firms acquiring another firm has risen in recent years.

   Environmental, social and governance interest has been increasing, as 90% of the companies responded that they feel the need to act in this area. As important aspects of ESG, 40% of the respondents cited the environment or corporate governance, but only a handful of firms emphasized social aspects such as respect for human rights.

1. Trends in Domestic Capital Spending

1-1. Total

1-1-1. Trends in Domestic Capital Spending (Overview)

Seventh straight year of growth driven by spending on capacity and enhancing urban functions

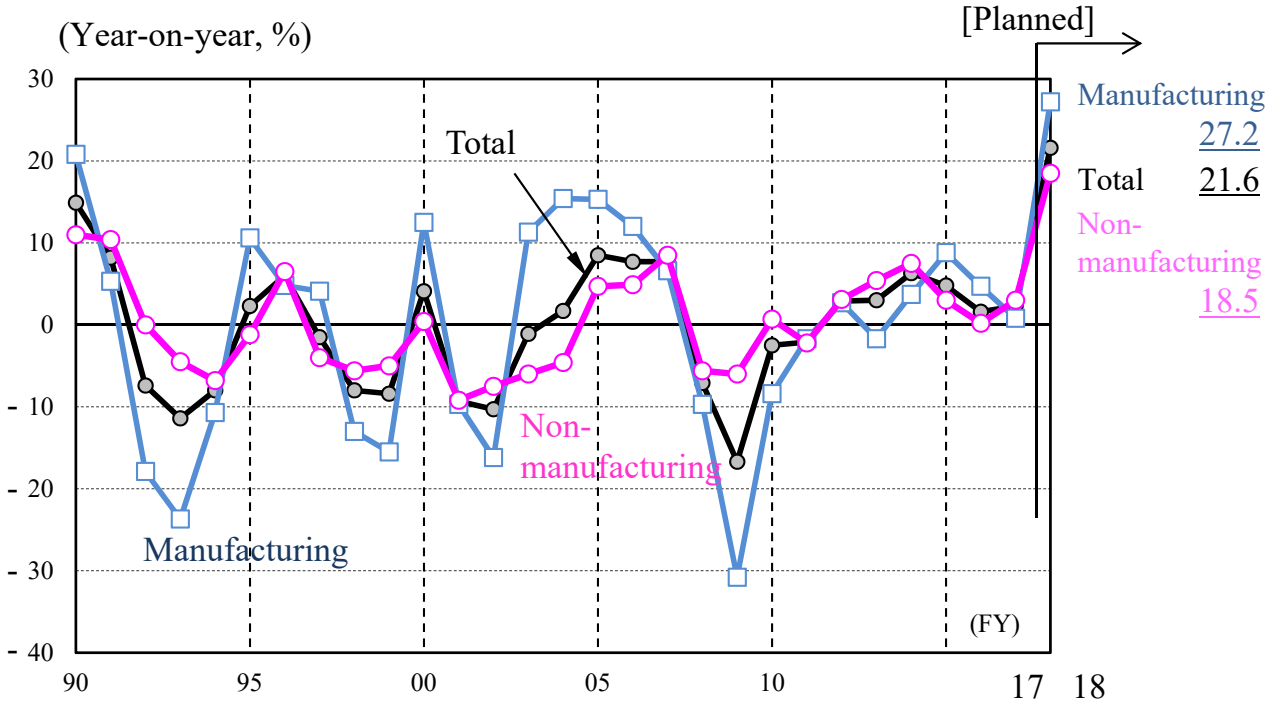
- In the manufacturing sector, spending is expected to increase in a wide range of industries, led by investment in new electric vehicle models in automobiles, and in capacity expansion and labor-saving including for auto components.
- In the non-manufacturing sector, spending will continue for developing urban functions in transportation and real estate, and for attracting inbound tourists, mainly in services, while investment is expected to increase in retail stores and logistics to cope with the labor shortage.

Figure 1-1-1-1. Domestic Capital Spending

(Year-on-year, %)

	FY2017 (actual) (1,896 firms)	FY2018 (planned) (2,059 firms)
Total (excluding electric power)	2.3 [0.6]	21.6 [21.3]
Manufacturing	0.8	27.2
Non-manufacturing (excluding electric power)	3.0 [0.5]	18.5 [17.7]

Figure 1-1-1-2. Growth in Capital Spending (FY1990-2018)



Notes: Based on the DBJ "Survey on Planned Capital Spending"; the same applies hereinafter unless otherwise noted.

1-1-2. Planned vs. Actual Figures

- Planned figures for the current fiscal year tend to be revised downward before being materialized, as some of the planned projects do not go as planned due to revision or close examination of the plan or delay in construction works.

Figure 1-1-2-1. Planned vs. Actual Capital Spending Growth (Total)

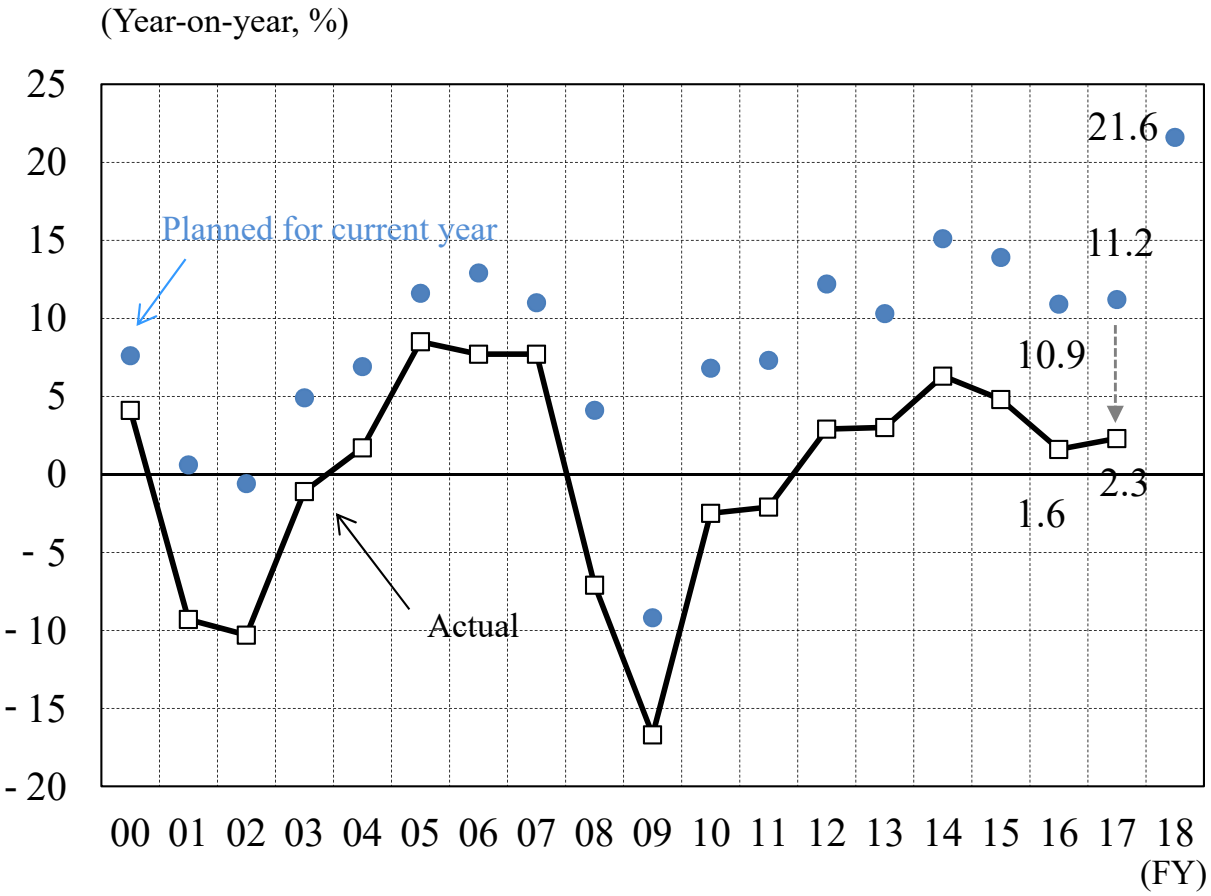
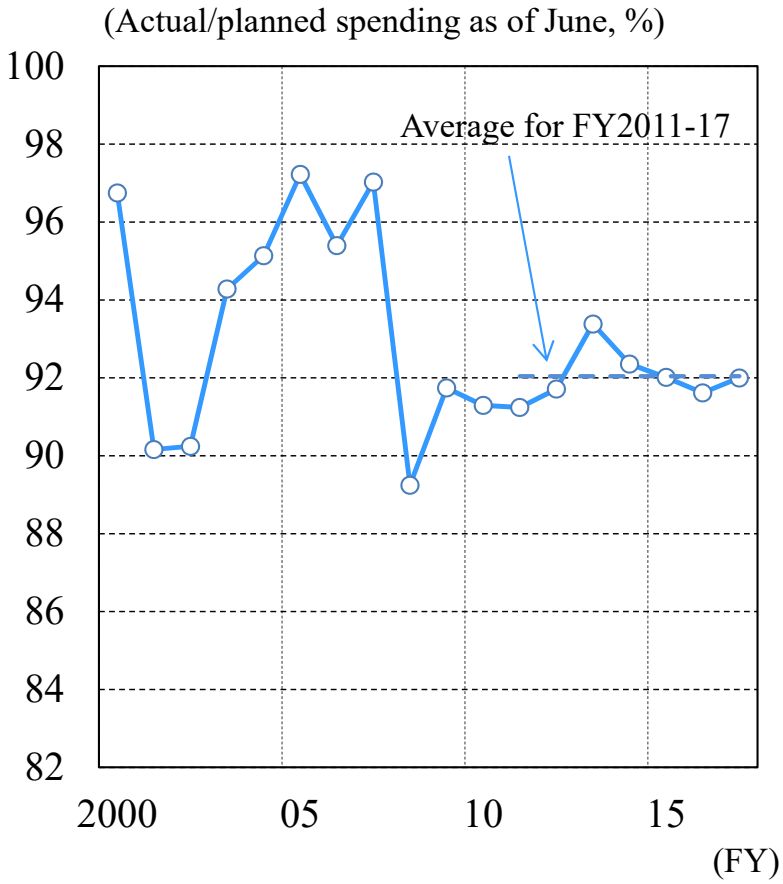


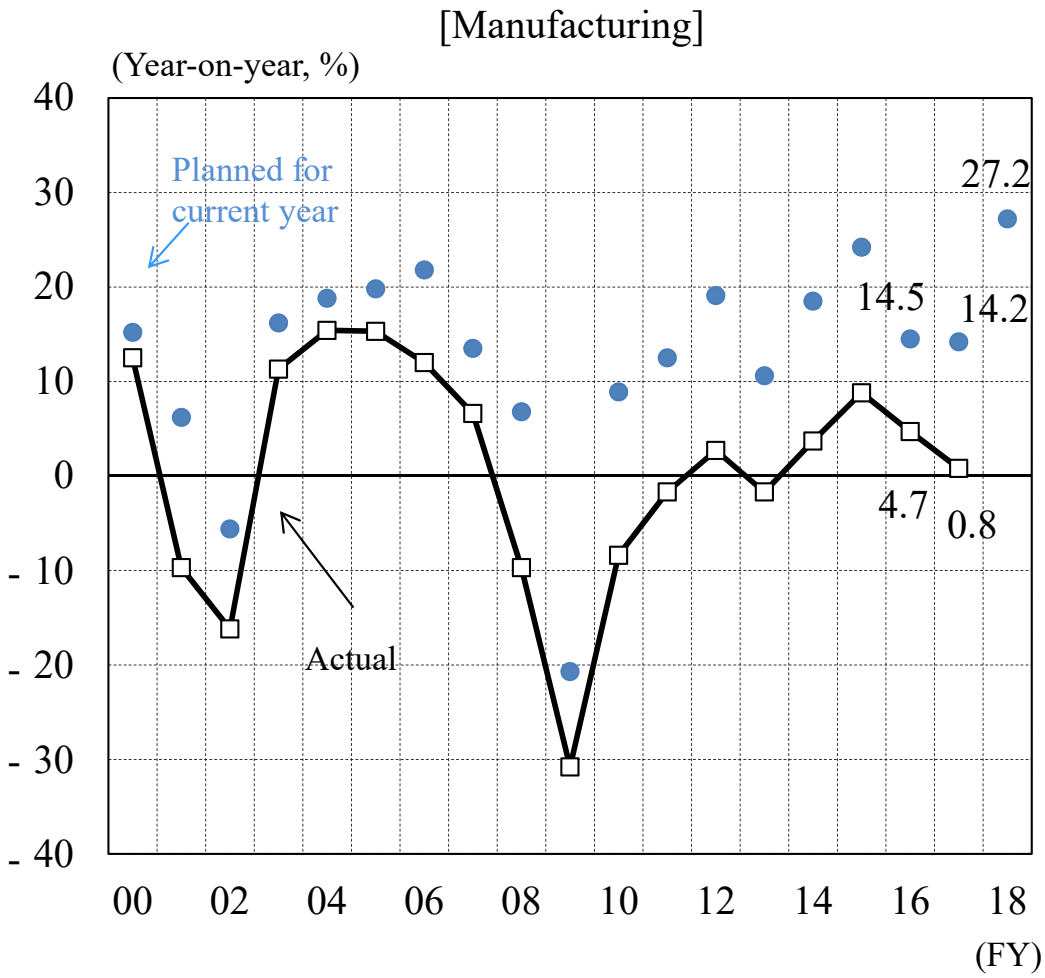
Figure 1-1-2-2. Plan Realization Rate (Total)

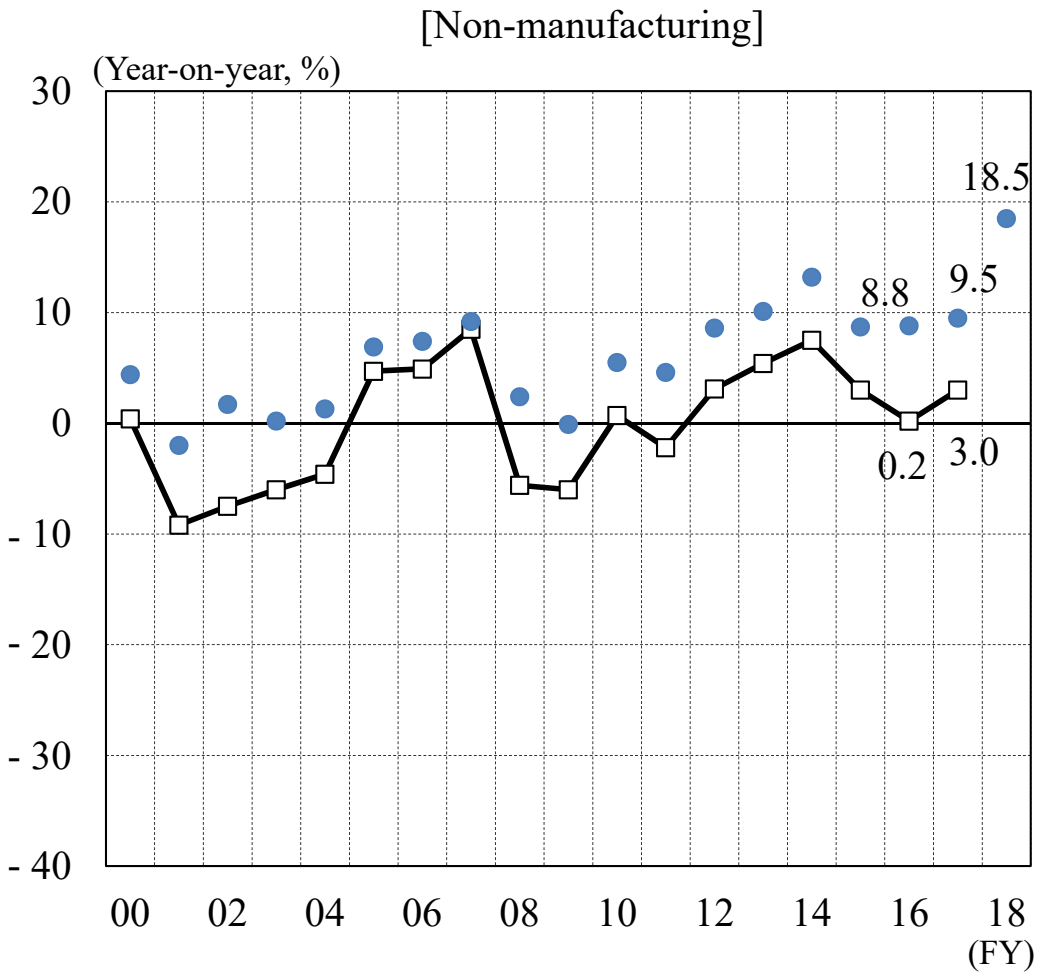


1-1-3. Planned vs. Actual Figures (by Sector)

- In manufacturing, spending in FY2017 was reduced considerably vs. the plan due to delays in completion and revision to the plan, particularly in chemicals, general machinery and transport equipment. As for the non-manufacturing sector, the spending plan was revised downward mainly in real estate and transportation.

Figure 1-1-3. Pattern of Revision to Capital Spending Growth (Planned → Actual)

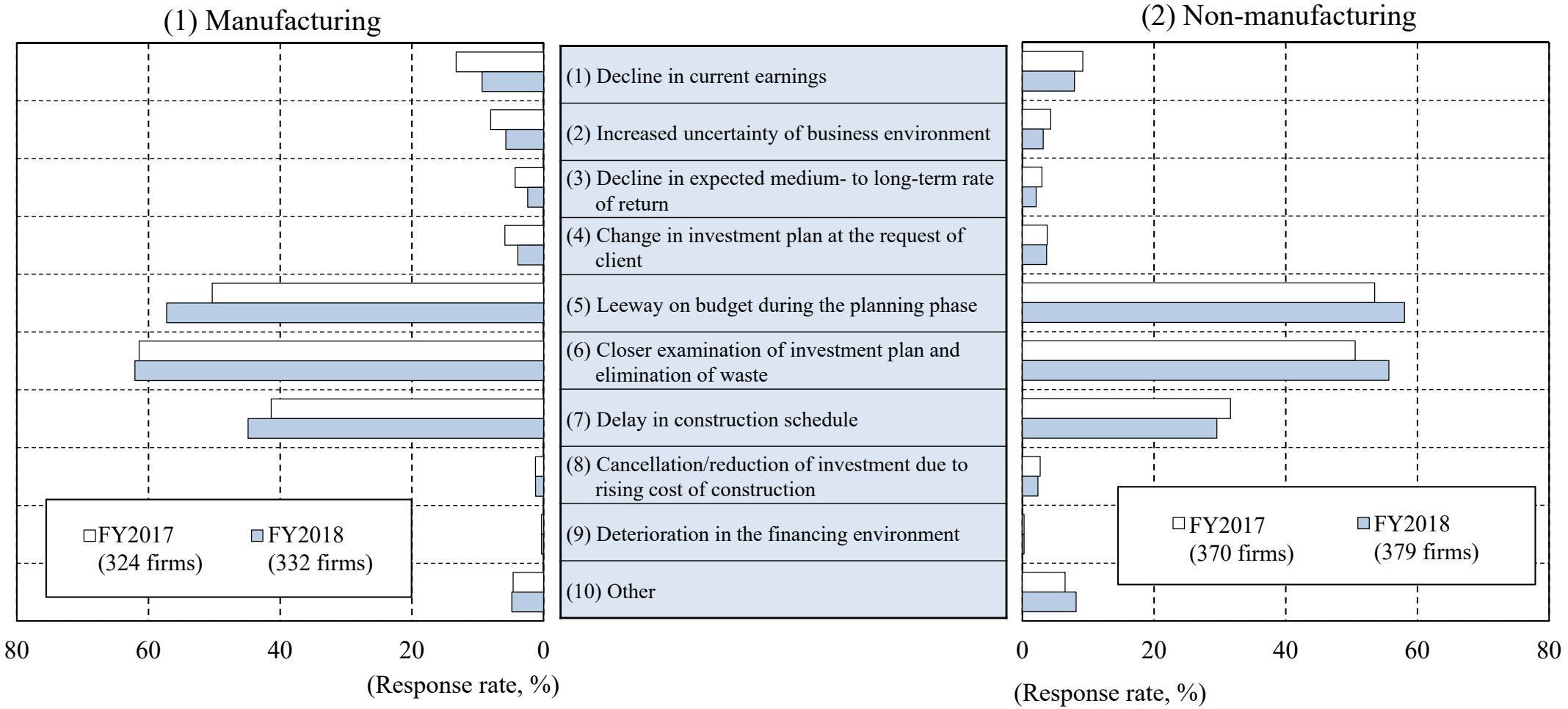




1-1-4. Factors for Downward Revision to Capital Spending in FY2017

- Actual capital spending often fails to reach planned spending in both the manufacturing and non-manufacturing sectors largely due to leeway on budgets during the planning phase, or closer examination or revision of the plan. In many cases, the gap is also attributable to delays in construction works.

Figure 1-1-4. Factors for Downward Revision to Capital Spending in FY2017

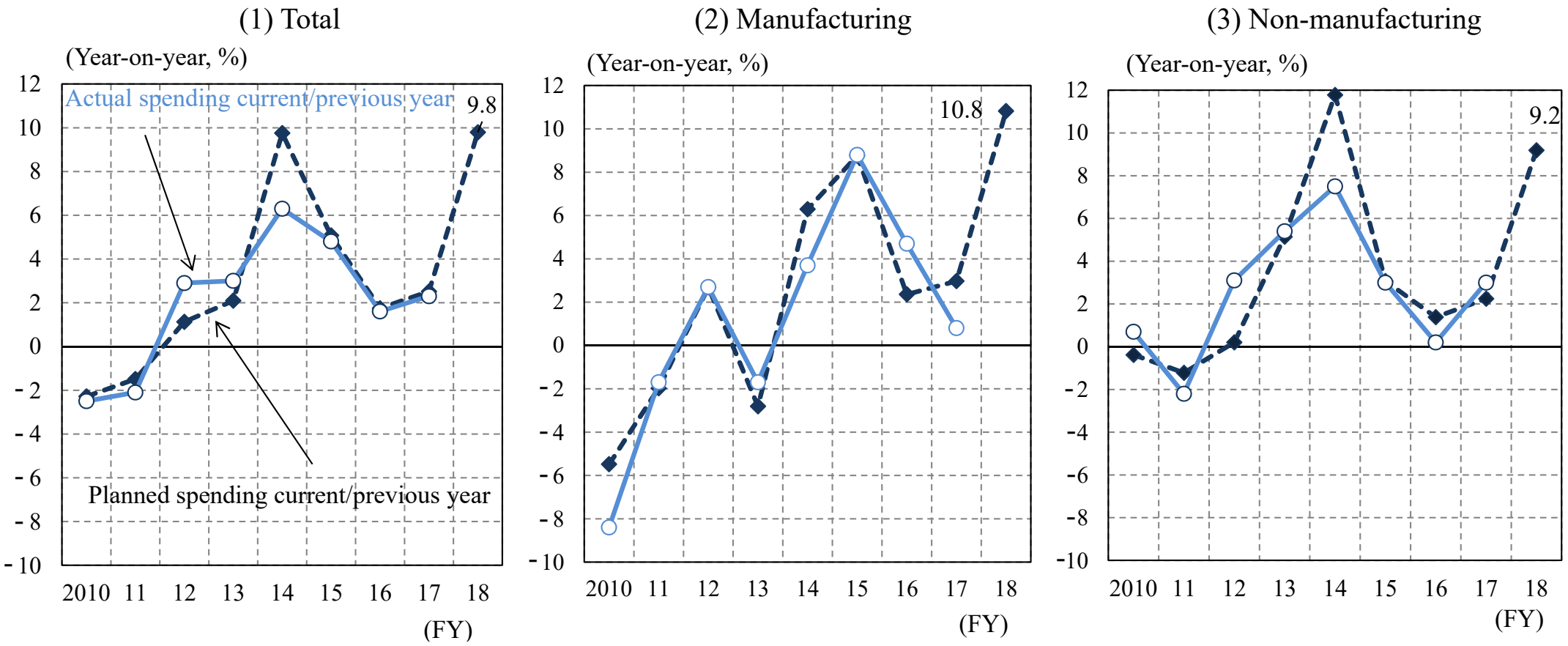


Notes: Respondents may choose up to three answers. Data only covers those firms reporting less-than-planned capital spending.

1-1-5. Estimate of Actual Capital Spending vs. Plan

- Experience shows that the change of actual capital spending on the previous year often approximates the year-on-year change of planned capital spending, effectively serving as a reference for forecasting actual performance.
- A mechanical estimation regarding the firms reporting their plans for both FY2018 and FY2017 indicates that actual capital spending in FY2018 will increase some 10% on the previous year in both manufacturing and non-manufacturing.

Figure 1-1-5. Change in Actual and Planned Capital Spending on Previous Year

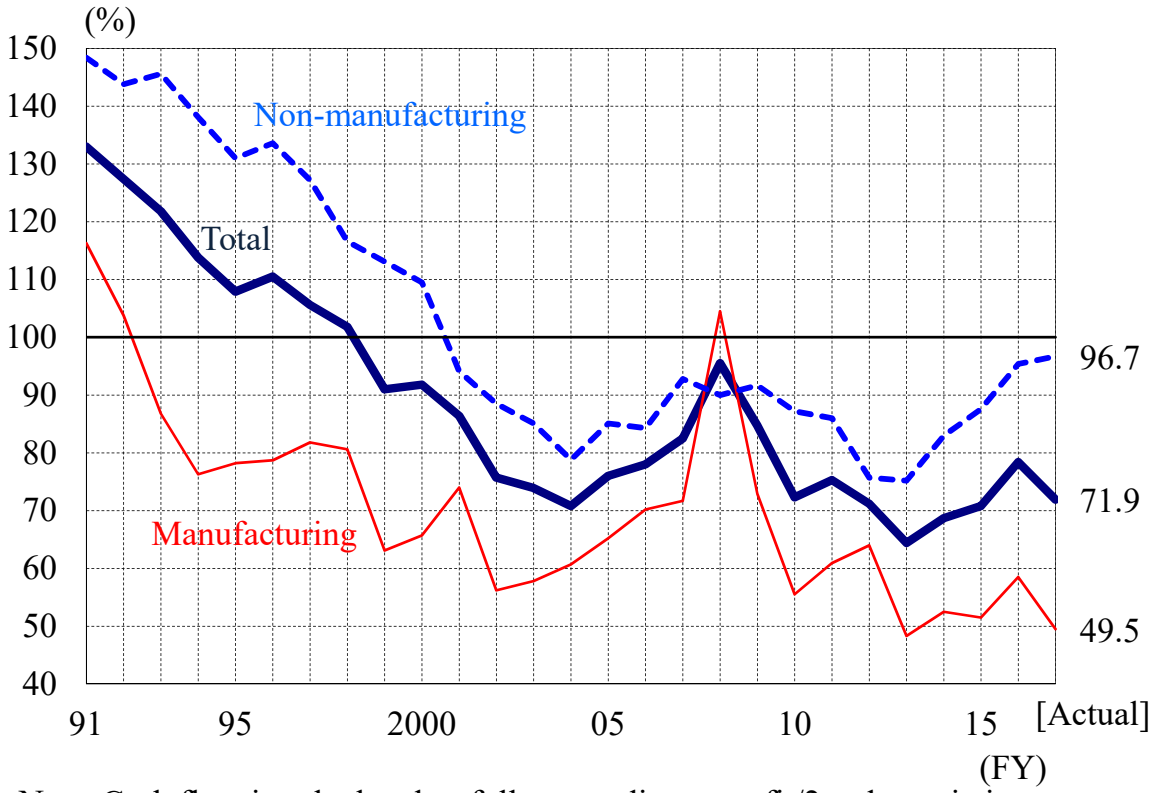


1-1-6. Capital Spending/Cash Flow Ratio and DI on Sales & Ordinary Profit

Capital spending/cash flow ratio levels off

- Domestic capital spending still stays within the limit of cash flow. Total capital spending/cash flow ratio, after rising for three straight years from FY2014, shows a decline in FY2017 as the growth of cash flow exceeds that of capital spending. The diffusion index on ordinary profit remains positive for FY2018, pointing to a continuing uptrend in corporate earnings.

Figure 1-1-6-1. Trend of Capital Spending/Cash Flow Ratio



Note: Cash flow is calculated as follows: ordinary profit/2 + depreciation expenses (simplified formula assuming an effective corporate tax rate of 50%).

Figure 1-1-6-2. DI on Sales & Ordinary Profit

(% pts)

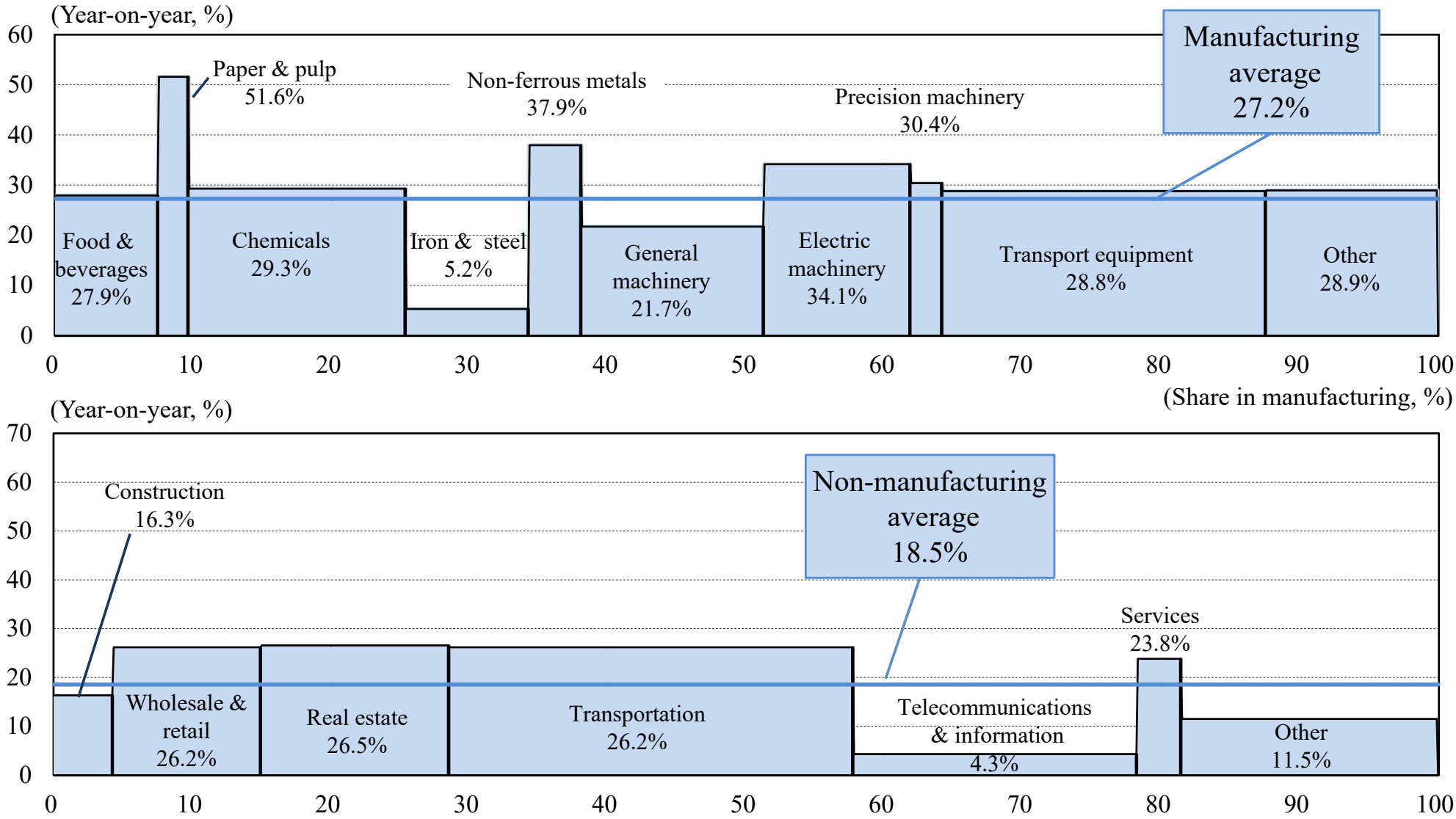
	DI on sales		DI on ordinary profit	
	FY2017 actual 1,083 firms	FY2018 planned 1,306 firms	FY2017 actual 1,083 firms	FY2018 planned 1,306 firms
Total	41.4	40.4	20.6	2.1
Manufacturing	52.0	49.5	25.9	6.7
Non-manufacturing	33.7	33.7	16.7	-1.2

Note: DI on sales, DI on ordinary profit =

("increased revenue/profit" – "decreased revenue/profit") / valid total responses.

1-1-7. Plan for FY2018 (Skyline Graph)

Figure 1-1-7. Composition and Growth of Capital Spending, by Major Industry (FY2018 Plan)



Notes: Figures indicate changes in FY2018 on previous year. The larger the area, the greater the contribution to total spending.

1-1-8. Planned Capital Spending for FY2018 by Industry

Manufacturing

- Food & beverages (8.8%→27.9%)
  Spending will increase substantially, driven by investment in rationalization and in high-value-added foods on the back of rising health consciousness.
- Chemicals (-0.6%→29.3%)
  Spending will increase substantially, driven by the continued rise in investment in automobile components and R&D, as well as for fast-moving consumer goods and electronic/battery materials.
- Petroleum (4.6%→46.6%)
  Spending will increase substantially with not only investment in distribution and power generation facilities but also maintenance and repair of refineries.
- Iron & steel (7.3%→5.2%)
  Spending will rise for the third consecutive year, with expectations for continued construction works, including for the relining of coke ovens, and investment in a wide range of automobile components.
- Non-ferrous metals (24.4%→37.9%)
  The second of substantial back-to-back increases is expected, driven by capacity investment in semiconductors, as well as automobile and electronic equipment components.
- General machinery (0.6%→21.7%)
  Spending will increase substantially, led by capacity investment in industrial machinery and general machinery parts.
- Electric machinery (-4.4%→34.1%)
  A substantial increase is expected, driven by capacity investment in electronic parts, particularly power semiconductors on the back of automobile electrification and energy-efficiency requirements, as well as in organic LED–related materials.
- Precision machinery (7.4%→30.4%)
  Spending will rise with capacity investment in semiconductor production equipment, including the construction of new plants.
- Automobiles (-1.5%→30.6%)
  Spending will increase substantially, driven by investment in new models, including for electrification, rationalization & labor-saving by leveraging IoT, and the development of R&D sites in anticipation of next-generation technologies including computer-aided software engineering.

Non-manufacturing

- Wholesale & retail (-2.1%→26.2%)
  A substantial increase in spending is expected, as department stores increase investment in flagship stores, CVS Pharmacy continues investment in labor-saving, and GMS Japan enhances investment in outlets.
- Real estate (-0.3%→26.5%)
  Spending will increase, led by investment in large-scale projects in urban areas, including international business centers and large complex facilities.
- Transportation (3.9%→26.2%)
  Spending will increase substantially, driven by the expansion of works for speeding up and enhancing the safety improvements of railways, further increases in real estate development, as well as increased spending to acquire aircraft and develop logistics facilities.
- Telecommunications & information (1.6%→4.3%)
  Spending will continue to increase, led by the further development of base stations in mobile communications and increased investment in network development in fixed-line telecommunications.
- Services (16.8%→23.8%)
  Spending will rise for the fourth consecutive year, buoyed by active investment in hotels and in theme parks for increased value added, as more foreign tourists visit Japan.

Note: Figures in parentheses ( ) indicate changes in capital spending in the industry concerned (FY2017→FY2018).

1-2. Manufacturing

1-2-1. Trends in the Manufacturing Sector (1)

Increased spending planned in transport equipment and a wide range of industries, including chemicals and electric machinery

- In the manufacturing sector, FY2018 will see capital spending rise for the fifth straight year as increased investment is planned in transport equipment for new models, including electric vehicles, and R&D, as well as in many other industries such as chemicals and electric machinery for capacity expansion and labor-saving, including for auto components.

Figure 1-2-1. Industries with the Greatest Contribution to Planned Capital Spending for FY2018 (Manufacturing)

(%)	Year-on-year	Composition ratio	Drivers of the increase/decrease
(1) Transport equipment	28.8	23.3	Investment in new models, including for electrification and development of R&D centers for next-generation technologies
(2) Chemicals	29.3	15.7	Automobile battery–related materials, semiconductor materials, cosmetics
(3) Electric machinery	34.1	10.6	Capacity expansion for electronic parts to be used in automobiles and smartphones, and for improving production efficiency
(4) General machinery	21.7	13.3	Capacity investment in industrial robot parts
Manufacturing as a whole	27.2		

Note: Composition ratio is defined as the ratio of capital spending by each industry to that of the whole manufacturing sector in FY2017.

1-2-2. Trends in the Manufacturing Sector (2)

Investment in auto components to expand in various industries

- In the manufacturing sector, investment in auto components will expand in a wide range of industries, including chemicals and non-ferrous metals for battery materials, and electric machinery for electronic parts.

Figure 1-2-2. Highlights of Planned Capital Spending for FY2018 in the Manufacturing Sector

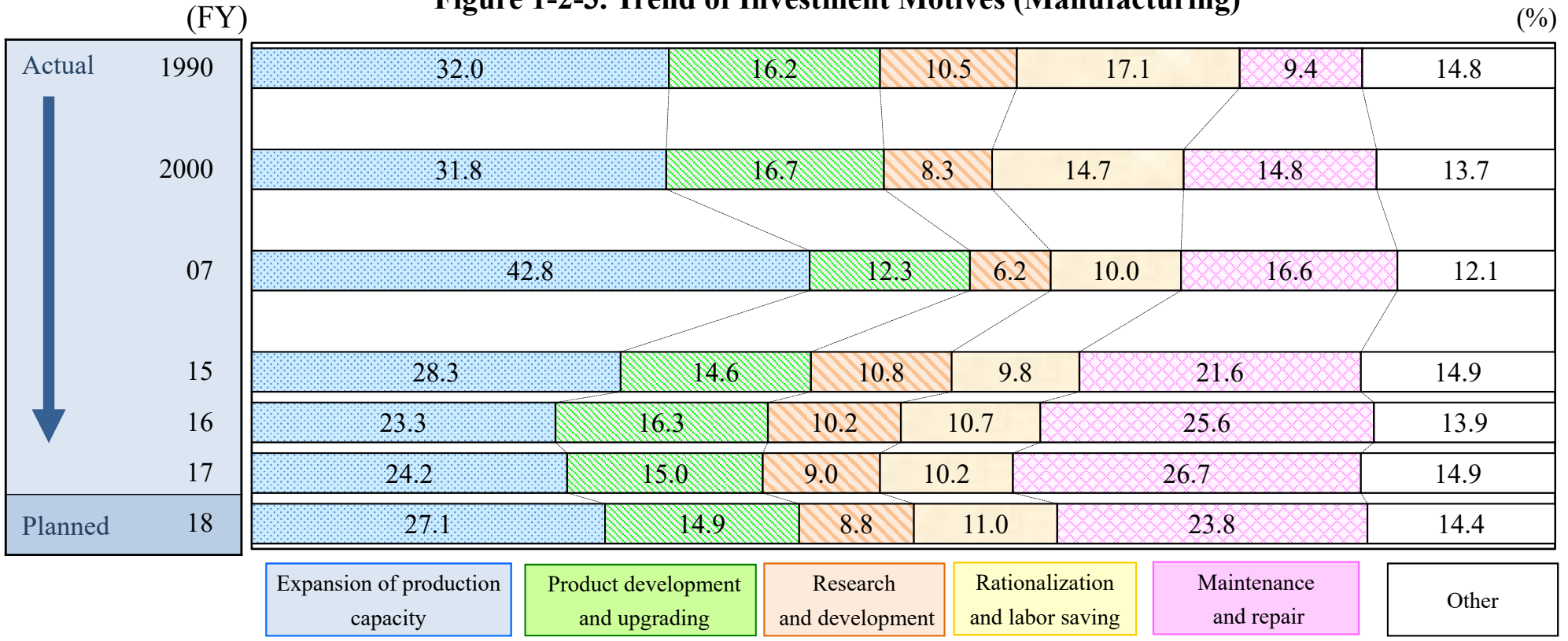
		Auto-related	Other
Capital goods	General machinery	Machine tools and industrial robot parts	
	Precision machinery	Semiconductor production equipment	
Materials/ components, intermediate goods	Chemicals	Battery materials, exhaust purifying agents	Semiconductor materials, cosmetics, R&D
	Iron & steel	Components for reducing body weight	Coke oven relining
	Non-ferrous metals	Battery materials	Semiconductor materials
	Electric machinery	Electronic parts for automobiles	Electronic parts for smartphones and production efficiency
Final demand	Automobile	Investment in new models, including for electrification Development of R&D centers for next-generation technologies	–
	Food & beverages	–	High-value-added foods
	Petroleum	–	Power generation/distribution facilities

1-2-3. Investment Motives (Composition)

Rising weight of production capacity expansion

- The share of "expansion of production capacity" will rise for the second straight year, driven by investment in electronic parts, along with the share of "rationalization and labor-saving." In contrast, the weight of "maintenance and repair," which reached a record high in FY2017 according to the present survey, is expected to decline for the first time in three years, as investment in the relining of blast furnaces slows down in FY2018.

Figure 1-2-3. Trend of Investment Motives (Manufacturing)

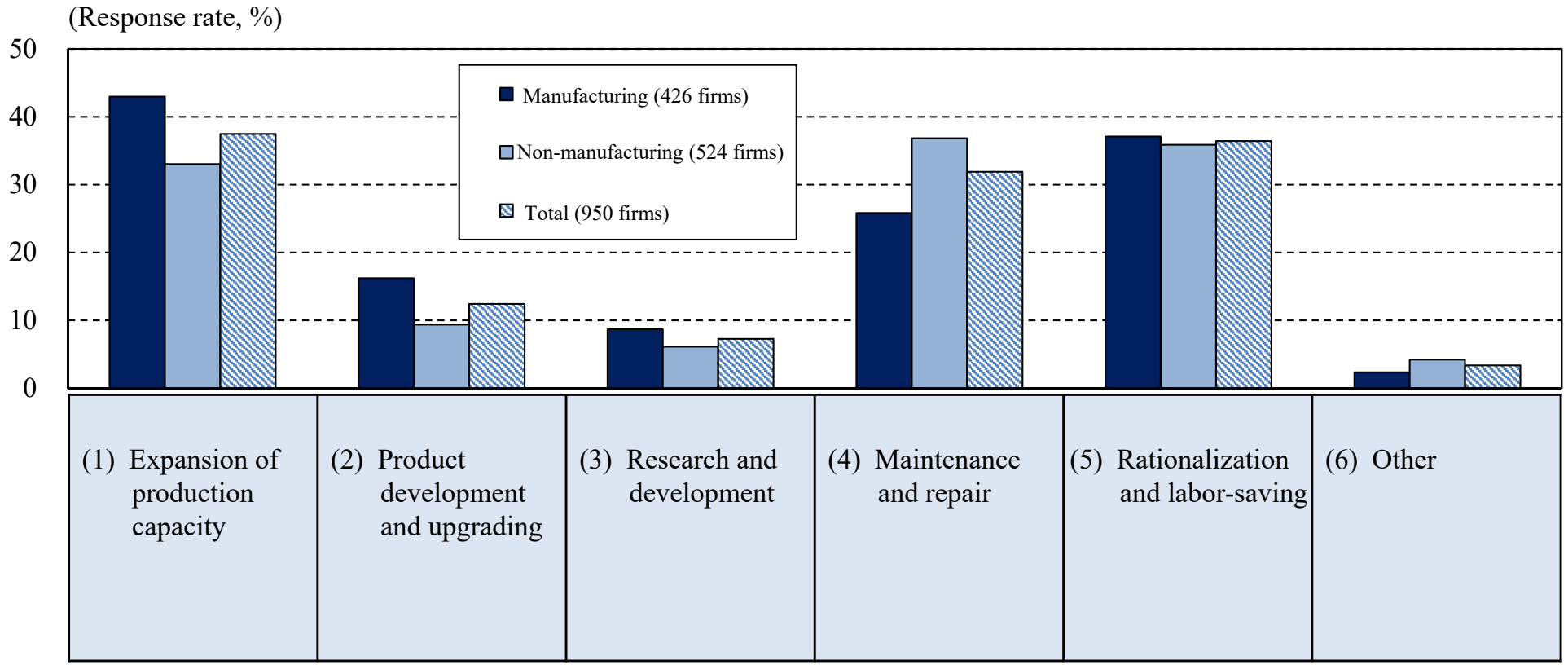


Note: Share of each investment motive in total capital spending, by value.

1-2-4. Classification of Investment Motives in Addressing the Labor Shortage

- When responding to labor shortages, firms sometimes report the spending motive not only as "rationalization and labor-saving," category (5) below, but also as "expansion of production capacity," (1), or "maintenance and repair," (4).
- It appears that spending in response to the labor shortage may effectively serve to expand production capacity or repair production facilities, as well as to save labor.

Figure 1-2-4. Classification of Investment Motives in Addressing the Labor Shortage

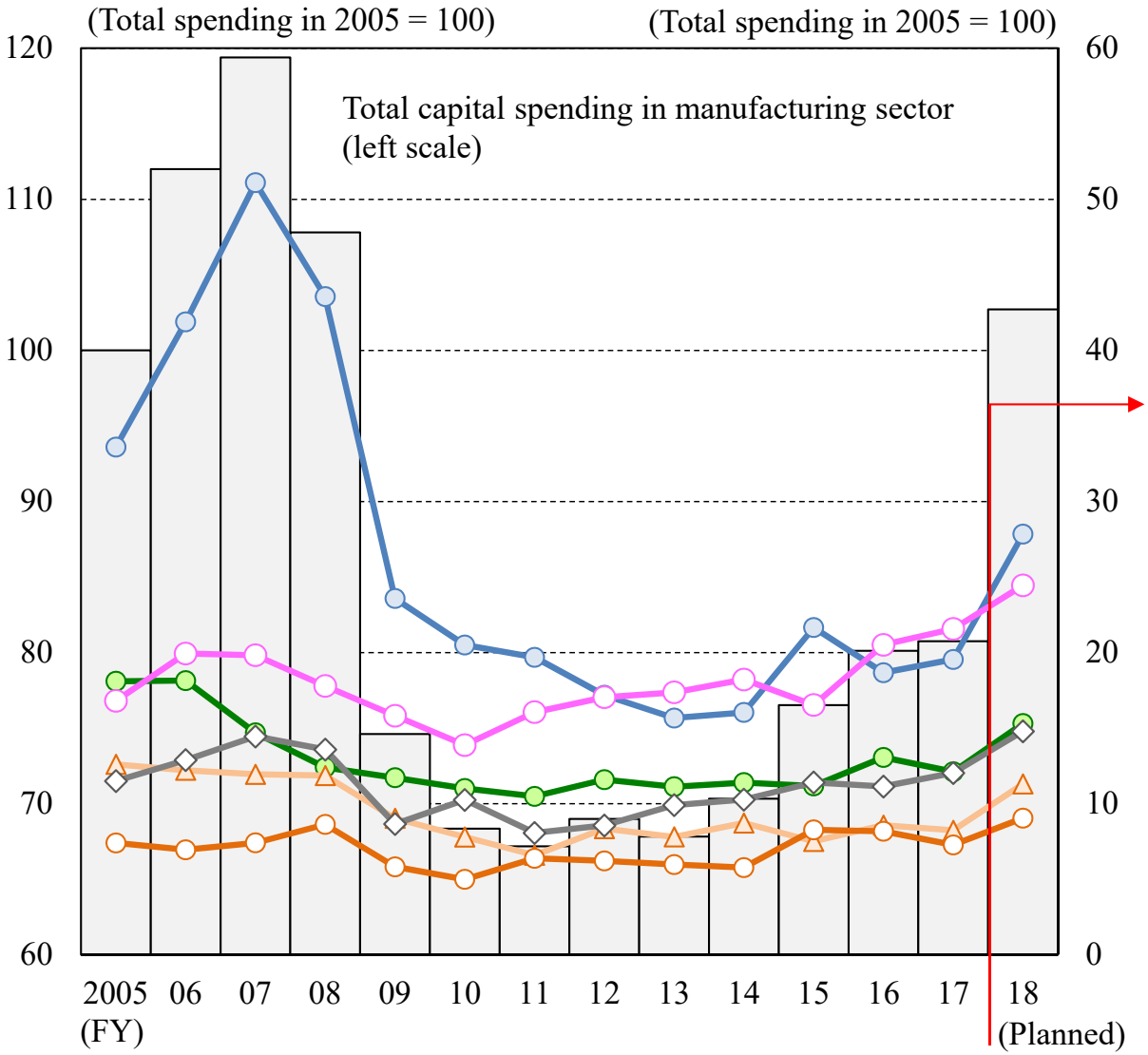


Note: Choose up to two answers.

1-2-5. Investment Motives (Absolute Levels)

- Despite losing its share in planned investment for FY2018, “maintenance and repair” remains at a record-high level as capital spending continues to grow.
- Investment for “expansion of production capacity” has followed an uptrend after hitting bottom in FY2013 and is expected to overtake spending for “maintenance and repair” in FY2018.

Figure 1-2-5. Historical Capital Spending, by Investment Motive (Manufacturing)



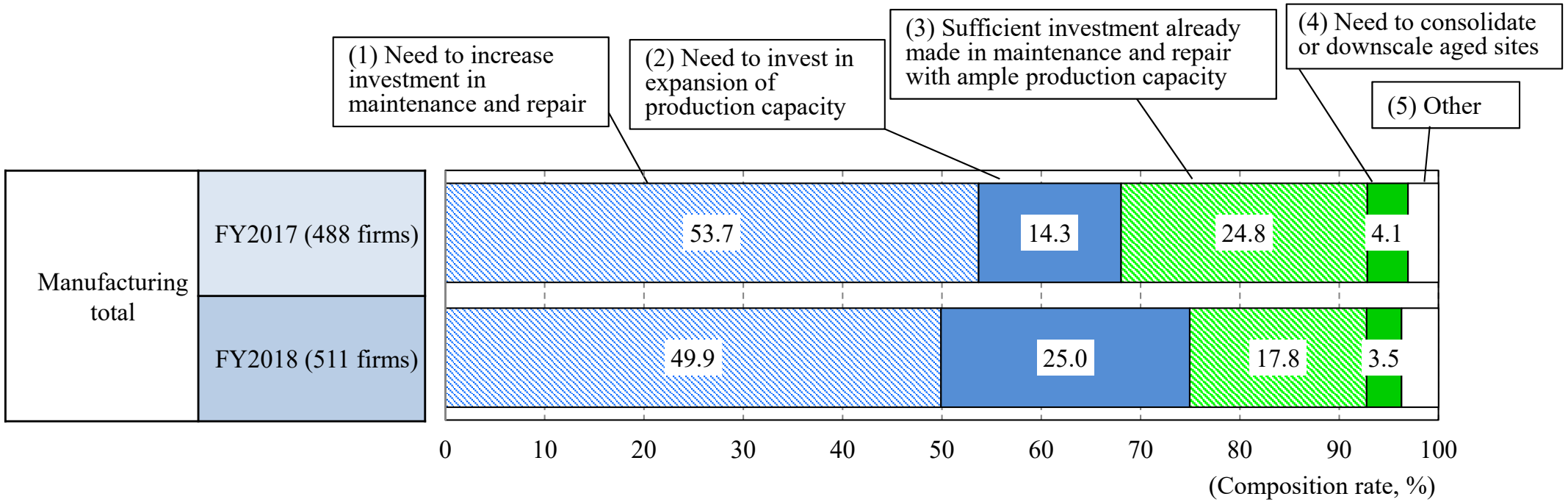
Note: The chart shows capital spending indexed on the total spending in FY2005 in the manufacturing sector. For each year, the capital spending indices (right scale) for individual investment motives add up to the capital spending index for the whole manufacturing sector.

1-2-6. Current Situation of Primary Domestic Production Base

Rising share of firms recognizing the need to increase capacity investment

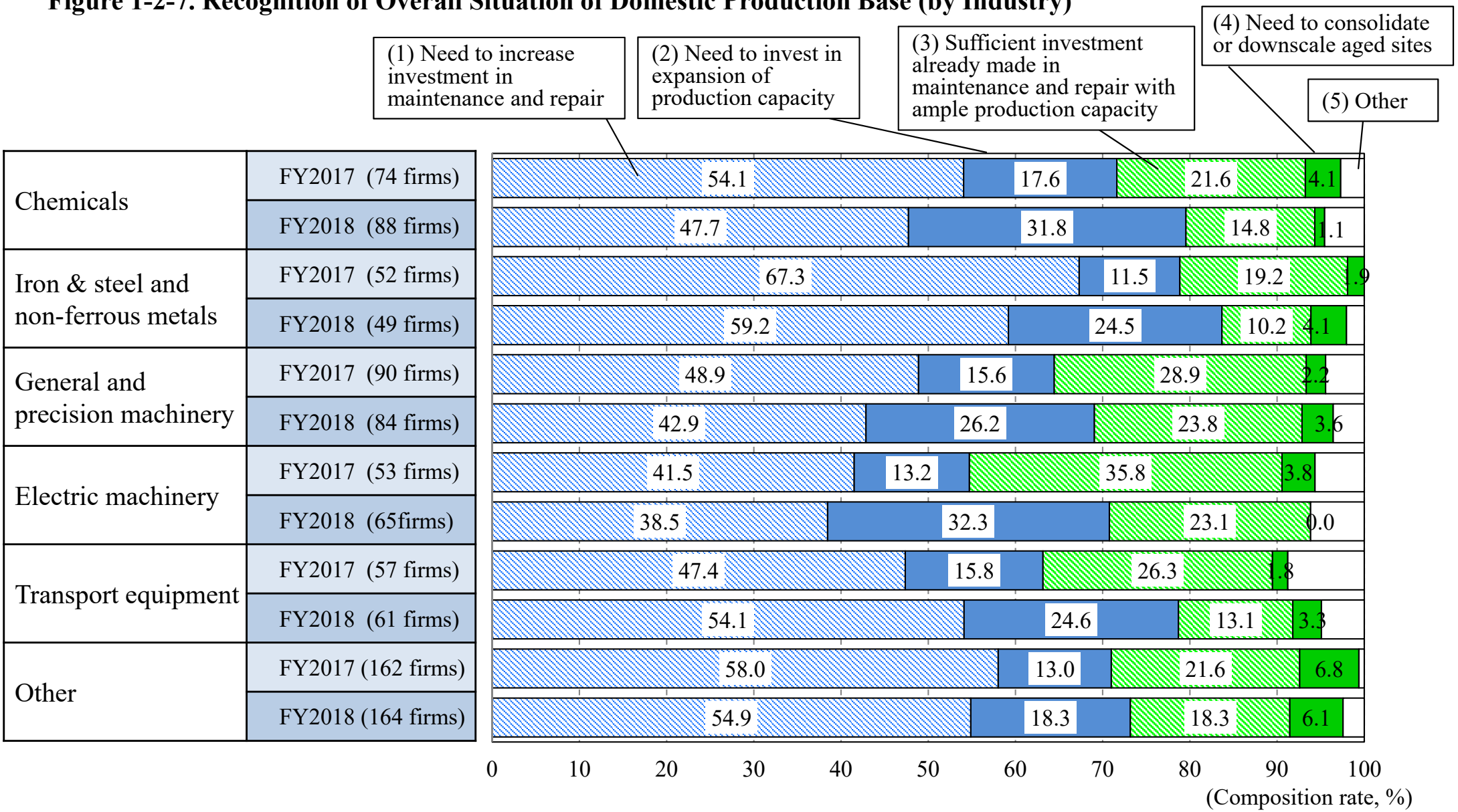
- Half of the manufacturers recognize "need to increase investment in maintenance and repair," category (1) below, showing a decline on the previous year and attesting to the progress in maintenance and repair spending in recent years.
- Meanwhile, the share of firms citing "need to invest in expansion of production capacity," category (2) below, shows a substantial increase on the previous year, pointing to the intention of manufacturers to increase production capacity going forward.

Figure 1-2-6. Recognition of Overall Situation of Domestic Production Base



1-2-7. Current Situation of Primary Domestic Production Base (Major Industries)

Figure 1-2-7. Recognition of Overall Situation of Domestic Production Base (by Industry)



1-3. Non-manufacturing

1-3-1. Trends in the Non-manufacturing Sector (1)

Spending increase planned for seventh straight year

- In the non-manufacturing sector, planned capital spending shows an increase for the seventh consecutive year, driven by investment in transportation and real estate for enhancing urban functions, increased spending on outlets in wholesale & retail, and continued investment in inbound tourism in services.

Figure 1-3-1. Industries with the Greatest Contribution to Planned Capital Spending for FY2018 (Non-manufacturing)

(%)	Year-on-year	Composition rate	Drivers of the increase/decrease
(1) Transportation	26.2	29.2	Speeding up trains and enhancing safety measures in railways, development of logistics facilities, acquisition of aircraft, real estate development
(2) Real estate	26.5	13.6	Development projects in central Tokyo, including international business hubs and large complex facilities
(3) Wholesale & retail	26.2	10.7	Labor-saving investment in CVS Pharmacy, spending on flagship shops in department stores, development of logistics facilities in wholesale
Reference: Services	23.8	3.2	Investment in hotels and theme parks to attract inbound tourists, etc.
Non-manufacturing as a whole	18.5		

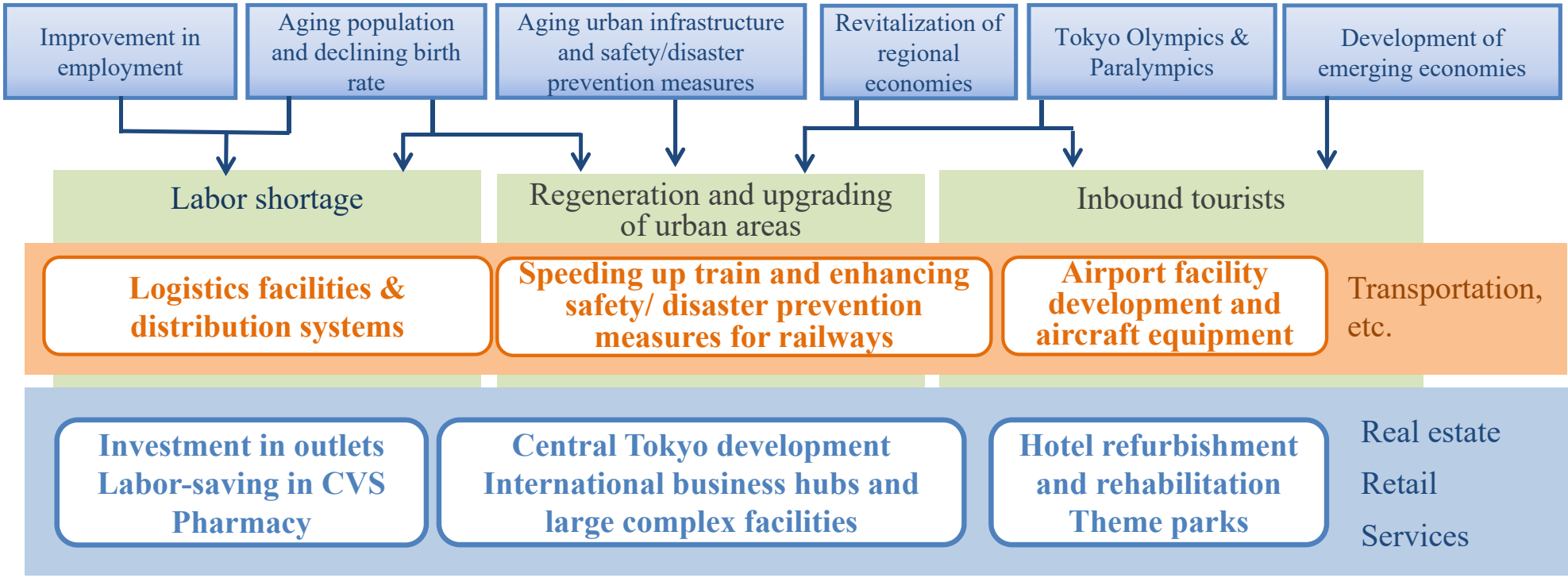
Note: Composition ratio is defined as the ratio of capital spending by each industry to that of the whole non-manufacturing sector in FY2017.

1-3-2. Trends in the Non-manufacturing Sector (2)

Expansion of spending in response to regeneration and upgrading of urban areas, to inbound tourists, to labor shortage, etc.

- Capital spending in the non-manufacturing sector continues to be driven by transportation-related industries and real estate, including for speeding up trains and enhancing safety and disaster prevention in railways, as well as real estate development focused on central Tokyo and the development of logistics facilities nationwide.
- Spending will also continue on infrastructure, hotels and theme parks to capture the increase in inbound tourists in the run-up to the Tokyo Olympics/Paralympics in 2020.
- The spending will be propped up by labor-saving investment in CVS Pharmacy and logistics facilities to cope with the labor shortage.

Figure 1-3-2. Backdrop of Capital Spending in the Non-manufacturing Sector



1-3-3. Impact of Increase in Inbound Tourists

Enhanced investment in foreign language training and facility expansion in response to the increasing number of inbound tourists

- Among non-manufacturers, 40% respond that the increasing number of inbound tourists will affect their business, particularly in real estate, transportation and services.
- In response to the increase in inbound tourists, over 30% of the firms plan "enhancement of training in foreign languages, category (5) below. Also, "expansion of facilities," (1), and "enhancement of advertising and PR," (6), are each cited by some 20% of the respondents.

Figure 1-3-3-1. Impact of Increase in Inbound Tourists (Non-manufacturing)

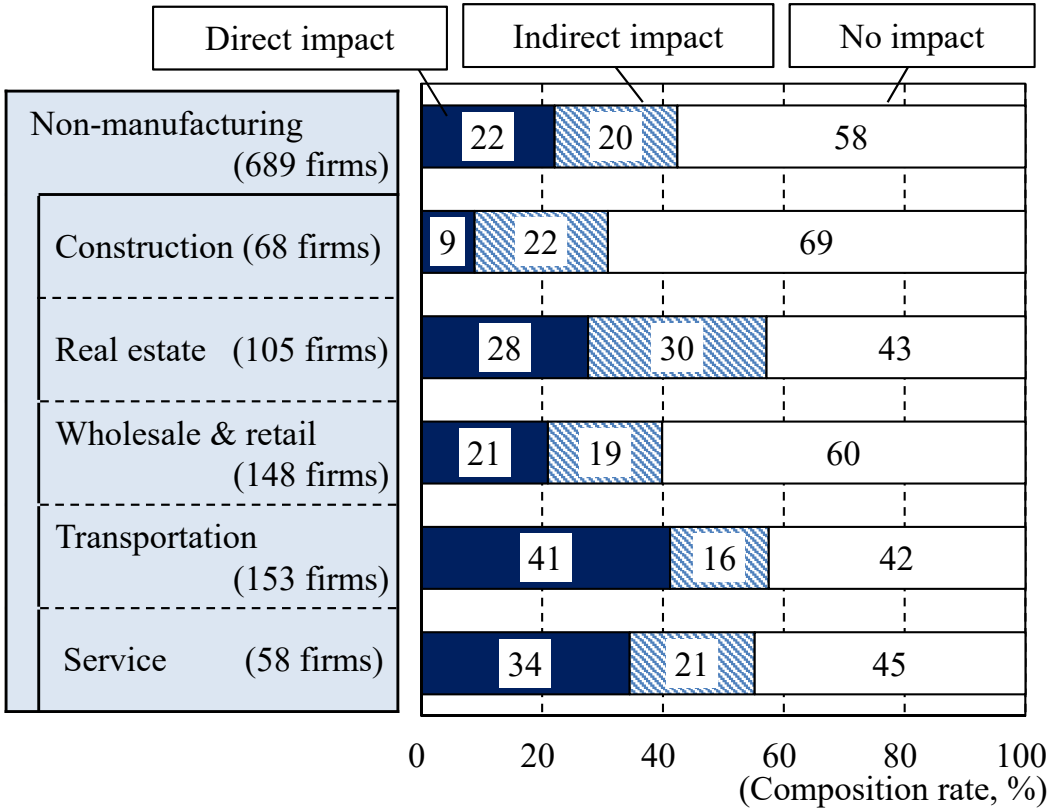
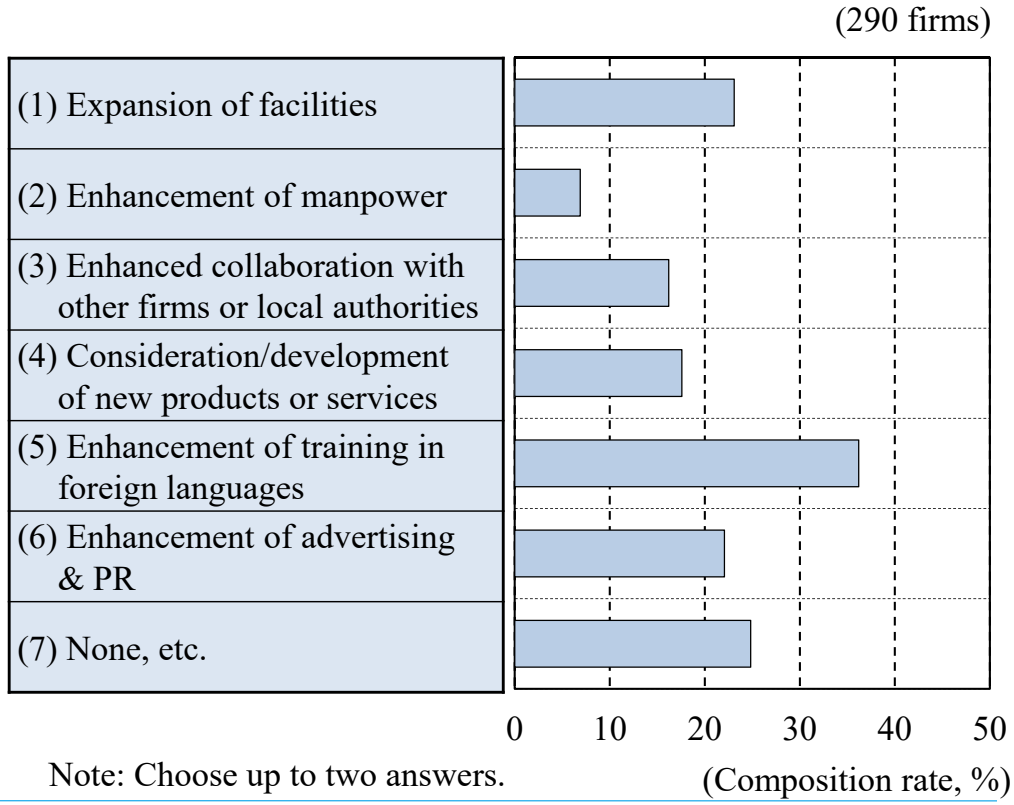


Figure 1-3-3-2. Response to Increase in Inbound Tourists (Non-manufacturing)



Note: Choose up to two answers.

1-3-4. Impact of Labor Shortage

The labor shortage is restricting business development in 60% of non-manufacturers

- Among responding non-manufacturers, 60% indicate both that the current labor shortage constrains their business development and that the situation is expected to deteriorate further in three years.
- In view of the labor shortage, the share of rationalization & labor-saving investment in total capital spending has been increasing in some industries, including wholesale & retail.

Figure 1-3-4-1. Impact of Labor Shortage on Business Development (Non-manufacturing)

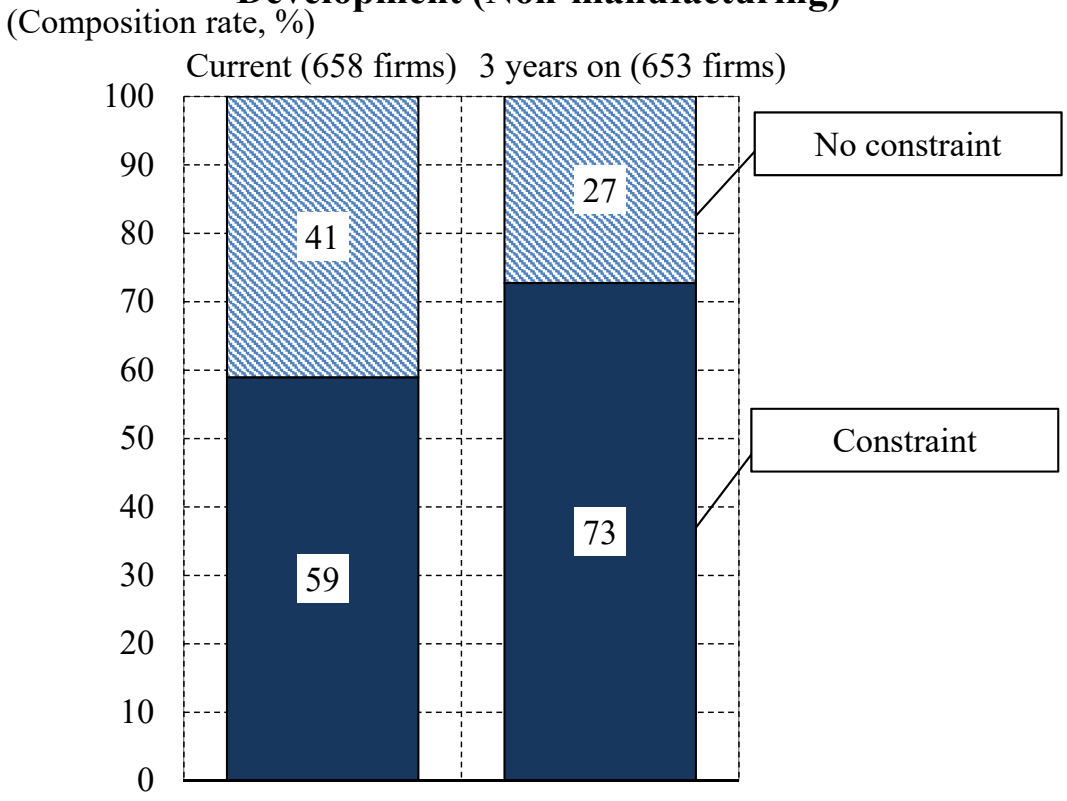
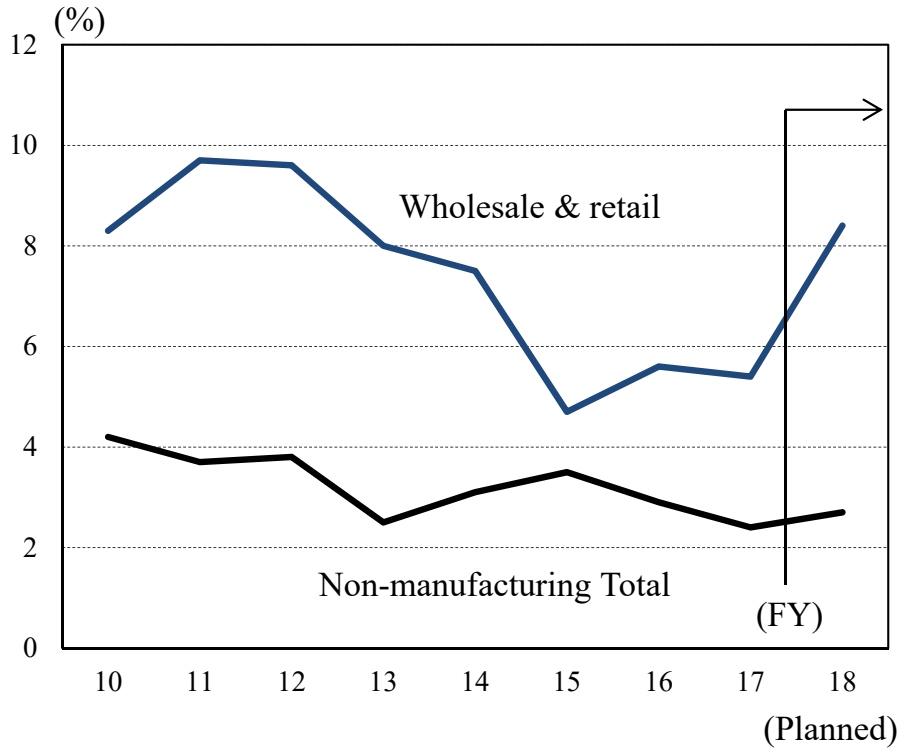


Figure 1-3-4-2. Share of Rationalization & Labor Saving in Investment Motives among Non-manufacturers



1-3-5. Impact of Rising Labor Cost on Selling Prices

Many firms have not fully passed the rising labor cost onto service prices

- The labor shortage has resulted in higher labor costs in a majority of non-manufacturers, many of which respond that they have not fully passed the rising labor cost onto service prices. As reasons for not doing so, over 40% of the firms cite "expected decline in demand," category (1) below. Also, 40% of the respondents cite "absorption of rising cost through labor-saving investment or improvement of operational efficiency," (3).

Figure 1-3-5-1. Impact of Labor Shortage on Labor Cost (Non-manufacturing)

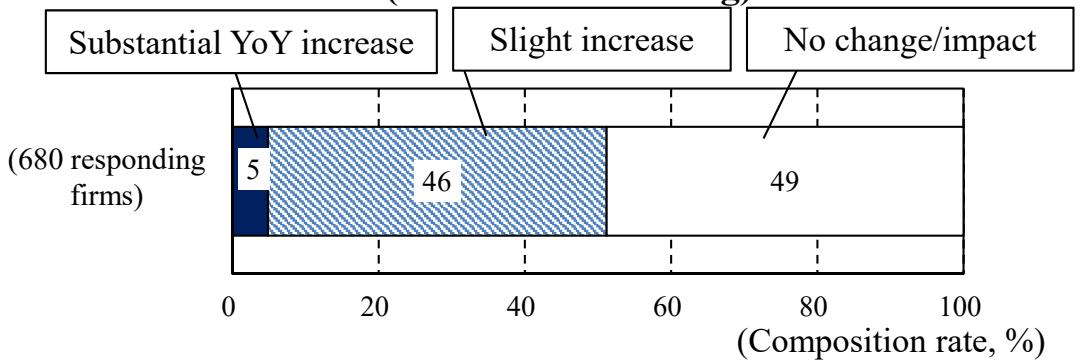
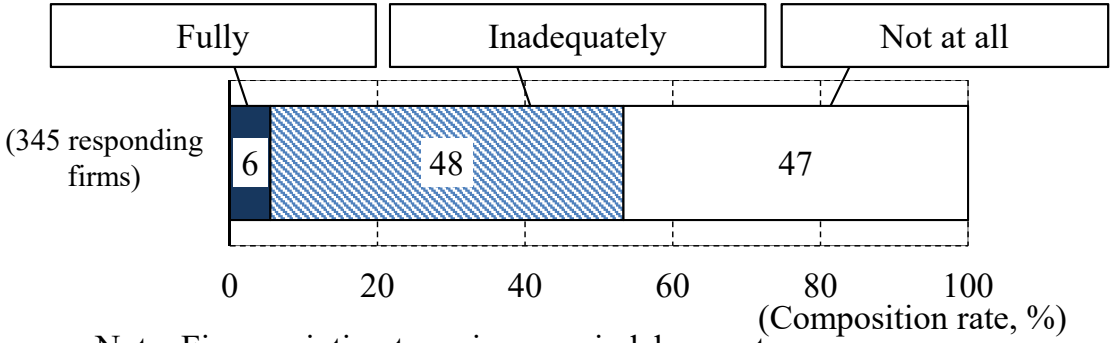
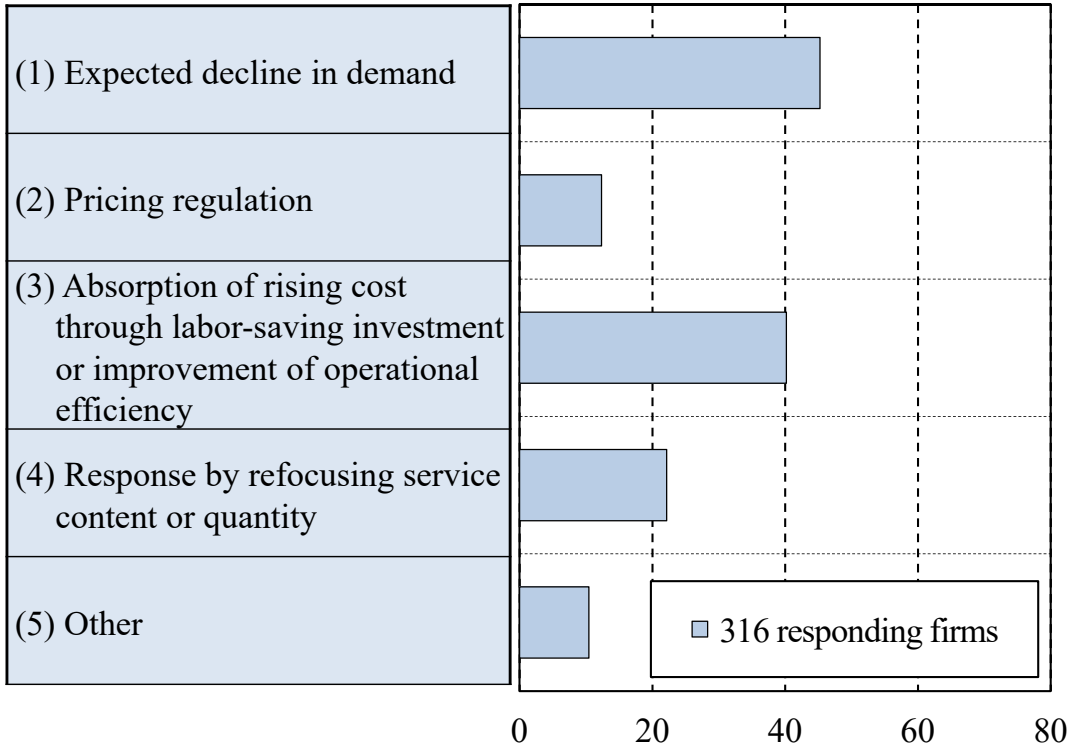


Figure 1-3-5-2. Passing of Rising Labor Cost Due to Labor Shortage onto Service Prices (Non-manufacturing)



Note: Firms pointing to an increase in labor cost.

Figure 1-3-5-3. Reasons for Not Passing Rising Labor Cost Due to Labor Shortage onto Service Prices (Non-manufacturing)



Note: Choose up to two answers.

2. Attitudes toward “Investment in a Broader Sense”

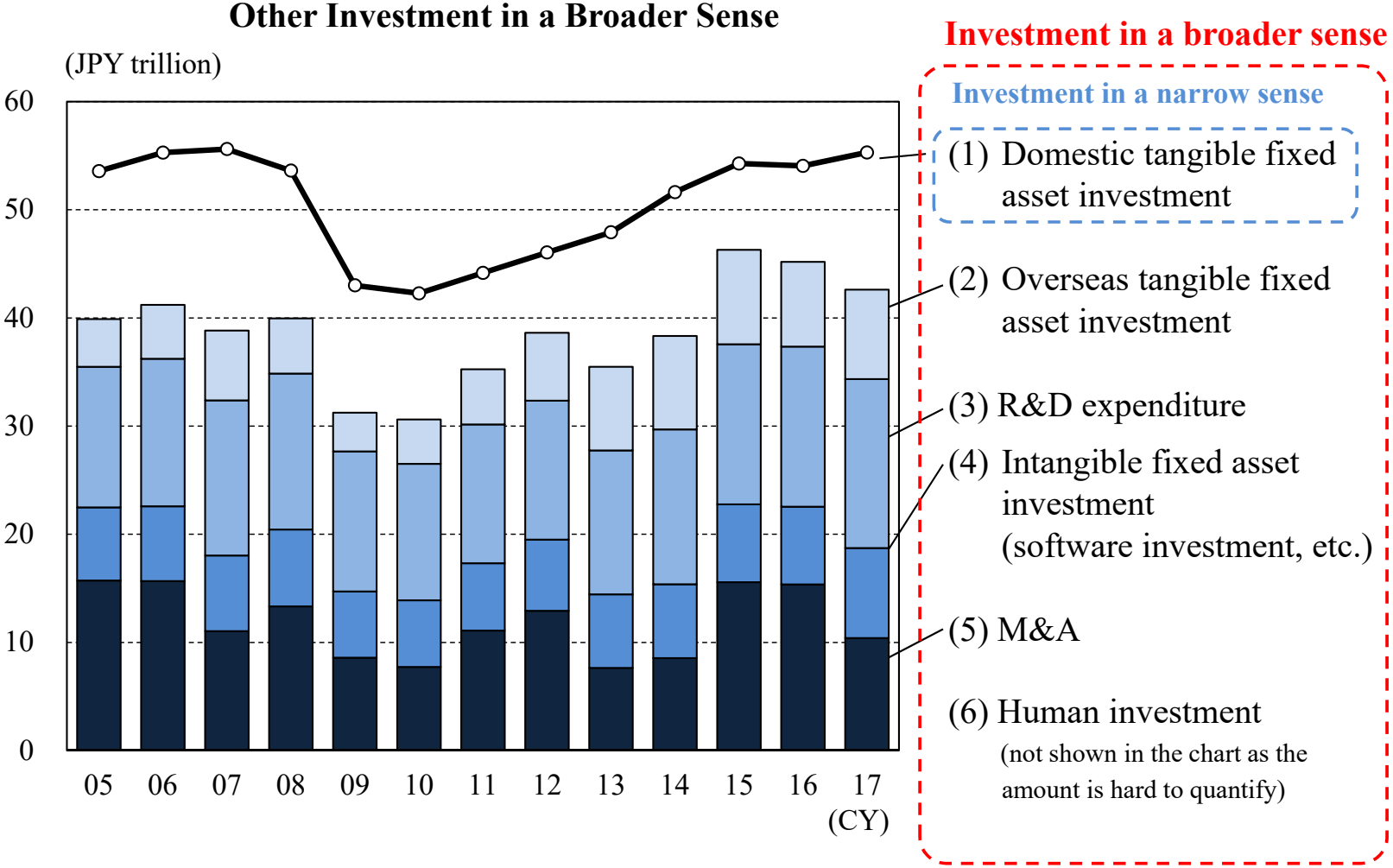
2-1. Concept of “Investment in a Broader Sense”

2-1-1. Corporate Approach to Future

Corporate approach to future "investment in a broader sense"

General actions for corporate growth, survival and future improvement of business valuation

Figure 2-1-1. Domestic Tangible Fixed Asset Investment and Other Investment in a Broader Sense



Notes:

Categories (1), (3) and (4): Cabinet Office "Annual Report on National Accounts"

Category (2): METI "Basic Survey on Overseas Business Activities"

Fiscal year data for overseas tangible fixed asset investment

Category (5): RECOF Corporation data (total of domestic and cross-border markets)

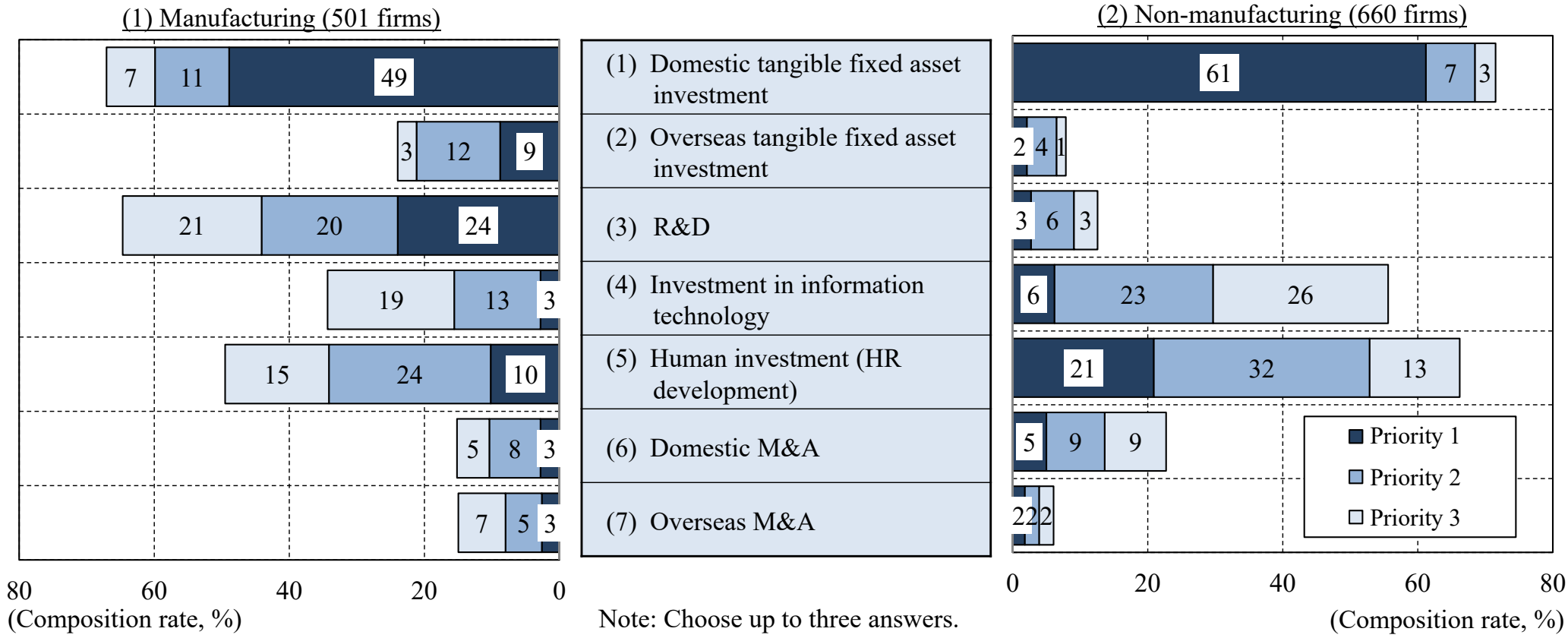
2017 data for categories (1)–(4) is extrapolated from DBJ "Survey on Planned Capital Spending" (actual data for FY2017).

2-1-2. Priority of "Investment in a Broader Sense"

Three pillars of the manufacturing sector: domestic tangible fixed asset investment, R&D and human investment

- In the manufacturing sector—"domestic tangible fixed asset investment," category (1) below; "R&D," (3); and "human investment and HR development," (5), form the three pillars of "investment in a broader sense." In the non-manufacturing sector, top priority is given to "domestic tangible fixed asset investment," category (1), followed by "human investment and HR development," (5).

Figure 2-1-2. Priority of "Investment in a Broader Sense"



Note: Choose up to three answers.

2-2. Capital Spending Overseas

2-2-1. Trend of Capital Spending Overseas (Overview)

- Actual capital spending overseas (consolidated basis) in FY2017 rose 5.5% overall on the previous year, as the decline, led by construction in the non-manufacturing sector, was more than offset by the buoyant spending in the manufacturing sector, driven by automobiles and electric machinery for emerging markets.
- Planned capital spending for FY2018 indicates an increase of 19.1% overall on the previous year, as transport equipment will increase investment in Europe.

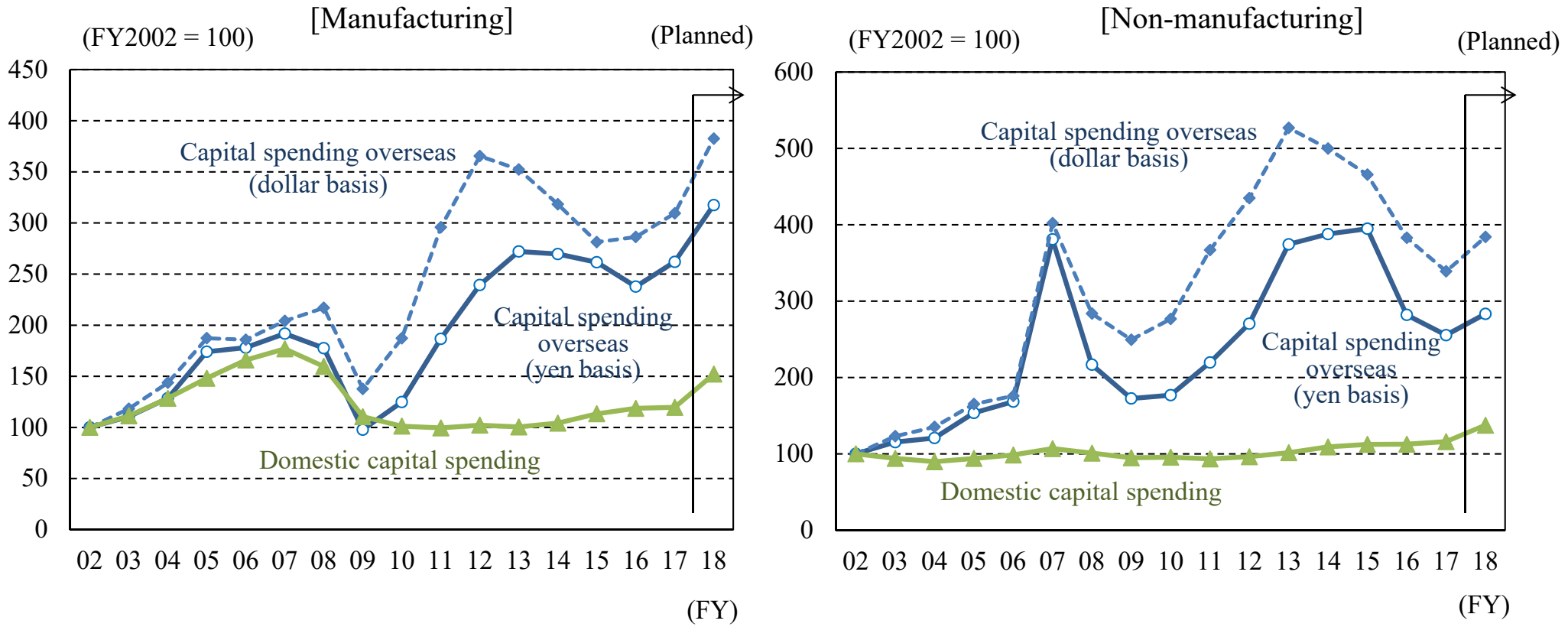
Figure 2-2-1. Trend of Capital Spending Overseas (Consolidated Basis)

(Year-on-year, %)	FY2017 (actual) (743 firms)	FY2018 (planned) (867 firms)
Total	5.5	19.1
Manufacturing	10.2	21.2
Nonferrous metals	27.0	17.4
General machinery	19.9	34.2
Electric machinery	37.6	62.0
Transport equipment	6.1	13.0
Non-manufacturing	-9.4	10.9
Construction	-59.0	23.2

2-2-2. Trend of Capital Spending Overseas (Time Series)

- Capital spending overseas, which had stagnated until around FY2016 due to slowdowns in the world economy, turned upward in the manufacturing sector in FY2017 on the back of the recovery of the global economy starting in the second half of 2016. Both manufacturers and non-manufacturers plan to increase spending overseas in FY2018.

Figure 2-2-2. Trend of Overseas Capital Spending Ratio



2-2-3. Overseas Capital Spending Ratio

The overseas capital spending ratio is currently steady

- The overseas capital spending ratio (consolidated) in FY2018 is expected to remain almost unchanged on the previous year in the manufacturing sector, as domestic spending and overseas spending show similar growth rates.

Figure 2-2-3-1. Trend of Overseas Capital Spending Ratio (Overseas/(Overseas + Domestic))

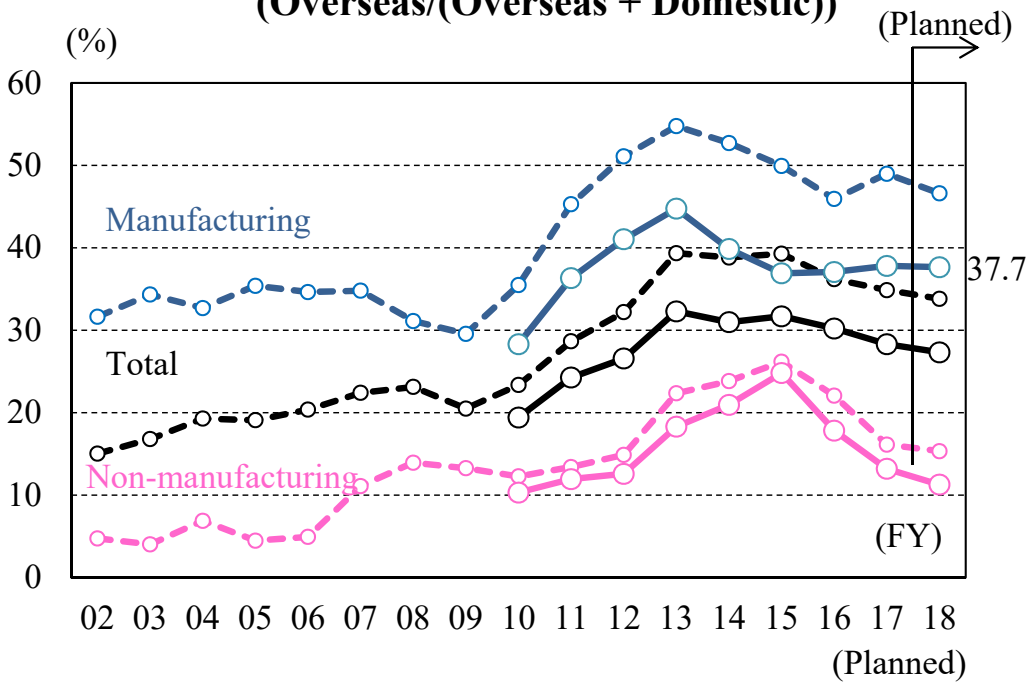
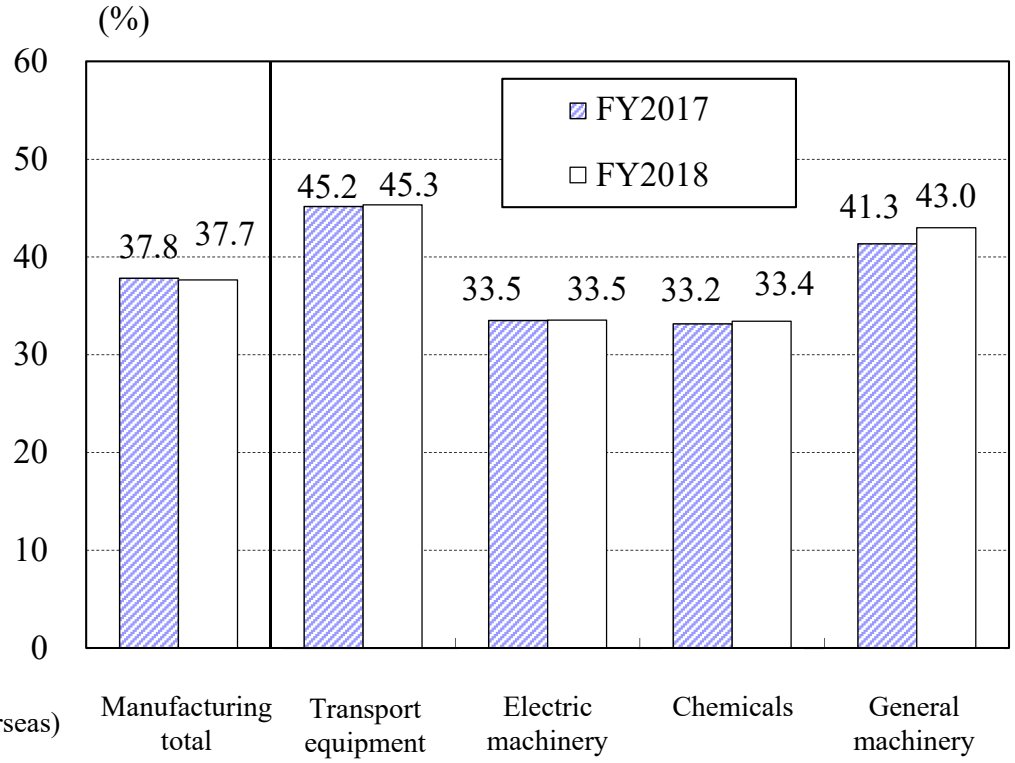


Figure 2-2-3-2. Overseas Capital Spending Ratio, by Industry (Consolidated Basis)



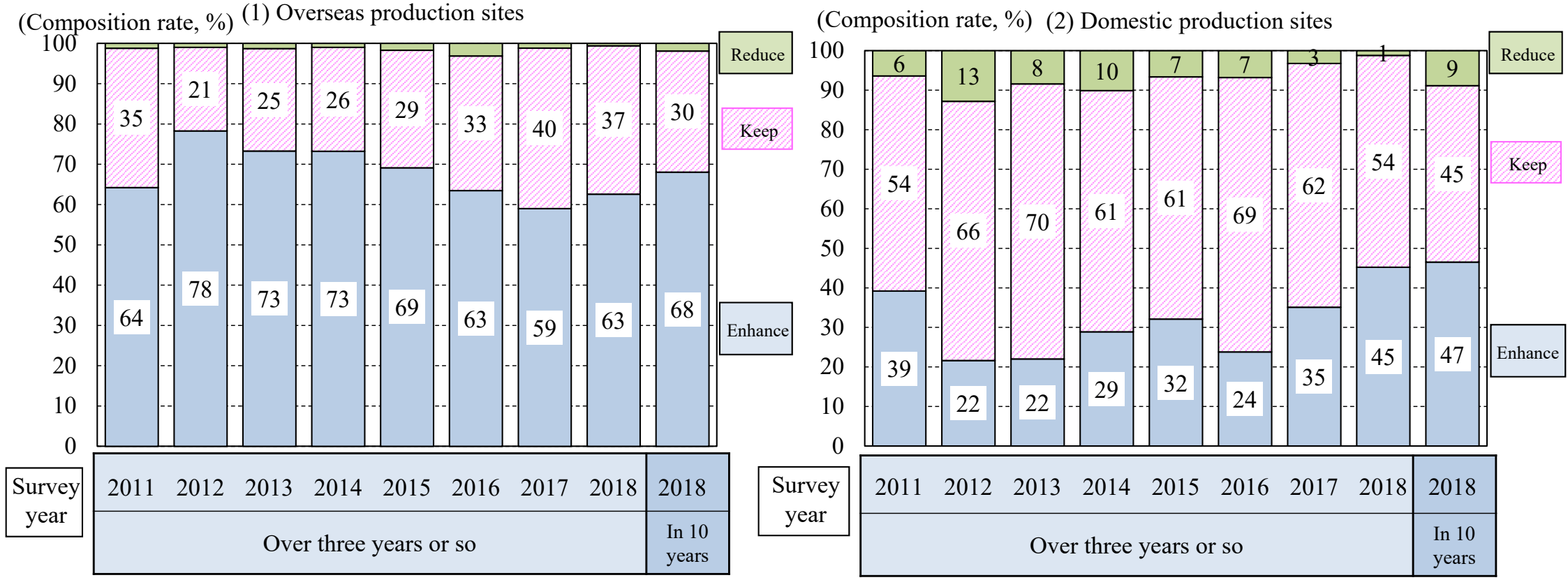
Notes: Dotted lines: consolidated overseas/(non-consolidated domestic + consolidated overseas)
Solid lines: consolidated overseas/(consolidated domestic + consolidated overseas)
*Data on consolidated domestic capital spending are available since the FY2010 survey.

2-2-4. Domestic and Overseas Operation: Medium-term Outlook (Manufacturing)

Planned enhancement of domestic and overseas production sites over the coming three years

- With regard to medium-term domestic and overseas supply capacity over the coming three years in the manufacturing sector, the share of firms intending to enhance overseas operation remains at around 60%, which is expected to rise to about 70% in 10 years.
- Among the respondents, 54% intend to keep their domestic supply capacity at the current level, but the share of firms intending to enhance domestic capacity for the moment has risen to 45%. Meanwhile, 9% of firms respond that they will reduce domestic capacity over 10 years.

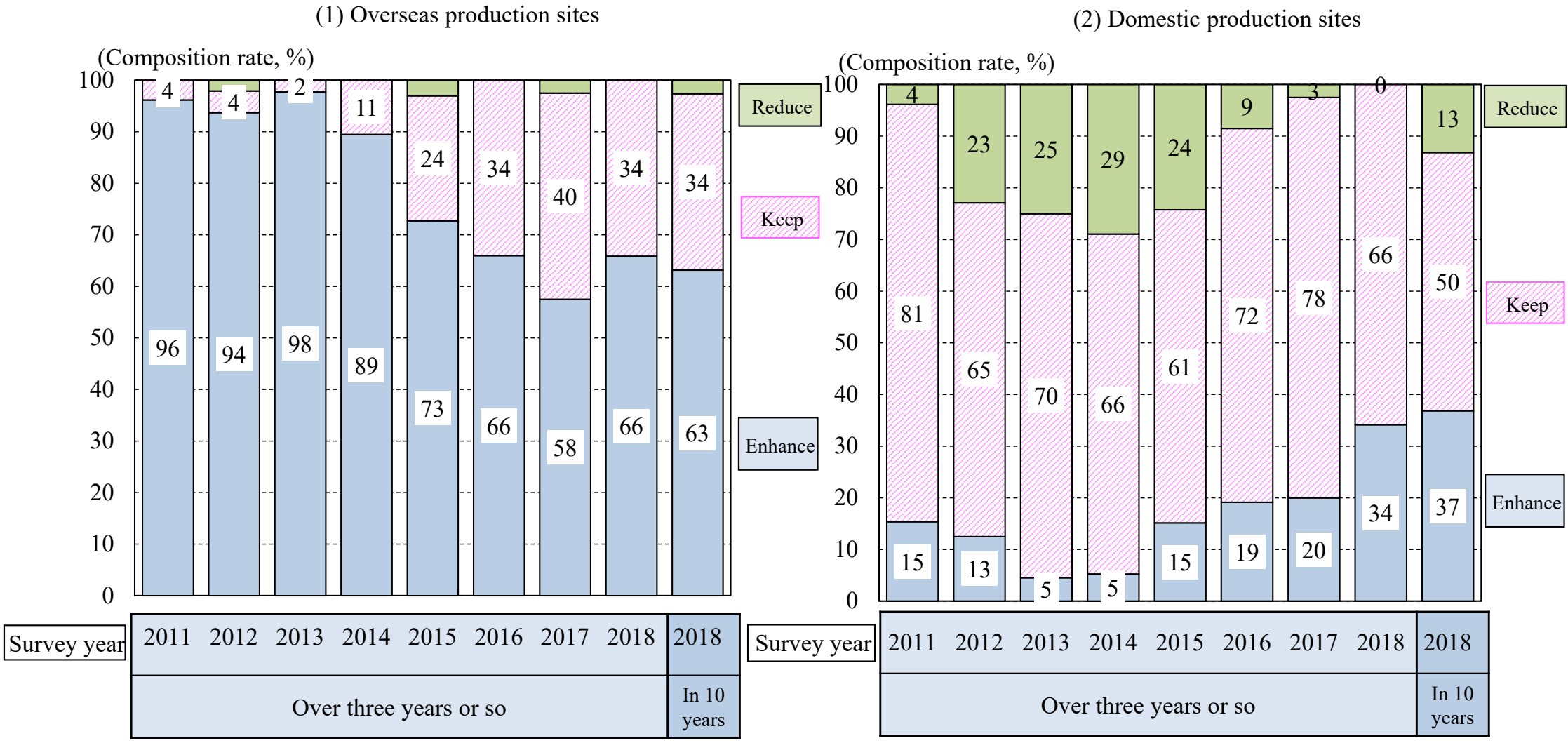
Figure 2-2-4. Medium-term Domestic and Overseas Supply Capacity (Manufacturing)



Note: Data covers the firms reporting both domestic and overseas operations (334 firms in FY2018).

2-2-5. Domestic and Overseas Operation: Medium-term Outlook (Transport equipment)

Figure 2-2-5. Medium-term Domestic and Overseas Supply Capacity (Transport equipment)



Note: Data covers the firms reporting both domestic and overseas operations (41 firms in FY2018).

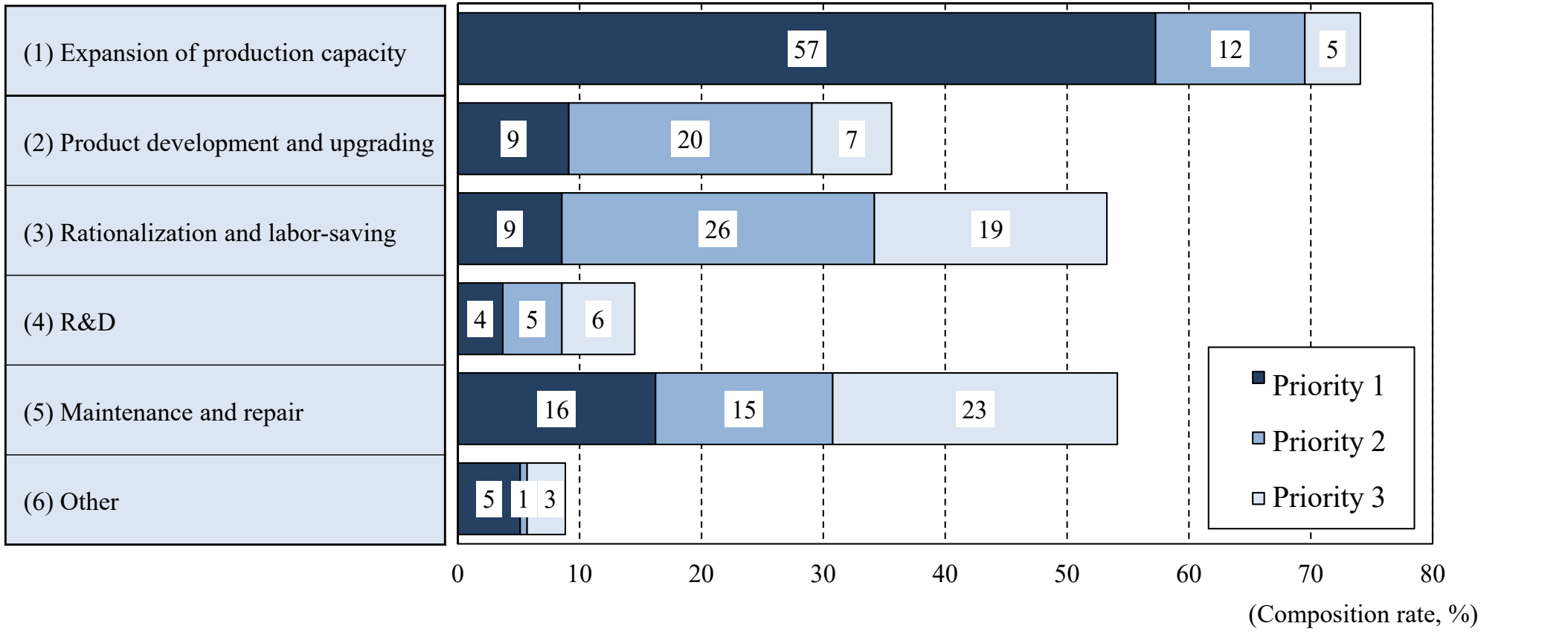
2-2-6. Motives for Capital Spending Overseas (Manufacturing)

Investment overseas primarily intended to expand production capacity

- "Expansion of production capacity," category (1) below, is the primary motive for investment overseas by manufacturers, seemingly reflecting their intention to increase production capacity on the back of buoyant demand overseas. Many firms also cite "maintenance and repair," category (5), or "rationalization and labor-saving," (3), to follow up on investments made in the past.

Figure 2-2-6. Motives for Capital Spending Overseas (Manufacturing, FY2017)

Manufacturing (351 firms)



2-3. R&D Activities

2-3-1. R&D Expenditure

Increase in R&D expenditure to continue at 5% per year

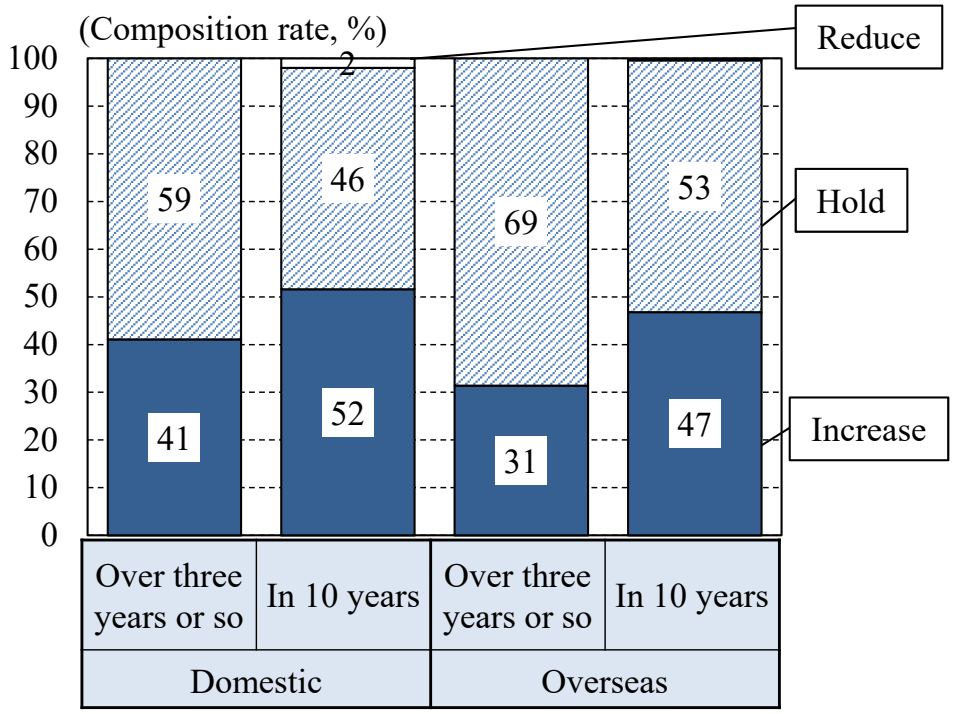
- R&D expenditure (consolidated basis) in FY2017 rose 5.6% overall, while planned R&D expenditure for FY2018 shows an increase of some 5%. Development of cutting-edge technologies is expected to make headway in transport equipment, including for driving support / autonomous driving and electrification.
- Forty percent of the respondents expect that R&D activities will increase in Japan over the coming three years or so. Although only 30% of the firms respond that they will increase R&D in the near future, R&D activities overseas are expected to be increased in 10 years.

Figure 2-3-1-1. R&D Expenditure (Consolidated Basis)

year-on-year, %	FY2017 (actual) year-on-year (718 firms)	FY2018 (planned) year-on-year (805 firms)	Composition ratio FY2017
Total	5.6	5.3	100.0
Manufacturing	5.5	5.1	98.6
Transport equipment	7.2	5.5	46.5
General machinery	8.9	4.6	7.6
Electric machinery	2.5	5.3	18.2
Chemicals	4.8	3.6	17.2
Non-manufacturing	8.4	19.3	1.4

Note: For the purpose of this survey, R&D expenditure comprises all costs related to R&D, including personnel cost, raw materials cost, depreciation cost and allocated overhead.

Figure 2-3-1-2. Prospects for R&D Activities (Manufacturing)



Note: Firms reportedly conducting R&D activities both in Japan and overseas (258 firms in FY2018).

2-3-2. Utilization of Open Innovation and Other External Resources

Almost 40% of the respondents report increased utilization of open innovation, etc.

- Almost 40% of the manufacturers report increased utilization of open innovation, etc.
- The increase is primarily intended for “speeding-up of R&D,” category (1) below, “preparation for future technology development,” (2), and “utilization of technologies and IP of business partners,” (4).

Figure 2-3-2-1. Opportunities for Utilizing Open Innovation and Other External Resources (Manufacturing)

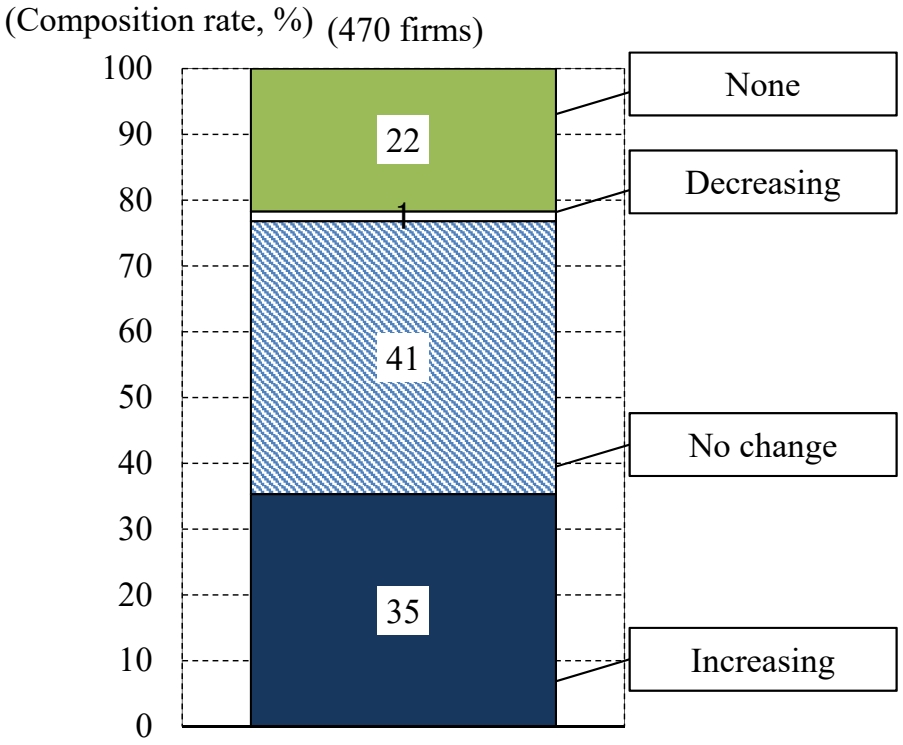
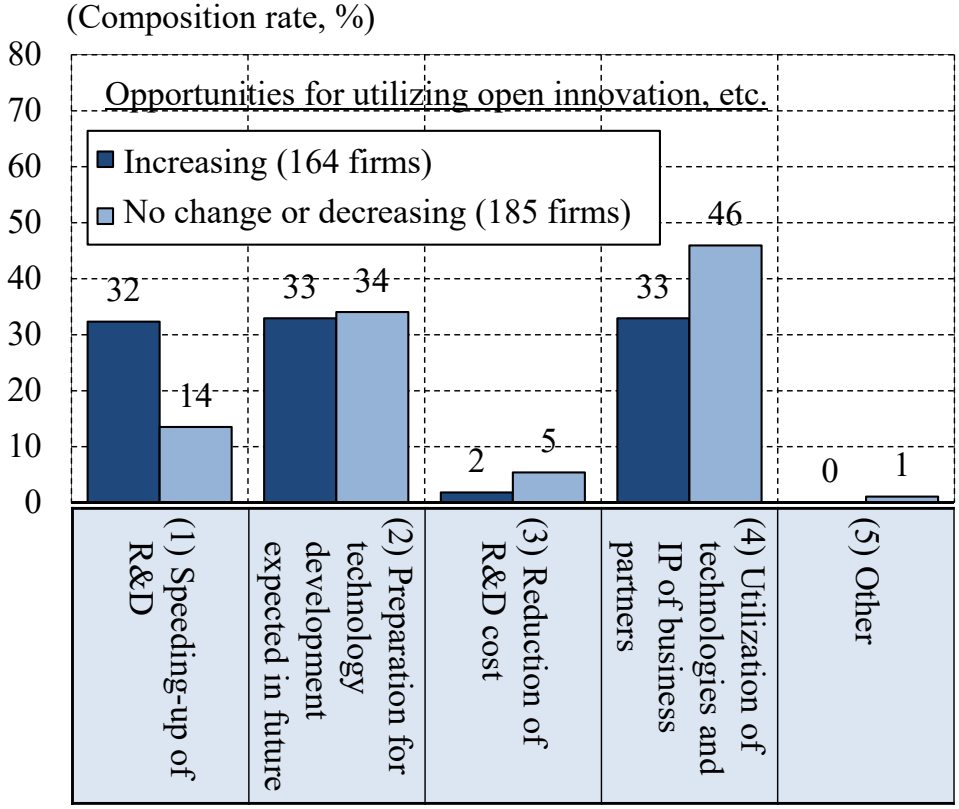


Figure 2-3-2-2. Purpose of Implementing Open Innovation, etc. (Manufacturing)



2-3-3. Challenges in Open Innovation (Manufacturing)

Challenges in open innovation include finding partners and sourcing

- Many respondents cite “exploration of partners and sourcing,” category (1) below, as a major challenge in implementing open innovation, etc.
- Even among the firms reporting increased utilization of open innovation, etc., most of the projects are implemented in collaboration with Japanese universities or research institutes, whereas less than 20% report cases of collaboration with different industries in Japan, SMEs, ventures or overseas institutions.

Figure 2-3-3-1. Challenges in Implementing Open Innovation, etc. (Manufacturing)

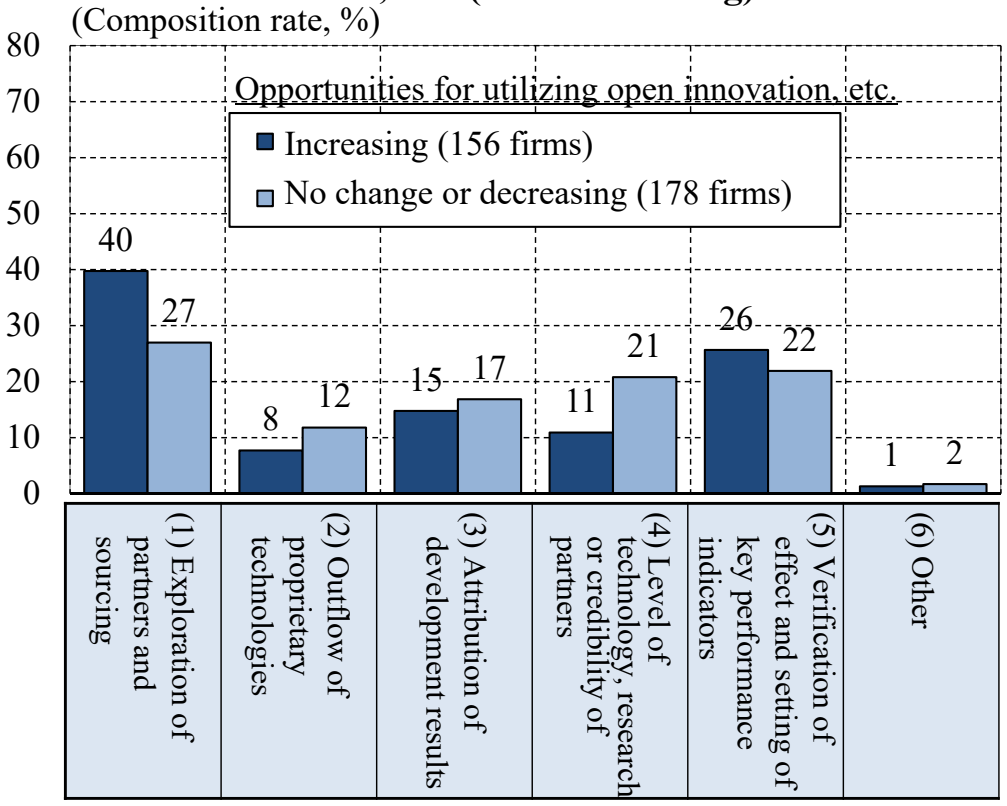
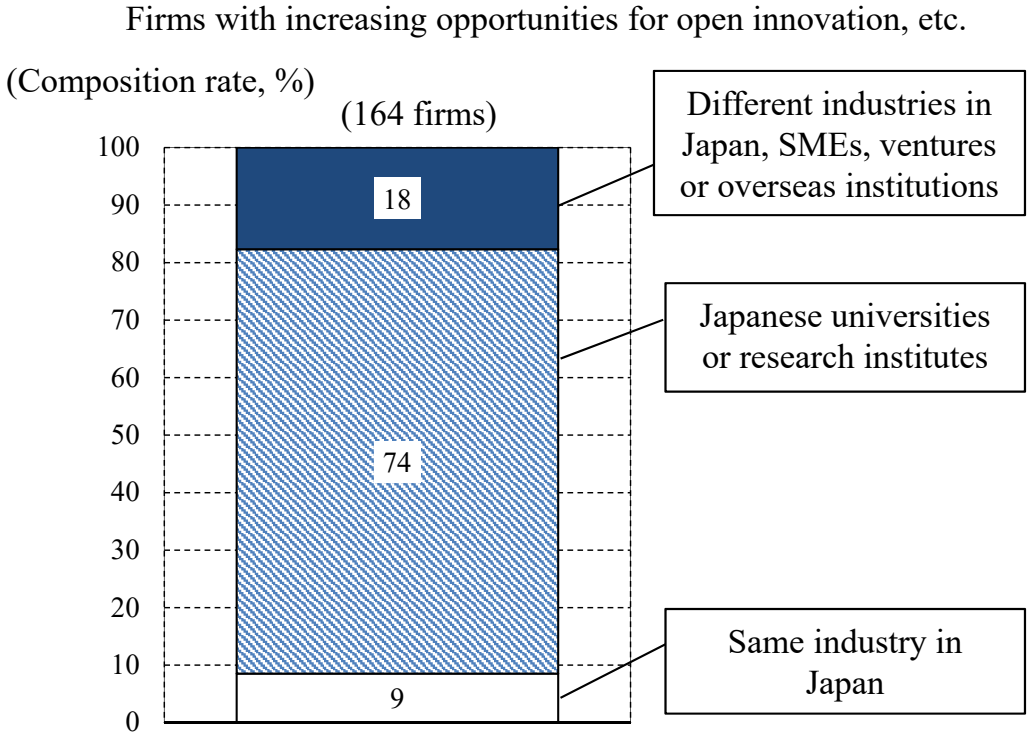


Figure 2-3-3-2. Partners in Implementing Open Innovation, etc. (Manufacturing)



2-4. Investment in Information Technology

2-4-1. Trend of Investment in Information Technology (1)

Substantial growth of IT investment continues

- In FY2017, spending in the manufacturing sector on information technology increased almost across the board, driven by investment in improving the productivity of factories in electric machinery and transport equipment. In the non-manufacturing sector, spending also grew led by investment in electric power & gas for operation/maintenance systems.
- Further substantial increases are expected in IT investment in FY2018, driven by continued spending on factory efficiency in transport equipment among manufacturers, and by increased spending on store operation systems in retail among non-manufacturers.

Figure 2-4-1. Plan for IT Investment

(Year-on-year, %)

Industry	FY2017 Actual (937 firms)	FY2018 Planned (1,075 firms)	Project examples in FY2017 and 2018
Total	15.8	27.1	
Manufacturing	27.3	24.0	
General machinery	24.6	14.5	Production progress control by introducing IoT to factories
Electric machinery	77.4	0.3	Integrated production management at multiple factories in Japan by introducing IoT
Transport equipment	15.8	18.4	Introduction of cameras and sensors to the assembly inspection process at factories
Non-manufacturing	6.4	31.2	
Wholesale & retail	-2.1	22.8	Introduction of checkout and other store operation systems
Transportation	-7.0	39.3	Enhancement of free Wi-Fi service, improvement of warehousing and logistics efficiency
Electric power & gas	14.6	57.0	Operation/maintenance systems at power stations

Note: Includes IT investment accounted for as expenses.

2-4-2. Trend of Investment in Information Technology (2)

IT investment to grow faster than other kinds of investment

- Among the responding firms, 80% indicate that in recent years investment has grown faster in information technology than in tangible fixed asset investment.
- Spending on information technology in FY2017 increased some 20% compared with two years ago as the introduction of IT devices and system replacement progressed on the back of automation of domestic production sites, demand for efficiency, and the labor shortage.

Figure 2-4-2-1. Trend of IT Investment in Recent Years (Comparison with Tangible Fixed Asset Investment)

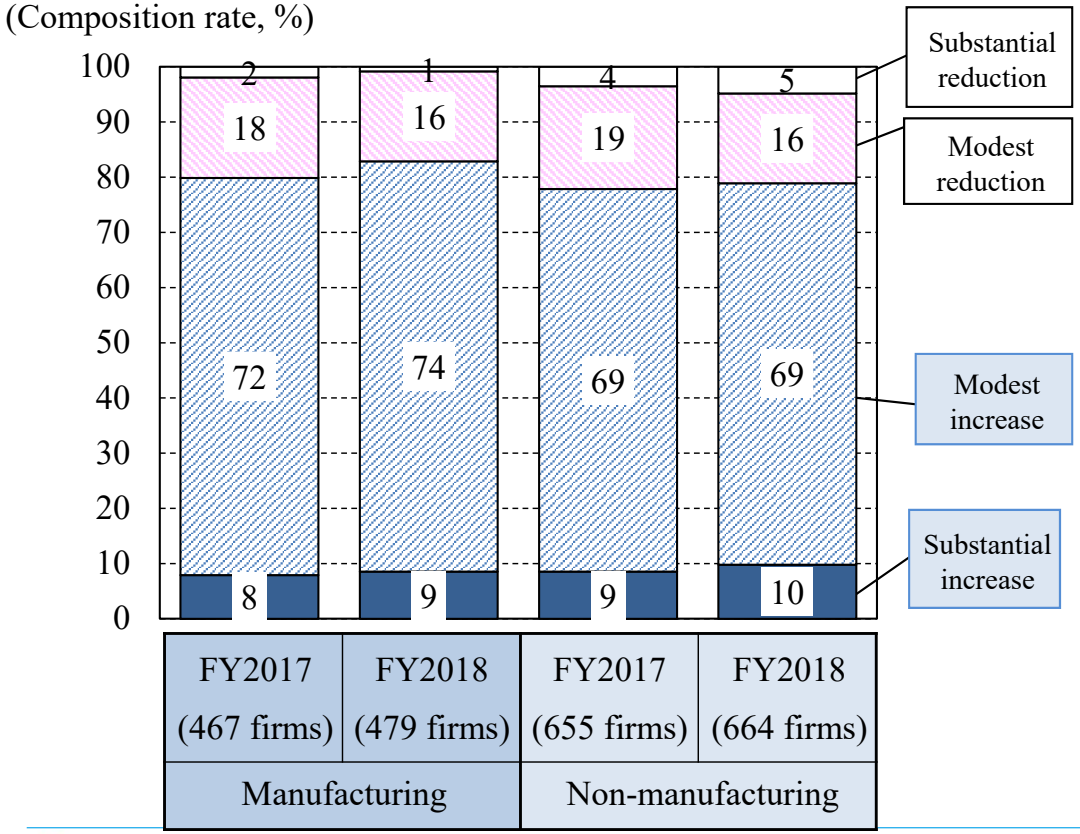
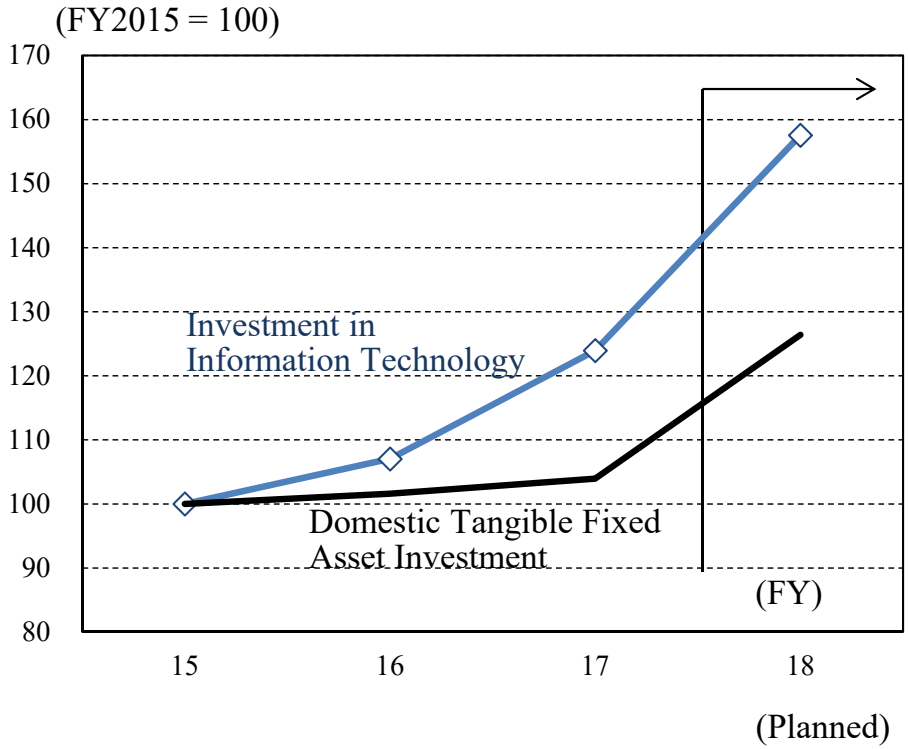


Figure 2-4-2-2. Trend of IT Investment in Recent Years (Comparison with Tangible Fixed Asset Investment, Indexed)



2-4-3. Utilization of Big Data and AI

About 30% of the firms utilize, or are considering utilizing, big data and AI

- In total, about 30% of the respondents either "already utilize," category (1) below, or "consider utilizing," (2), big data and AI. This share is higher in general and electric machinery, among others, at around 40%.
- As regards actual application, many respondents assume utilization in production or sales, but a relatively large number of non-manufacturers assume or consider utilization in marketing or administrative departments, including HR and accounting.

Figure 2-4-3-1. Utilization of Big Data and AI

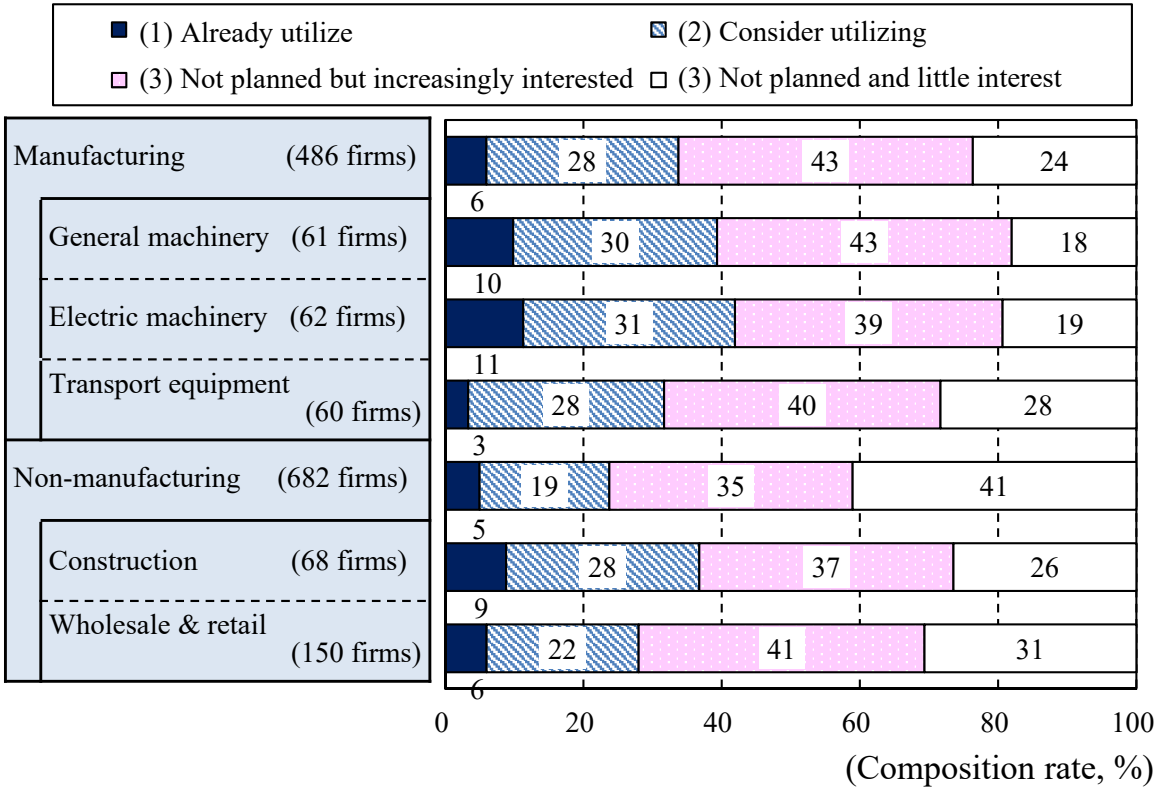
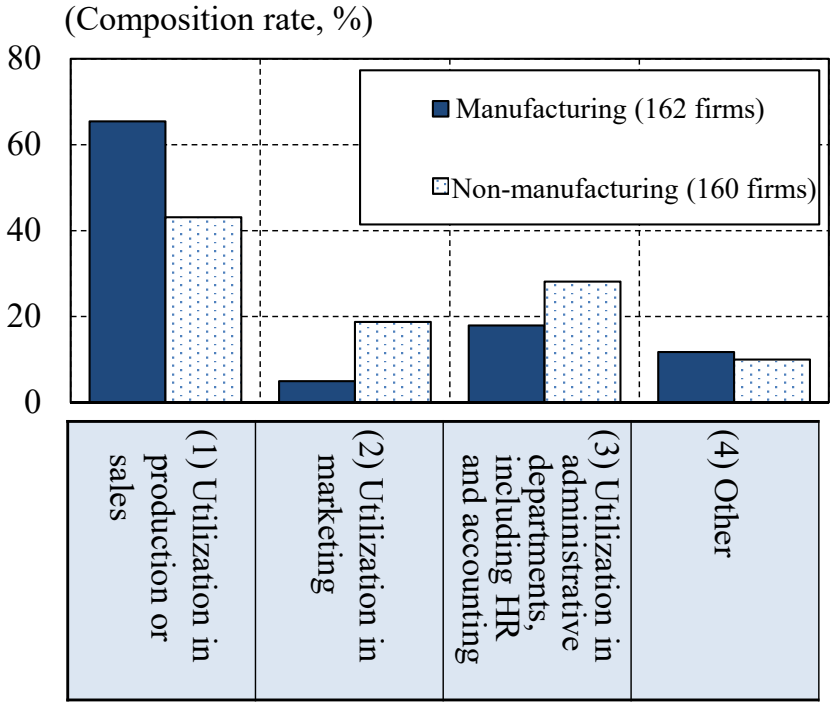


Figure 2-4-3-2. Application of Big Data and AI



Note: Depicts firms responding that they already are utilizing or are considering utilizing big data and AI.

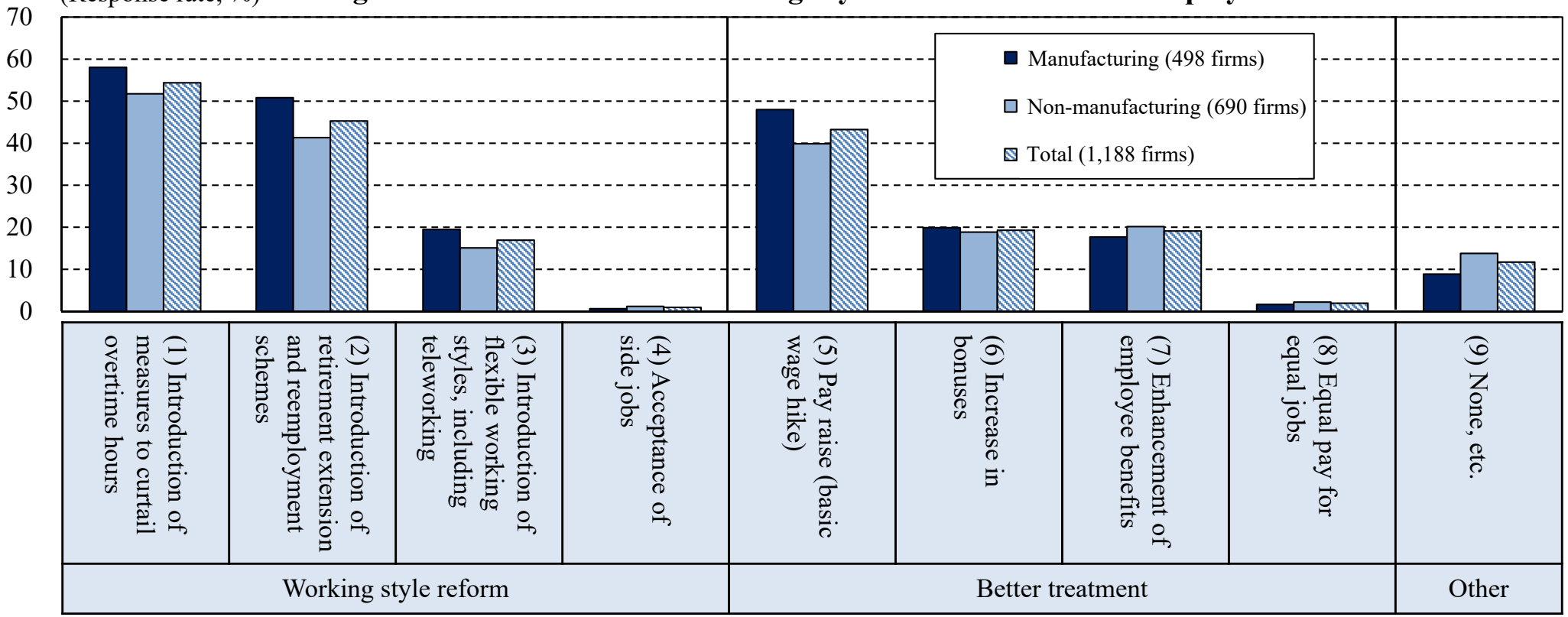
2-5. Human Investment

2-5-1. Initiatives for Working Style Reform and Better Employee Treatment

Progress in curtailing overtime in a majority of firms and delays in diversification of working styles

- Responses on working style reform indicate progress in "introduction of measures to curtail overtime hours," category (1) below, and "introduction of retirement extension and reemployment schemes," (2), but show delays in initiatives to realize diverse working styles such as "teleworking," (3), and "acceptance of side jobs," (4).
- Initiatives for better treatment are making headway, including "pay raise," category (5).

Figure 2-5-1. Initiatives for Working Style Reform and Better Employee Treatment



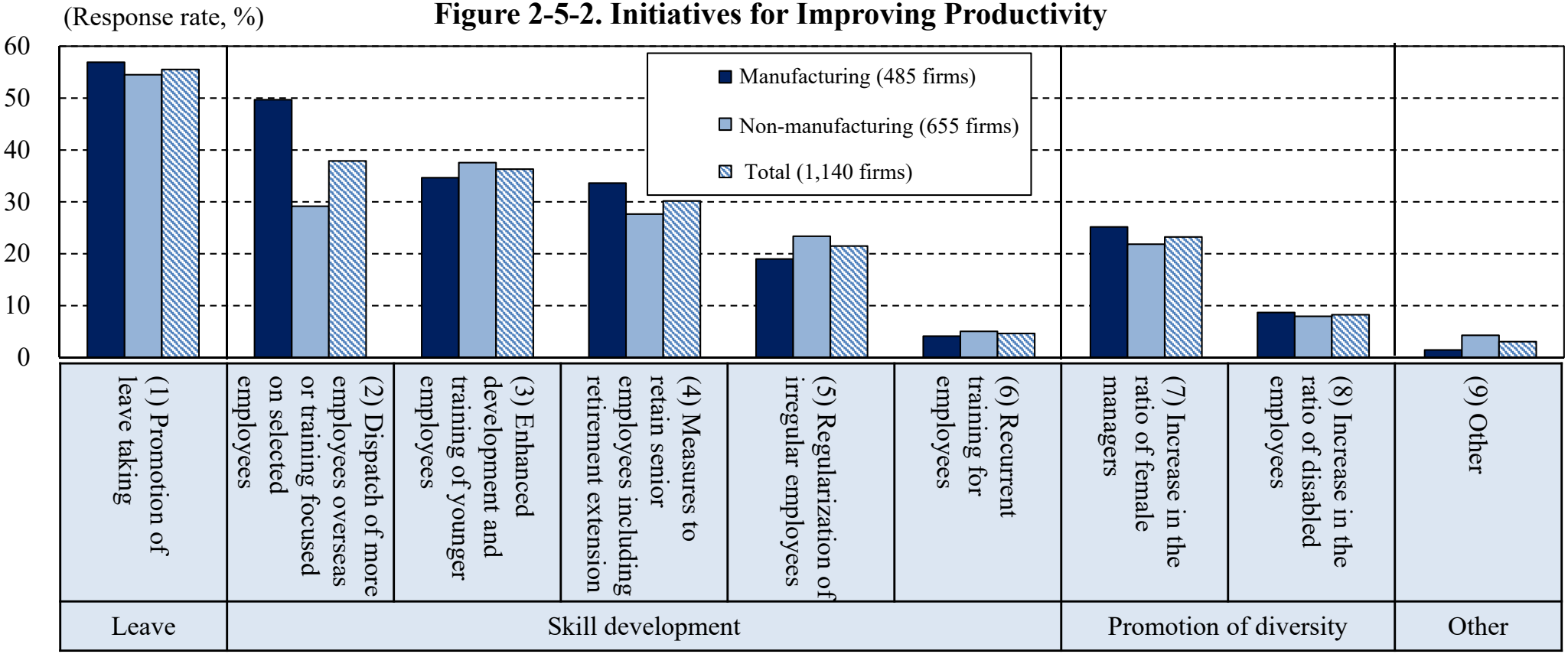
Note: Choose up to three answers.

2-5-2. Initiatives for Improving Productivity

Initiatives for improving productivity include encouraging leave taking and enhancing training

- Firms need to improve productivity if they are to cope with the labor shortage and promote the reform of working styles. The most popular such measure is “promotion of leave taking,” category (1) below. Primary measures for developing skills include (2) “dispatch of employees overseas or training of selected employees,” (2), and “enhanced training of younger employees,” (3). Meanwhile, little interest is shown in “recurrent training,” mainly for senior employees, category (6).
- Twenty percent of the respondents are working to promote diversity through the advancement of women and the disabled.

Figure 2-5-2. Initiatives for Improving Productivity



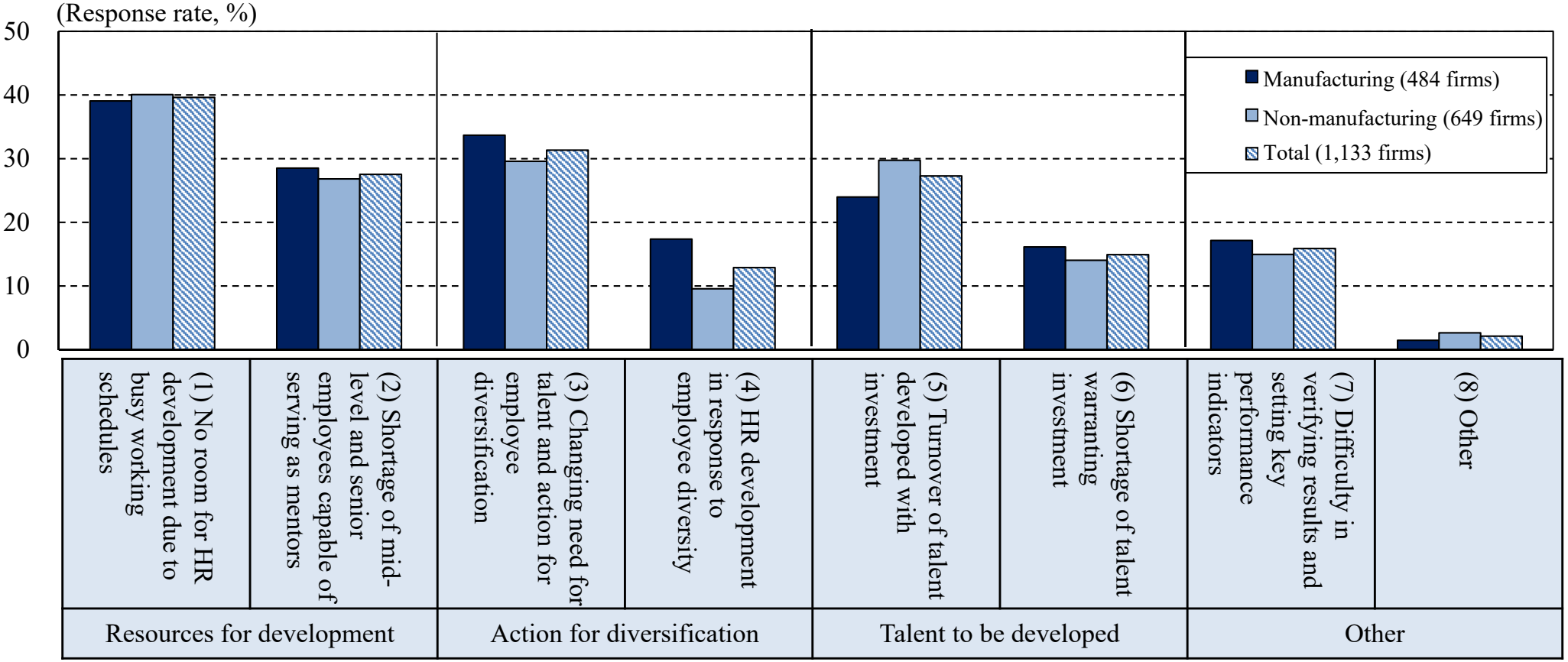
Note: Choose up to three answers.

2-5-3. Challenges for Human Investment & HR Development

Challenges for HR development include busy working schedules, shortage of mentors and action for employee diversification

- Firms tend to prioritize HR development but face considerable challenges including “busy working schedules,” category (1) below, “shortage of mentors,” (2), and “changing need for talent and action for employee diversification” (3).

Figure 2-5-3. Challenges for Human Investment & HR Development



Note: Choose up to two answers.

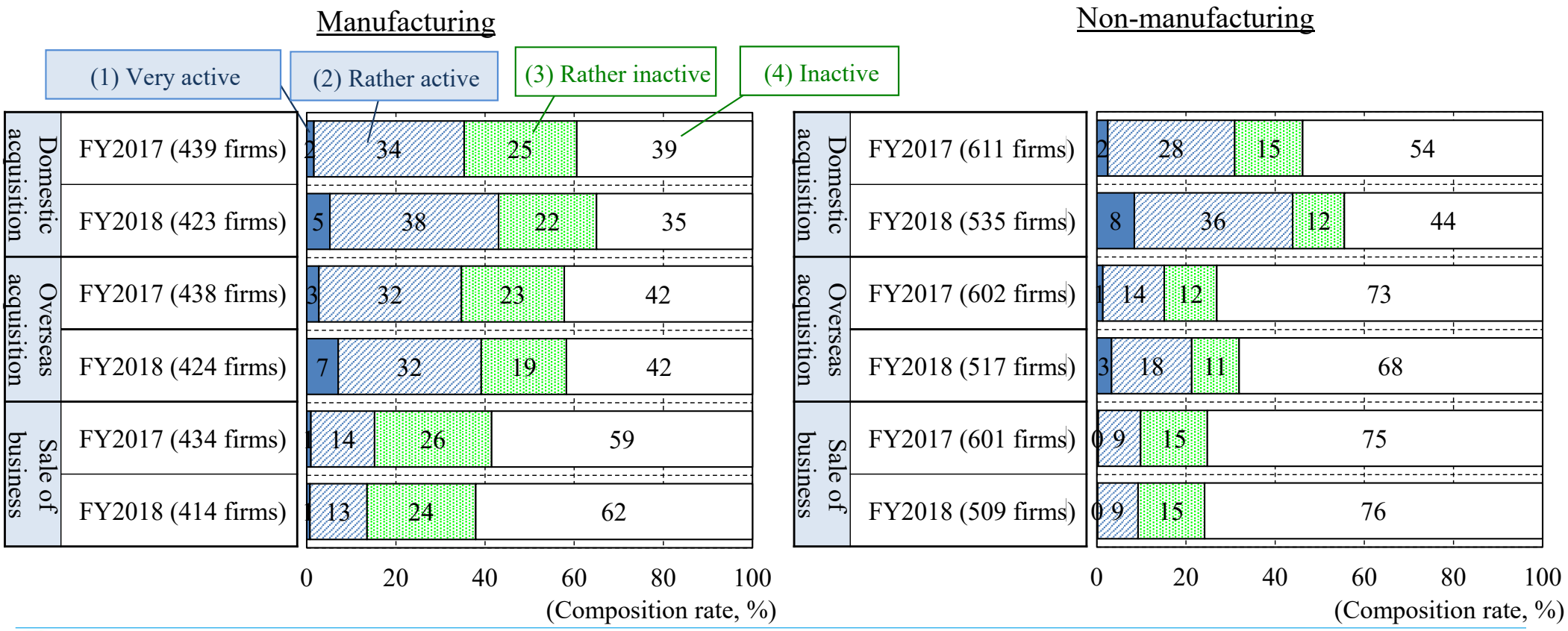
2-6. M&A

2-6-1. Attitude toward M&A

Increasingly aggressive attitude toward M&A

- Indicative of the aggressive attitude of Japanese firms toward M&A, in both the manufacturing and non-manufacturing sectors, more respondents have become “very active,” category (1) below, or “rather active,” (2), toward business acquisition in Japan and overseas.

Figure 2-6-1. Attitude toward M&A

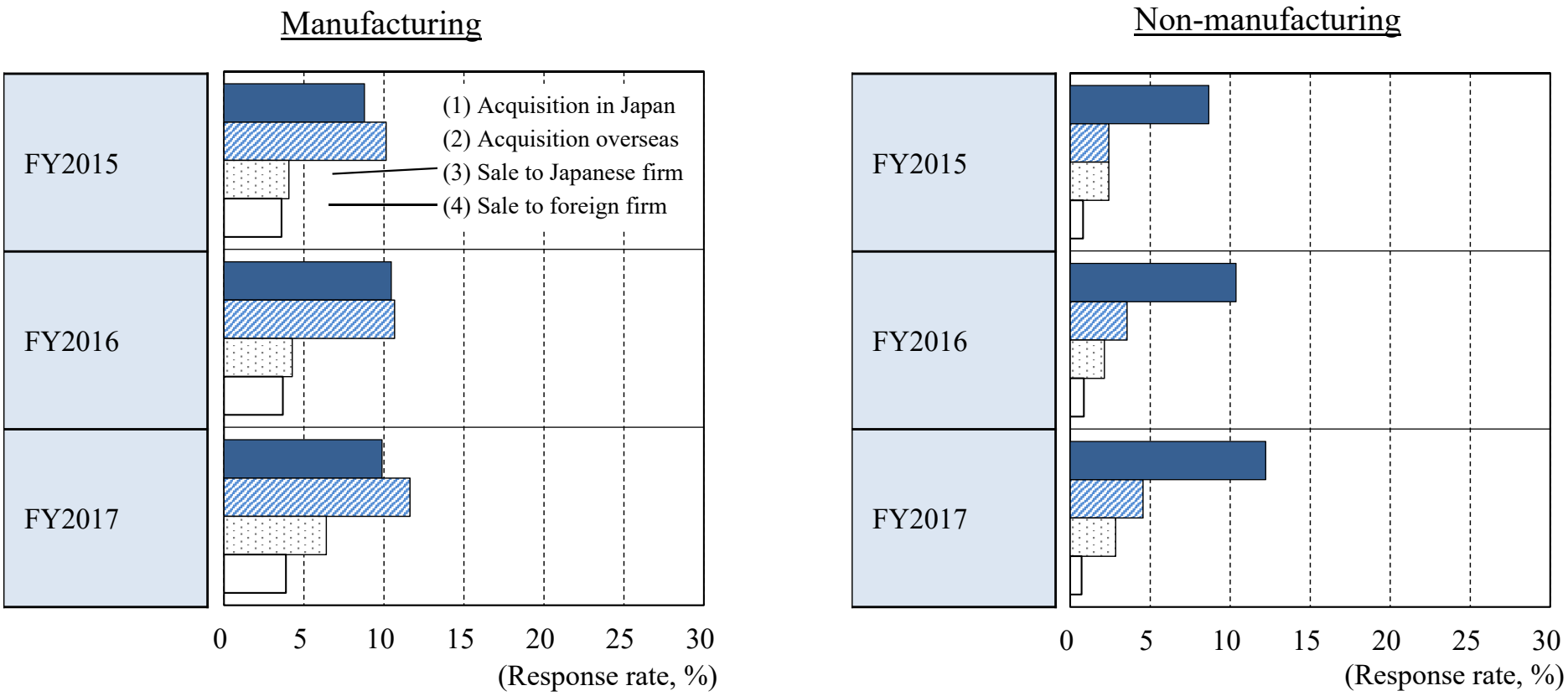


2-6-2. Implementation of M&A

Expanded scope of M&A implementation

- About 10% of the manufacturers conducted M&A. Also, the share of companies that engage in acquisition has been rising in both the manufacturing and non-manufacturing sectors in recent years.

Figure 2-6-2. Implementation of M&A

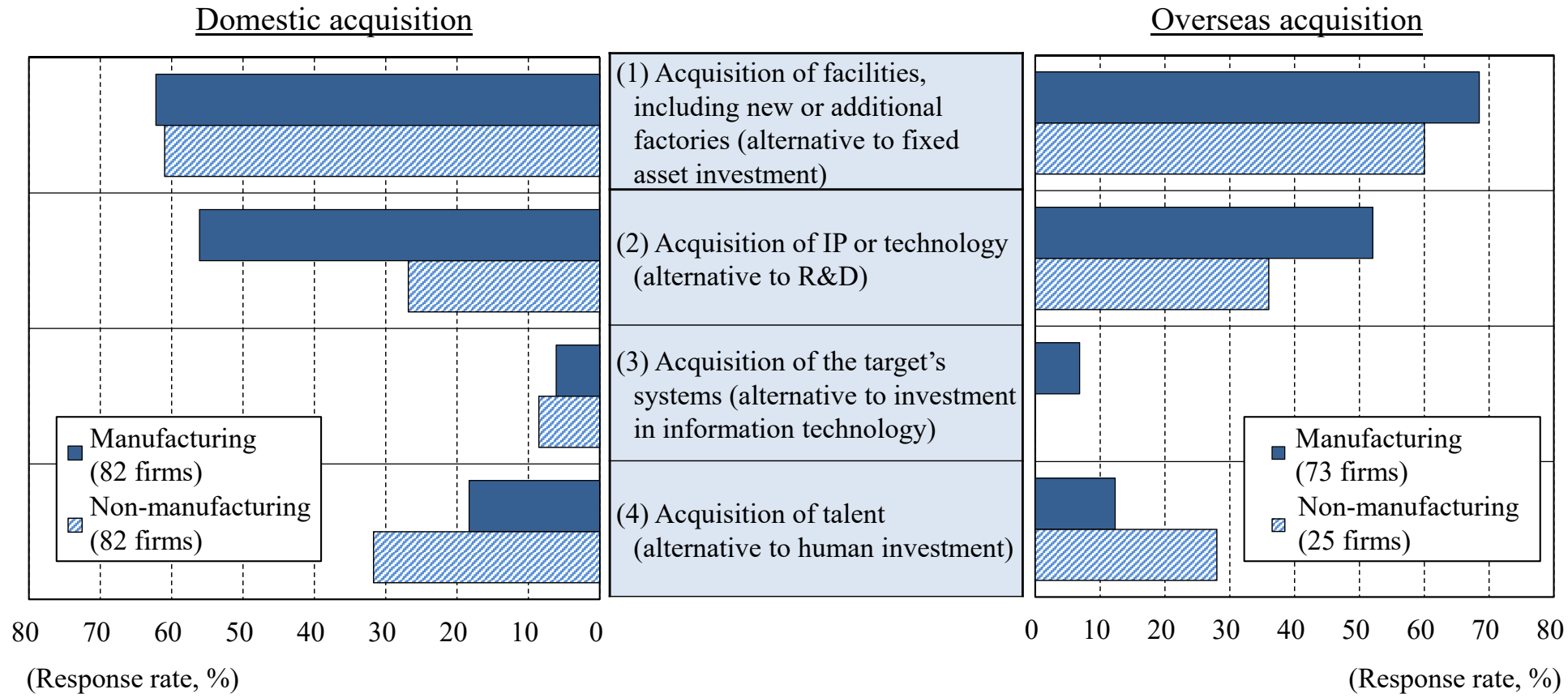


2-6-3. M&A as Alternative to Other Types of Investment

Purposes of M&A include expansion of scope and IP acquisition

- Many respondents utilize M&A as an alternative to other types of investment for the purpose of "acquisition of facilities, including new or additional factories," category (1) below, revealing that many firms implement M&A to expand the scope of their business. Also, a considerable number of respondents cite "acquisition of IP or technology," category (2), indicating the use of M&A as an alternative to R&D.

Figure 2-6-3. Utilization of M&A as Alternative to Other Types of Investment



3. ESG Activities

3-1. ESG Activities and Its Background

90% of the firms feel the need to act in ESG

- Ninety percent of the firms, particularly listed companies, feel the need for environmental, social and governance activities at present or in the future.
- Primary reasons for ESG Activities include “risk management,” category (5) below, and “advertising & branding strategy,” (6), indicating that the firms look at ESG from both risk and opportunity perspectives. The relative emphasis on risk management, however, highlights their rather defensive attitude. Other key reasons include investor relationship considerations, such as “expansion of ESG investment,” category (1), and “request from shareholders,” (2).

Figure 3-1-1. Relative Need for ESG Activities

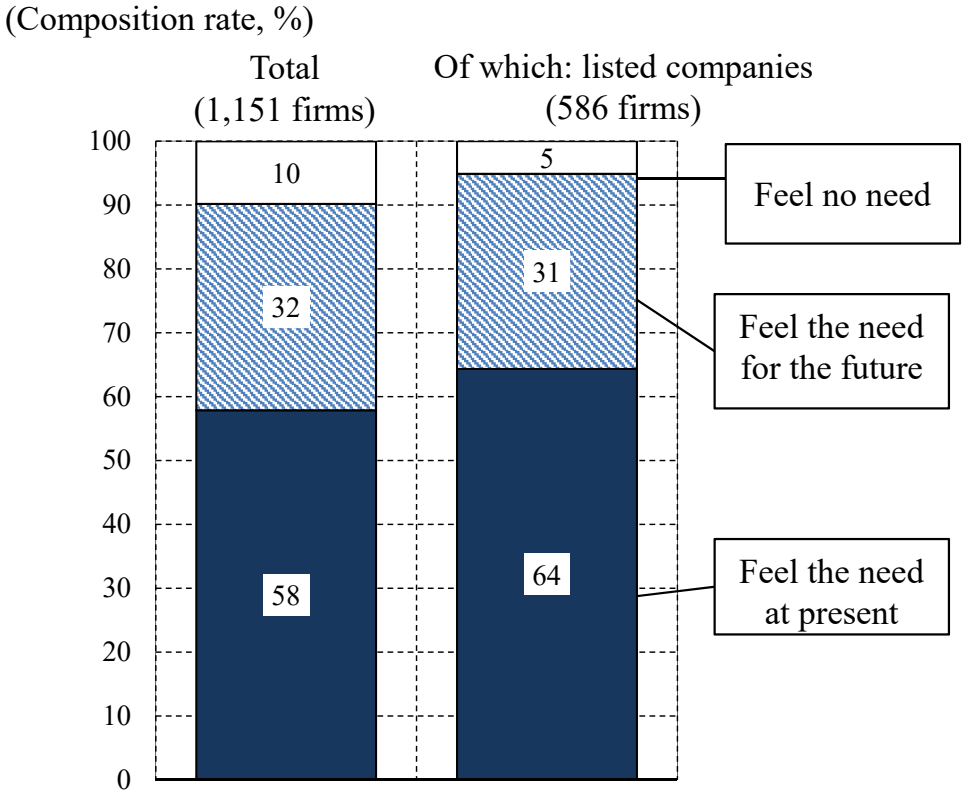
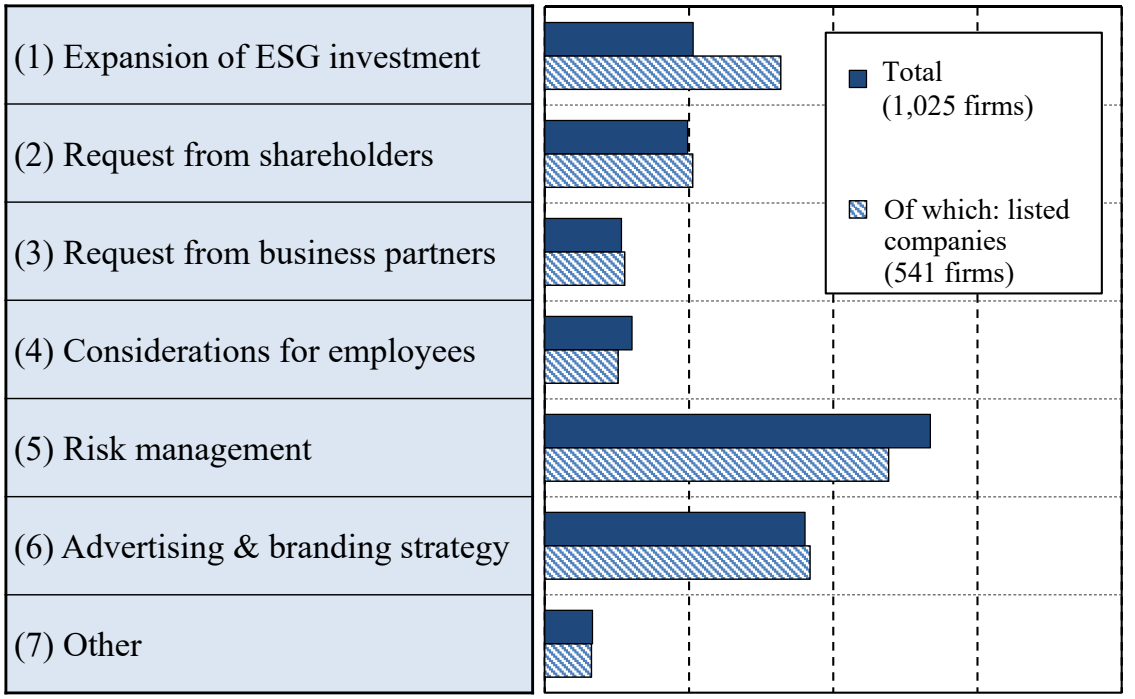


Figure 3-1-2. Reasons for ESG Activities



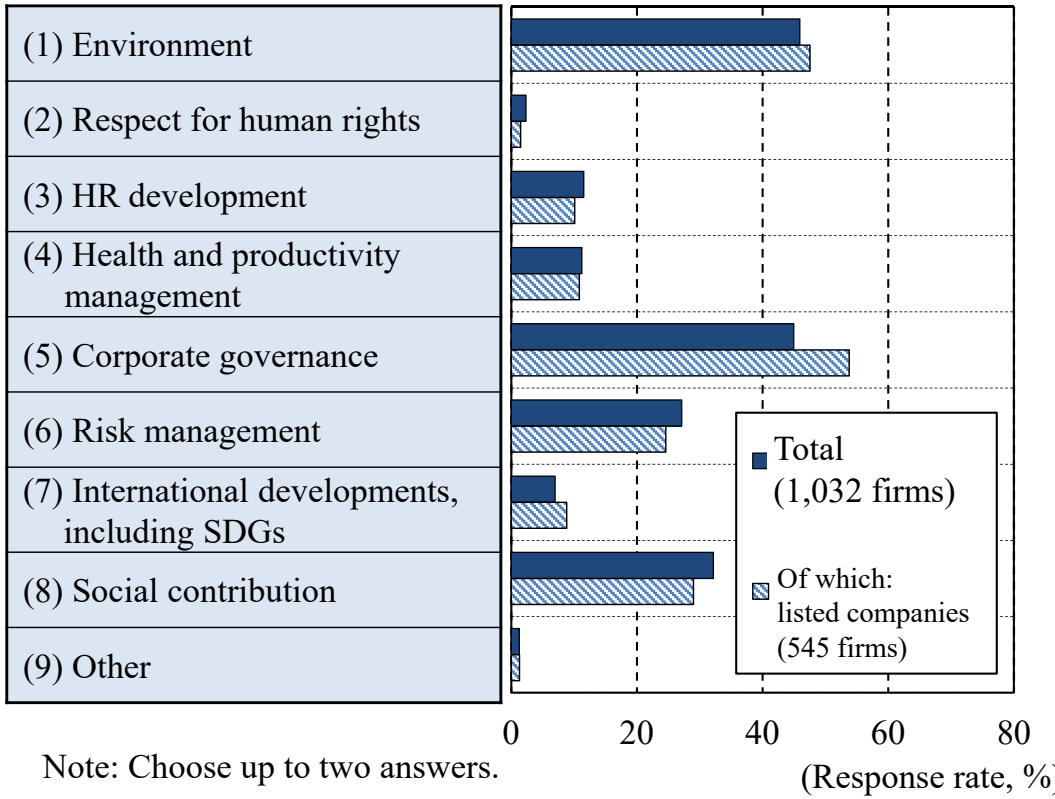
Note: Choose up to two answers.

3-2. Priority in ESG Activities and Internal Structure

Priority in ESG Activities given to corporate governance and the environment

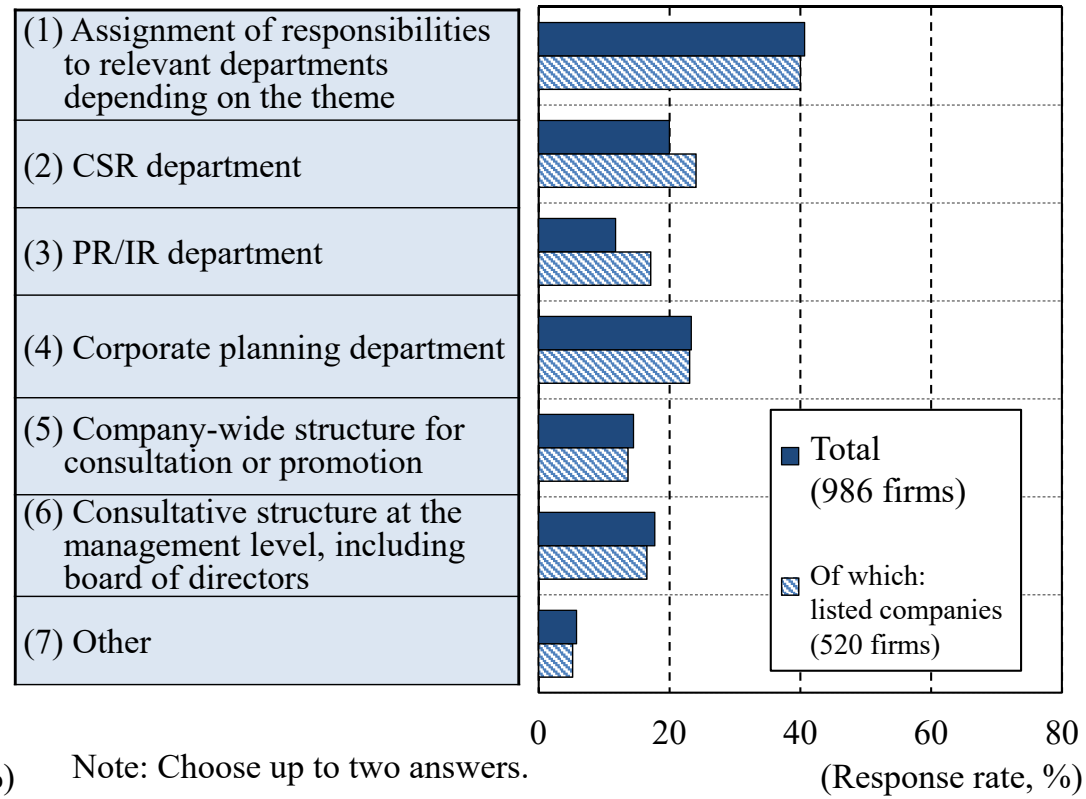
- Many of the respondents prioritize “E” and “G” in ESG, whereas their awareness of “S,” including human rights and HR development, remains weak.
- As regards internal structure, 40% of the respondents adopt “assignment of responsibilities to relevant departments depending on the theme,” category (1) below. Meanwhile, a small number of respondents cite “company-wide structure,” (5), or “consultative structure at the management level,” (6), suggesting a lack of integrated internal operation. Indeed, just over 20% of the firms designate a “corporate planning department,” (4), as the responsible section.

Figure 3-2-1. Priority in ESG Activities



Note: Choose up to two answers.

Figure 3-2-2. Internal Structure to Identify ESG Issues



Note: Choose up to two answers.

Appendices

Appendix 1-1. Capital Spending in FY2017, 2018 and 2019

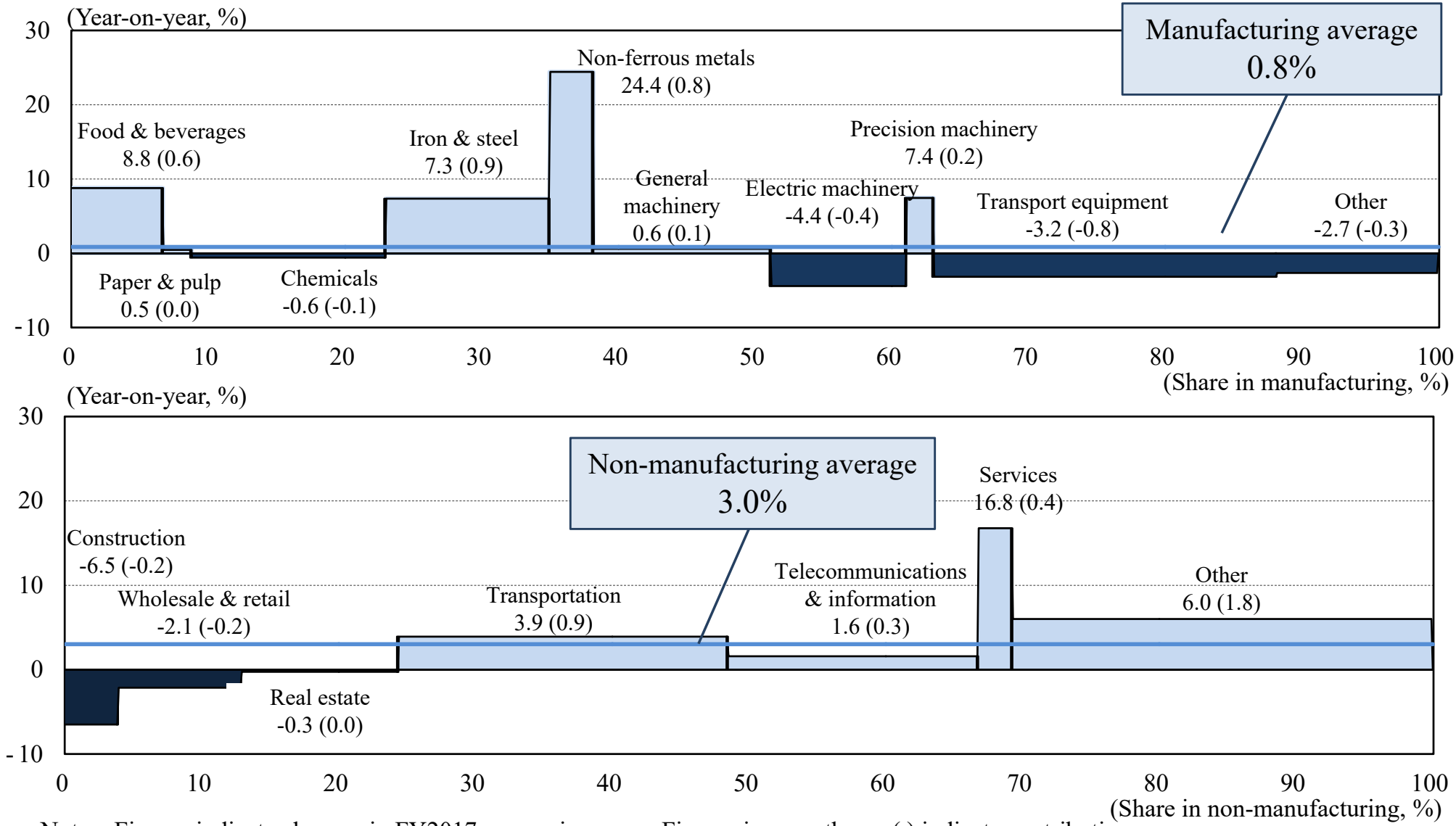
Appendix 1-1. Domestic Capital Spending in FY2017, 2018 and 2019

(JPY 100 million, %)

	FY2017 (actual) (1,896 firms)			FY2018 (planned) (2,059 firms)			FY2019 (planned) (848 firms)		
	FY2016 Actual	FY2017 Actual	Change	FY2017 Actual	FY2018 Planned	Change	FY2018 Planned	FY2019 Planned	Change
Total	180,164	184,320	2.3	162,332	197,468	21.6	41,030	37,287	-9.1
(excluding electric power)	155,599	156,585	0.6	156,618	189,909	21.3	39,409	35,593	-9.7
Manufacturing	58,800	59,297	0.8	58,255	74,126	27.2	16,303	15,207	-6.7
Non-manufacturing	121,363	125,024	3.0	104,078	123,343	18.5	24,727	22,080	-10.7
(excluding electric power)	96,799	97,289	0.5	98,363	115,783	17.7	23,106	20,386	-11.8

Appendix 1-2. Actual Performance in FY2017 (Skyline Graph)

Figure 1-2. Composition and Growth of Capital Spending, by Major Industry (Actual FY2017 Data)



Notes: Figures indicate changes in FY2017 on previous year. Figures in parentheses ( ) indicate contributions to the whole manufacturing or non-manufacturing sector.

Appendix 2. Capital Spending, by Region (Planned for FY2018)

- Planned capital spending, by region, for FY2018 (covering 5,102 companies: see note) shows the seventh consecutive year of increase overall (up 20.3%), with positive growth observed across the board, led by transportation, transport equipment, real estate, wholesale & retail, chemicals and electric machinery.
- Actual capital spending in FY2017 rose for the sixth consecutive year nationwide (up 2.4%), with the declines in Hokkaido, North Kanto & Koshin and Tokai more than offset by the increases in the remaining seven regions.

Figure 2-1. Change in Capital Spending, by Region, FY2018/FY2017

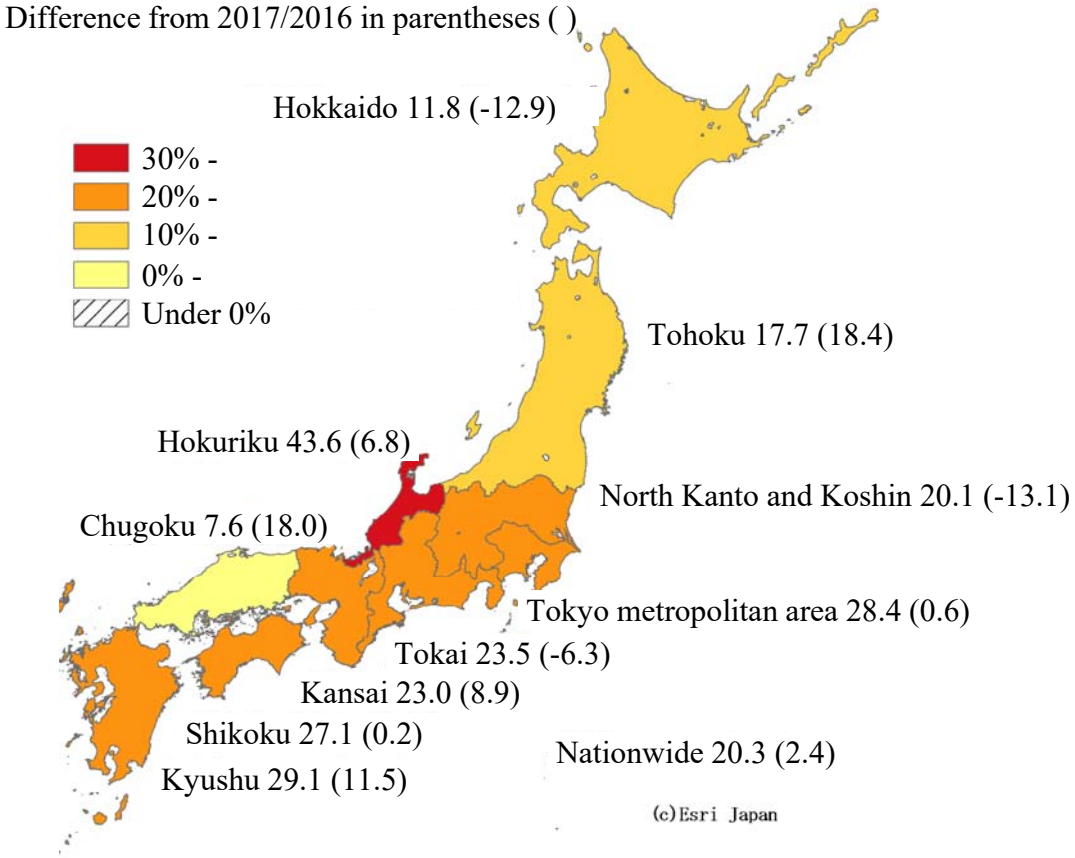


Figure 2-2. Change in Capital Spending, by Region and by Sector, FY2018

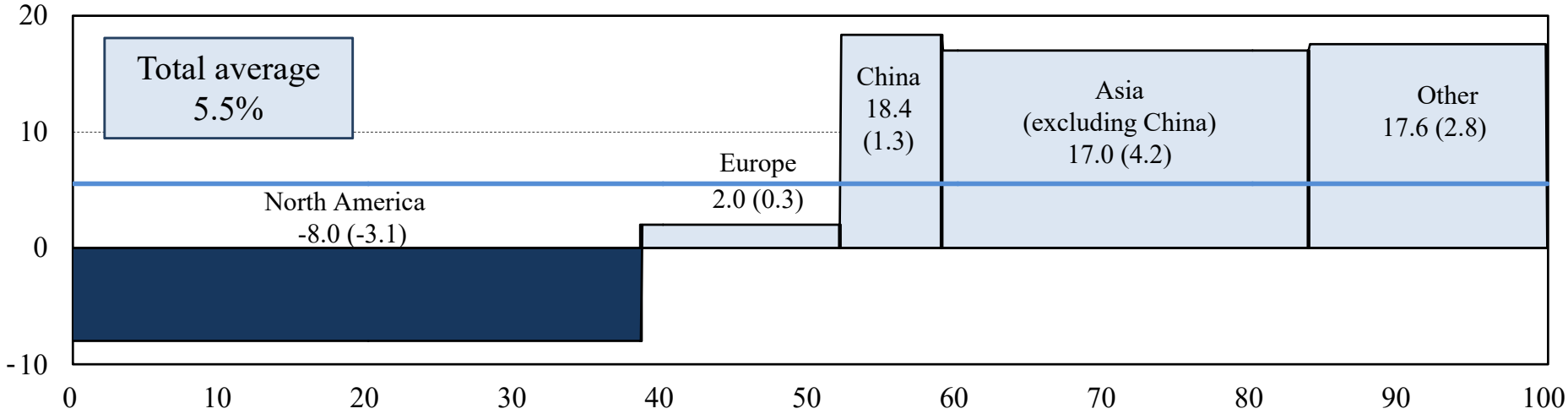
(%)

	Total	Manufacturing	Non-manufacturing
Hokkaido	11.8	- 1.4	16.0
Tohoku	17.7	26.0	9.1
North Kanto and Koshin	20.1	21.5	16.6
Tokyo met. area	28.4	21.2	30.3
Hokuriku	43.6	30.0	60.2
Tokai	23.5	25.9	14.6
Kansai	23.0	25.7	21.4
Chugoku	7.6	23.1	- 21.2
Shikoku	27.1	31.9	17.1
Kyushu	29.1	24.6	33.1
Nationwide	20.3	25.4	17.3

Note: Our survey on capital spending, by region, covers medium-sized firms (capitalized at JPY 100 million to 1 billion), as well as large-sized companies (10,081 firms in total, of which 5,102 firms responded to the questions on planned capital spending, by region).

Appendix 3. Trend of Capital Spending Overseas

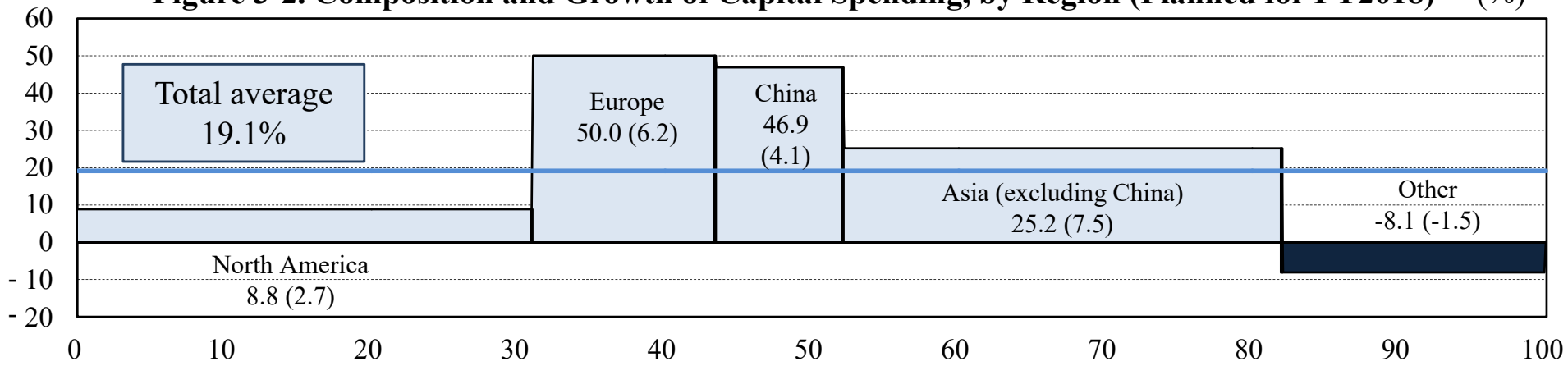
(Year-on-year, %) **Figure 3-1. Composition and Growth of Capital Spending, by Region (Actual for FY2017)** (%)



Notes: Figures show year-on-year changes of actual FY2017 performance versus FY2016.
Figures in parentheses ( ) indicate contributions to the total.

(Composition rate, %)

(Year-on-year, %) **Figure 3-2. Composition and Growth of Capital Spending, by Region (Planned for FY2018)** (%)



Notes: Figures show changes of planned FY2018 spending versus actual FY2017 performance.
Figures in parentheses ( ) indicate contributions to the total.

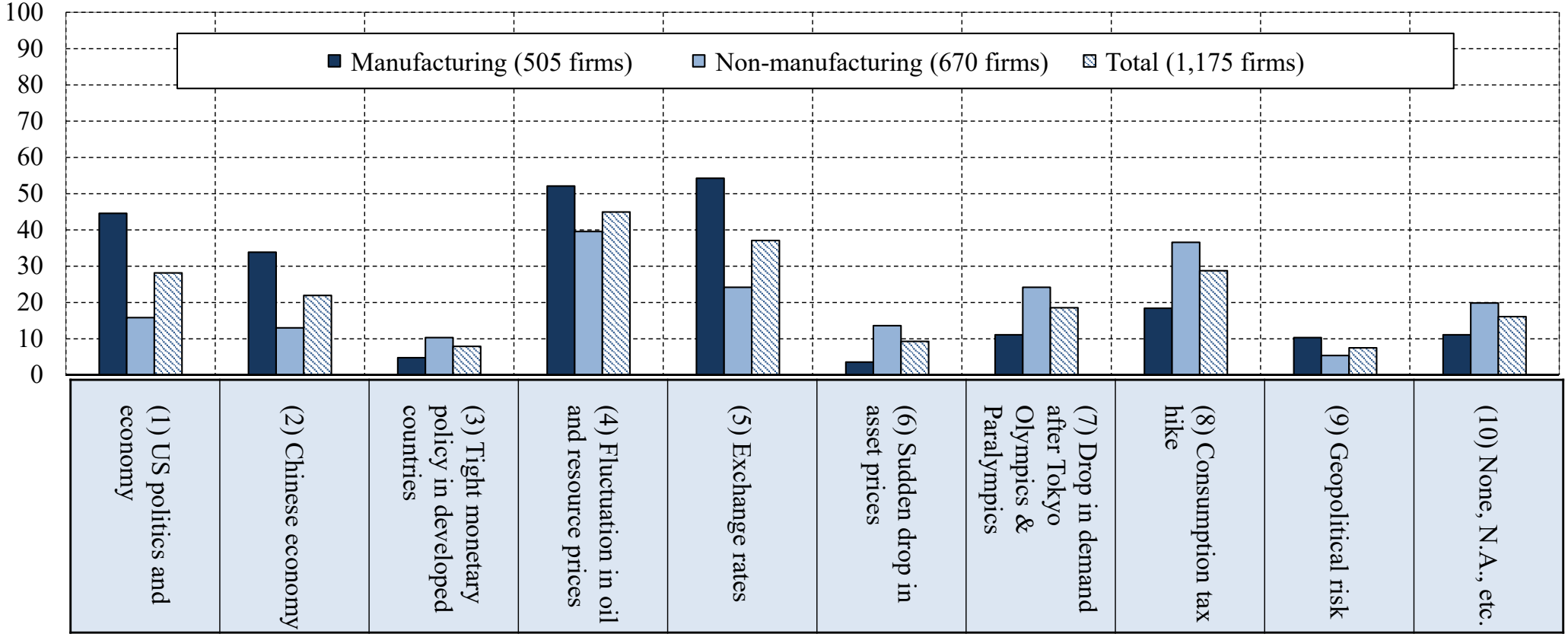
(Composition rate, %)

Appendix 4-1. Political and Economic Risks in Business

Downside risks for future business include fluctuations in resource prices and exchange rates

- Major business risks going forward include “fluctuations in oil and resource prices,” category (4) below, and “exchange rates,” (5). Other key risks include “US politics and economy,” (1), and “Chinese economy,” (2), for the manufacturers, and “drop in demand after Tokyo Olympics/Paralympics,” (7), and “consumption tax hike,” (8), for the non-manufacturers.

Figure 4-1. Downside Risks with Major Impact on Business Going Forward



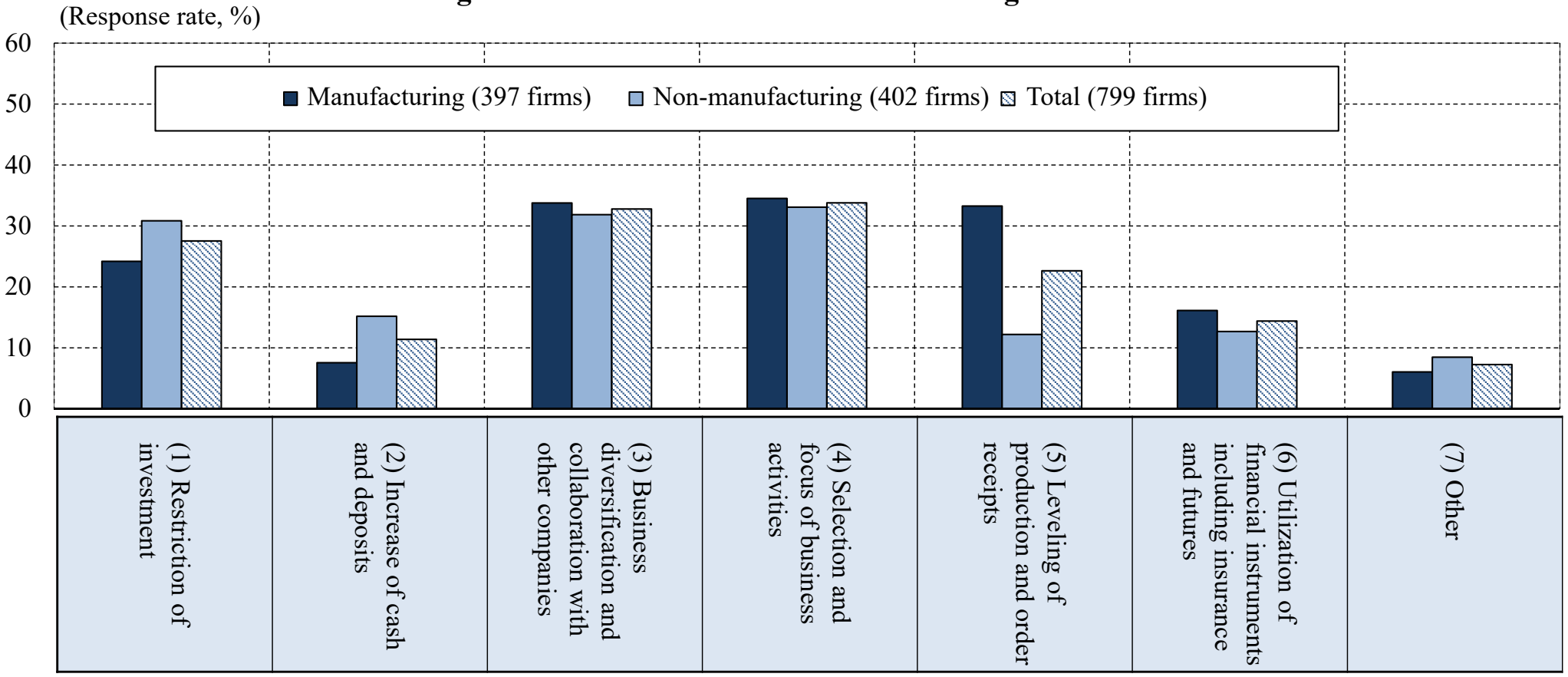
Note: Choose up to three answers.

Appendix 4-2. Risk Control Measures

Risk control measures include business diversification and selection & focus

- Many respondents cite “business diversification and collaboration with other companies,” category (3) below, and “selection and focus,” (4), as measures to control risks going forward.

Figure 4-2. Measures to Control Risks Going Forward



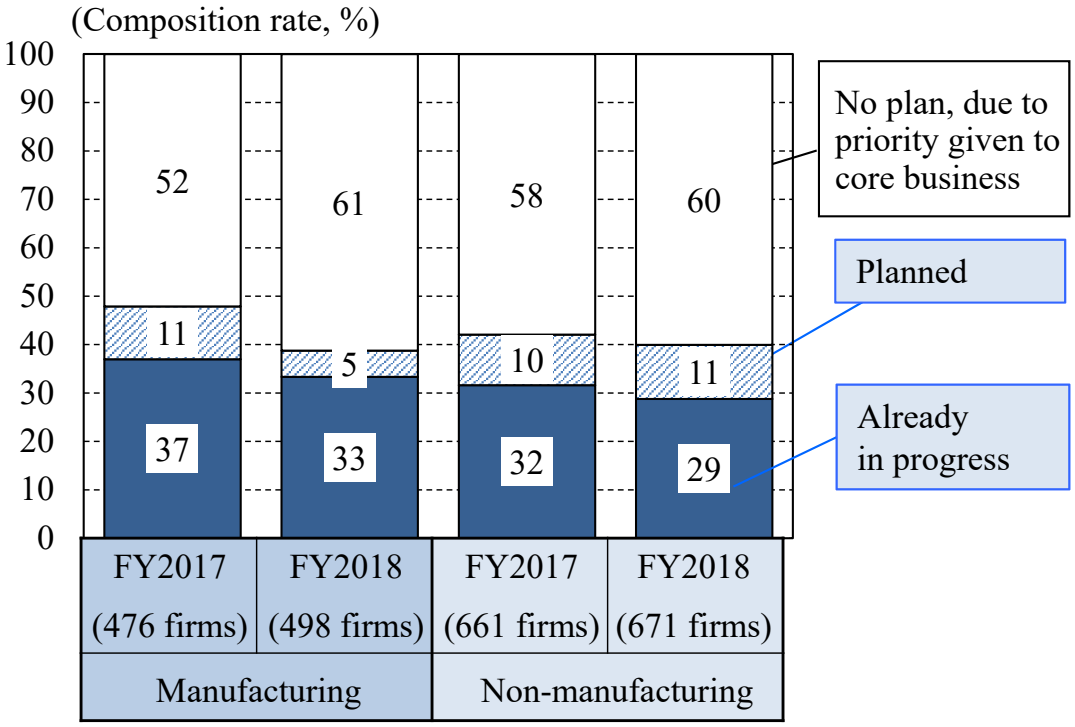
Notes: Choose up to two answers. Excludes the firms answering “none” when asked about risk control measures.

Appendix 5. Exploration of Opportunities in Growth Markets

Efforts made by 40% of the firms

- Forty percent of the respondents are making efforts to explore opportunities in growth markets, but the share of those giving priority to the core business increased on the previous year to 60%.
- Cases of exploration of opportunities in growth markets are related to medical care and automobiles in the manufacturing sector, continuing from the previous year, and to nursing care, integrated resorts and hotels & lodging in the non-manufacturing sector.

Figure 5-1. Medium-term Actions to Explore Opportunities in Growth Markets



Note: Respondents include group subsidiaries of major firms and public–private joint ventures established for specific projects, etc.

Figure 5-2. Specific Examples of Exploring Opportunities in Domestic Growth Markets

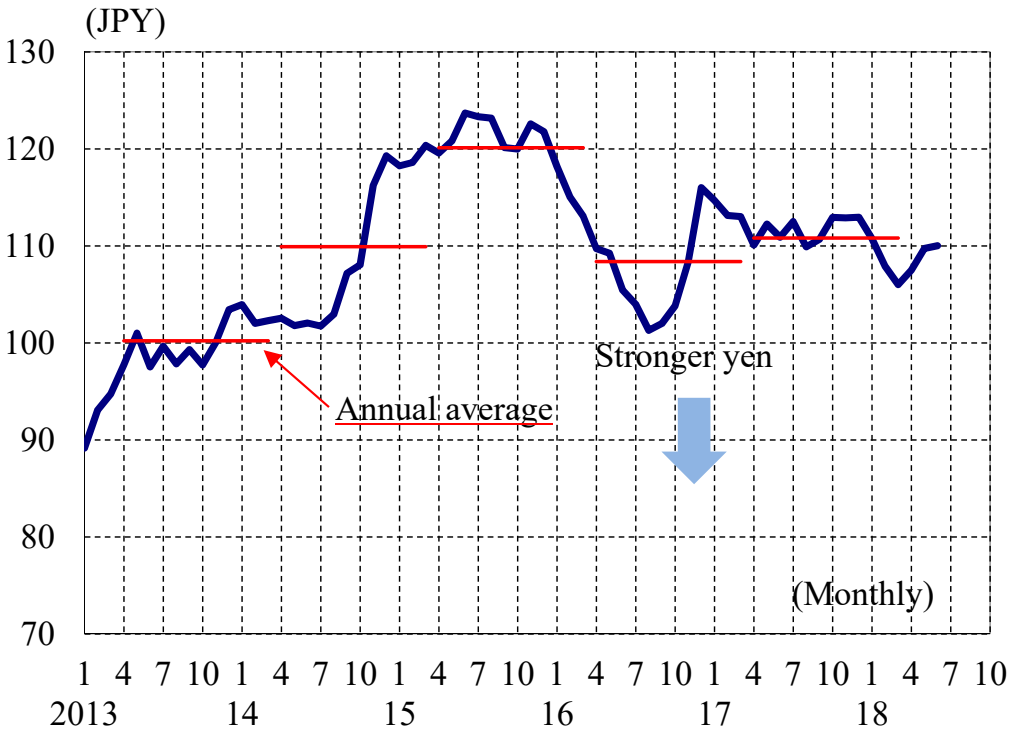
	Industry	Example
Manufacturing	Chemicals	Medical care, life science, electronics
	General machinery	3D metal printers, medical sensors, services leveraging ICT/IoT
	Electric machinery	Autonomous driving, car-mounted components, life innovation, medical equipment
	Transport equipment	Products for next-generation vehicles, rechargeable battery technologies, logistics engineering
Non-manufacturing	Transportation	Integrated resort business, space-related business, accelerator programs
	Wholesale & retail	Health, electricity retailing, e-commerce
	Construction & real estate	Renewable energy business, hotels & lodging, nursing care, agriculture

Note: Opportunity in growth market = Offering of any new business or service other than the existing core business.

Appendix 6. Foreign Exchange Rate Assumed by Manufacturers

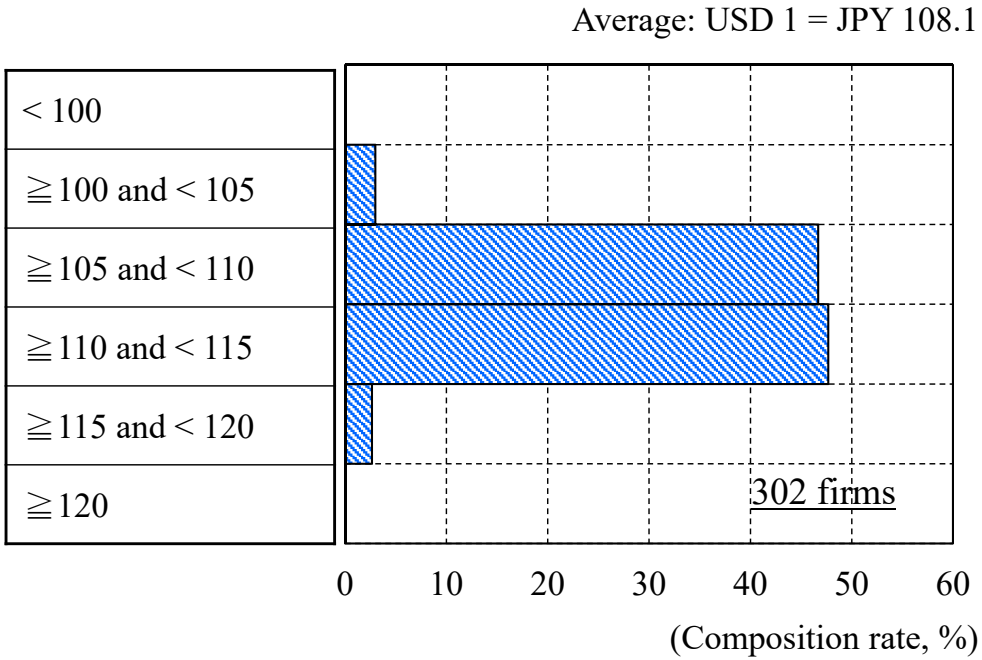
- USD 1 = JPY 110–115 is the foreign exchange rate range most commonly assumed by manufacturers, followed by USD 1 = JPY 105–110, with an average of 108.1 yen to the dollar.

Figure 6-1. Actual USD/JPY Rate



Source: Bank of Japan
(Monthly average of interbank rate at 17:00).

Figure 6-2. USD/JPY Rate Assumed by Manufacturers



Reference: Assumed EUR/JPY rate
Average of 193 firms: EUR 1 = JPY 128.6
Mode: ≧130 yen and < 135 yen

Source: Development Bank of Japan, "Survey on Planned Capital Spending."